COUNTY OF SAN MATEO

STATE OF CALIFORNIA

CONTRACT DOCUMENTS AND SPECIFICATIONS

SAN CARLOS AIRPORT
RUNWAY 12-30 & CONNECTOR TAXIWAYS REHABILITATION PROJECT

COUNTY PROJECT NO. ASL03
PROJECT FILE NO. E5077

FEDERAL AVIATION ADMINISTRATION (FAA)
AIP PROJECT

APPROVED: January 27, 2023



ANN MADER STILLMAN
(R.C.E. No. 47882)
Director of Public Works

* *

Department of Public Works
San Mateo County
555 County Center, 5th Floor
Redwood City, California 94063-1665

County of San Mateo Airports
620 Airport Drive, Suite 10
San Carlos, California 94070
(650) 573-3700

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COUNTY OF SAN MATEO
STATE OF CALIFORNIA

NOTICE TO CONTRACTORS

NOTICE IS HEREBY GIVEN, that

Sealed bids will be received at the office of the County Executive Officer/Clerk of the Board of Supervisors, Hall of Justice and Records at 400 County Center, Redwood City, California, until the hour of

2:30 p.m., Thursday, February 23, 2023

which all bids will then be transmitted to the County Executive's Office in the Hall of Justice and Records, where the bids will be publicly opened and read aloud for the following project in accordance with the specifications therefore and to which special reference is made as follows:

SAN CARLOS AIRPORT
RUNWAY 12-30 & CONNECTOR TAXIWAYS REHABILITATION PROJECT

COUNTY PROJECT NO. ASL03
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AIP PROJECT

Bids are required for the entire work described herein.

The Contractor's attention is directed to the forms included in, and required to be completed and submitted with, the Proposal.

Bidders are further advised of the following:

1. **Contractor should be placed on a Plan Holders List for bidding. To be placed on the Plan Holders List, the Contractor shall either:**
   a. **Purchase Plans and Specifications, including forms of proposal and contract, from the County of San Mateo Department of Public Works. When purchasing by phone (650-363-4100) or email (azhang@smcgov.org) and wng@smcgov.org, please send check payable to "County of San Mateo" to 555 County Center, 5th Floor, Redwood City, CA 94063; OR**

b. **Complete and sign the following Plan Holder's Affidavit by using the link below and you will receive a separate link for downloading an electronic copy of the Plans and Specifications. The contractor is advised that the table should be received by the County no later than three (3) working days prior to the bid opening date.**

https://www.smcgov.org/publicworks/SQL-Rehab-PlanHoldersAffidavitForm

c. **If plans and specifications are obtained through a source other than those outlined in 1a and 1b above, complete and sign the following Plan Holder's Affidavit and return to the County by either PDF via email via email to azhang@smcgov.org and wng@smcgov.org or by fax at (650) 361-8220. The Contractor is advised that the table should be received by the County no later than three (3) working days prior to the bid opening date.**

Plan Holder's Affidavit			
Project Title	**Runway 12-30 & Connector Taxiways Rehabilitation**		
Project No.	**ASL03**	**Project Engineer:**	**Alex Zhang**
		Project Manager:	**Wency Ng**
Bid Open Date and Time:	**2:30 p.m., Thursday, February 23, 2023**		
Company Name:			
Mailing Address:			
Phone Number:		**Fax Number:**	
E-mail Address:			
(Name and Title of Authorized Representative of Bidder)			
(Signature of Authorized Representative of Bidder)			

2. **The Plan Holders List will be posted to the County of San Mateo's Public Works website two (2) working days prior to the bid open date.**

3. **Questions regarding the Contract Documents concerning items such as discrepancies, conflicts, omissions, doubts as to meanings, or regarding scope of bid items shall be referred to the Engineer. Inquiries must be received in writing via email, to azhang@smcgov.org and wng@smcgov.org, not less than five (5) working days prior to bid opening. Inquiries will be answered in writing via email response if written clarification is warranted, in the opinion of the Engineer, then inquiries and responses will be posted to the Project's page on the County of San Mateo's Public Works website. It will be the Contractor's sole responsibility to ensure that they receive responses, if any. The County will not be responsible for oral clarifications.**

4. **It will be the Contractor's sole responsibility to ensure that they have received addendums, if any, which will be posted to the County of San Mateo's Public Works website on the same day issued. Said addendums will also be sent to all current plan holders and made available during purchase of Plans and Specifications.**

5. **Proposals in which the prices obviously are unbalanced may be rejected.**

6. **The Contractor is advised that a pre-bid meeting at the site will occur on Monday, February 13, 2023 at 10:00am and shall take place at San Carlos Airport, 620 Airport Way, San Carlos, CA 94070.**

The Department of Public Works website will be updated as needed and can be accessed under the Department's tab found on the County of San Mateo website. (https://www.smcgov.org/publicworks)

ENGINEER'S ESTIMATE

SAN CARLOS AIRPORT
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Item No.	Section No.	Estimated Quantity	Unit of Measure	Item Description
1	P-101	13,600	LF	Filling of Cracks 1/4" to 1" Wide
2	P-101	56,130	SF	Removal of Rubber
3	P-101	2,880	SY	Micro-Mill Existing Pavement Bump (0.2" Depth)
4	P-101	11,100	SY	Remove Existing Asphalt Concrete Structural Section (34" Depth)
5	P-152	21,580	CY	Unclassified Excavation
6	P-153	12,170	CY	Control Low Strength Material (CLSM) - Rwy/Taxiway Edge (22" Thick)
7	P-153	7,570	CY	Control Low Strength Material (CLSM) - RSA Soil Stabilization (Variable Thickness)
8	P-209	13,870	SY	Crushed Aggregate Base Course - Rwy/Taxiway Edge (8" Thick)
9	P-209	23,060	SY	Crushed Aggregate Base Course - RSA Soil Stabilization (11" Thick)
10	P-403	3,570	TON	Asphalt Surface Course (4" Runway & Connectors)
11	P-603	1,900	GAL	Emulsified Asphalt Tack Coat
12	P-608	23,160	SY	Asphalt Surface Treatment
13	P-615	73,800	SY	Tensar Triax TX-160 Heavy Duty Geogrid
14	P-620	48,200	SF	Removal of Pavement Markings
15	P-620	6,960	SF	Interim Runway Markings
16	P-620	17,800	SF	Paintstriping (White, Reflectorized)
17	P-620	9,040	SF	Paintstriping (Yellow, Reflectorized)
18	D-701	92	LF	12-Inch RCP, Class IV
19	D-751	3	EA	Catch Basin

Continued on next page

Item No.	Section No.	Estimated Quantity	Unit of Measure	Item Description
20	L-108	22,400	LF	No. 8 AWG, 5KV, L-824, Type C Cable, Installed In Trench, Duct Bank or Conduit
21	L-108	14,650	LF	No. 6 AWG, Solid, Bare Copper Counterpoise Wire Installed in Trench
22	L-109	1	LS	Airport Electric Building Equipment
23	L-110	3,170	LF	Non-Encased Electrical Conduit, 1 Way - 2 Inch PVC Conduit, in Turf
24	L-110	425	LF	Concrete Encased Electrical Conduit, 1 Way - 2 Inch PVC Conduit, in Pavement
25	L-110	10,200	LF	CLSM Encased Electrical Conduit, 1 Way - 2 Inch PVC Conduit, in RSA Soil Stabilization
26	L-110	320	LF	CLSM Encased Electrical Conduit, 1 Way - 3 Inch HDPE Conduit, In RSA Soil Stabilization
27	L-110	100	LF	Concrete Encased Electrical Duct Bank Extension, 2 Way - 3 Inch PVC Conduit, in Pavement
28	L-110	53	LF	Concrete Encased Electrical Duct Bank Extension, 3 Way - 3 Inch PVC Conduit, in Pavement
29	L-110	3,600	LF	Cable Removal in Existing Duct Bank or Conduit
30	L-110	59	EA	Electrical Drainage Gravel Sump
31	L-113	500	LF	2-Inch Schedule 80 HDPE Conduit Installed by Directional Drilling
32	L-115	4	EA	Removal of Electrical Pull Box
33	L-115	5	EA	Removal of Electrical Junction Can
34	L-115	8	EA	Electrical Junction Can, L-867 Size D
35	L-115	18	EA	Electrical Junction Can Plaza, 2-Way
36	L-125	190	EA	Medium Intensity Taxiway Edge Light Fixture, LED, Elevated
37	L-125	4	EA	Medium Intensity Taxiway Edge Light Fixture, LED, Semi-Flush
38	L-125	5	EA	Medium Intensity Runway Edge Light Fixture, LED, Semi-Flush
39	L-125	33	EA	Medium Intensity Runway Edge Light Fixture, LED, Elevated
40	L-125	5	EA	L-868B Load Bearing Light Base, in Pavement
41	L-125	214	EA	L-867B Non-Load Bearing Light Base, in RSA Soil Stabilization

Continued on next page

Item No.	Section No.	Estimated Quantity	Unit of Measure	Item Description
42	L-125	189	EA	Removal of Existing Light Fixture and Appurtenances, All Types
43	L-125	176	EA	Removal of Existing Light Base, All Types
44	L-125	26	EA	Airfield Guidance Sign, LED, 2 Module
45	L-125	1	EA	Airfield Guidance Sign, LED, 3 Module
46	L-125	14	EA	Airfield Guidance Sign, LED, 4 Module
47	L-125	39	EA	Removal of Existing Airfield Guidance Sign and Foundation
48	L-125	1	LS	Spare Light and Sign Parts (Not To Exceed $10,000)
49	SP-5	36,900	SY	Reinforcement Mirafi 600x Fabric
50	C-102	1	LS	Compliance with Pollution, Erosion, and Siltation Control
51	C-106	1	LS	Safety, Security and Maintenance of Traffic
52	C-105	1	LS	Mobilization (6% Maximum)

Engineer's Estimate of Costs: $ 9,359,000.00

(F) Final Pay Quantities - See Section 9-1.02C, “Final Pay Item Quantities,” of the Standard Specifications.
(R) Revocable Item. See Special Provision section for additional information.

(Note: Gaps in section numbering, above, indicate the Section is blank or does not apply.)

The foregoing quantities are approximate only, being given as a basis for the comparison of bids, and the County of San Mateo does not, expressly or by implication, agree that the actual amount of work will correspond herewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit any portion of the work, as may be deemed necessary or expedient by the Engineer.

Payment to the Contractor for materials furnished and work completed shall be made by the County in accordance with Section 9 of the "County Special Provisions" portion of these Contract Documents. Pursuant to Section 22300 of the Public Contract Code, Contractor may, upon his request and at Contractor's expense, substitute equivalent securities for any moneys retained from such payment for the fulfillment of the Contract.

Pursuant to Section 1773 of the California Labor Code, prevailing wage rates in the County have been established by the California Department of Industrial Relations, and copies are available in the office of the Director of Public Works. Said prevailing wage rates shall be made available to any interested party on request, and the successful Bidder shall post a copy of the wage rates at the job site. The Contractor's attention is directed to Section 7-1.02K(2), "Wages," of the Standard Specifications and the Federal Requirements section of these Special Provisions.

Additionally:

a. When applicable, both Contractor and Subcontractor hereby agree to pay not less than prevailing rates of wages and be responsible for compliance with all the provisions of the California Labor Code, Article 2-Wages, Chapter 1, Part 7, Division 2, Section 1770 et seq and Section 1810 et seq. A copy of the prevailing wage scale established by the Department of Industrial Relations is on file in the office of the Director of Public Works, and available at www.dir.ca.gov/DLSR or by phone at 415-703-4774. California Labor Code Section 1776(a) requires each contractor and subcontractor keep accurate payroll records of trades workers on all public works projects and to submit copies of certified payroll records upon request.

b. Pursuant to State Senate Bill SB 854 (Stat. 2014, chapter 28), effective January 1, 2015:

i. No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

ii. No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

iii. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Attention is directed to the Federal minimum wage rate requirements in the Contract documents for this Project. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate. The Department will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the Federal minimum wage rate, which most closely approximates the duties of the employees in question.

Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the hotline provided below to report these activities. Reference is made to Section 2-1.50, Bid Rigging," of the Standard Specifications, which states: "The U.S. Department of Transportation (DOT) provides a toll-free hotline service to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, or other fraudulent activities. The hotline number is (800)-424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General."

Wage rates for overtime shall be paid at not less than one and one-half (1-1/2) times the above rates. Wage rates for Sundays and holidays shall be paid at not less than two (2) times the above rates.

The holidays upon which such rates shall be paid shall be all holidays recognized in the collective bargaining agreement applicable to the particular craft, classification, or type of worker employed on the Project.

It is the policy of the County that Contractors on public projects employ their workers and craftsmen from the local labor market whenever possible. "Local Labor Market" is defined as the labor market within the geographical confines of the County of San Mateo, State of California. Consistent with this policy, the Contractor is requested to employ craftsmen and other workers from the local labor market whenever possible to do so.

Each bidder shall submit with the bid, Certificates of Compliance and Intent on a form provided in the "Proposal" section of these Contract Documents, a certificate that bidder is in compliance with the provisions of the Equal Employment Opportunity Requirement of Executive Order 11246, Title VII of the Civil Rights Act of 1964, the California Fair Employment and Housing Act and any other federal, State and local laws and regulations relating to equal employment opportunity. With the execution of said certificates, bidder also agrees that bidder will maintain or develop and implement, during the course of the work concerned, a program of hiring and employment, conducted without regard to race, religion, color, national origin, ancestry, sexual orientation, or sex of the applicants. With this certification, bidder shall submit any and all information that may be required by the County in connection with the particular project.

Each bidder is hereby notified of Section 9204 and Section 20104 et seq. of the Public Contract Code as those Sections (attached hereto as Appendix D) relate to resolution of construction claims, and to Section 3186 of the Civil Code, as amended January 1, 1999 with regard to stop notices and public entity’s rights to retain monies in order to provide for that entity’s reasonable cost of litigation. The bidder is further notified that all provisions of Section 9204 and Section 20104 et seq. of the Public Contract Code and Section 3186 of the Civil Code, as outlined above shall be considered as incorporated into and become an integral part of these specifications.

Questions relating to equal employment should be directed to the San Mateo County Department of Public Works, Equal Employment Opportunity Program, 555 County Center, 5th Floor, Redwood City, CA 94063-1665, telephone (650) 363-4100.

Plans and Specifications and forms of Proposal and Contract may be seen and obtained at the office of the Director of Public Works, 555 County Center, Redwood City, California, 94063-1665. Plans and specifications may be obtained for a:

NON-REFUNDABLE FEE OF $100 PER SET

Additional technical questions should be directed to the office of the Director of Public Works, 555 County Center, Redwood City, California, 94063-1665, telephone (650) 363-4100.

The Contractor shall possess either a Class A License or a combination of Class C licenses that are applicable for the majority of the work at the time this contract is awarded. No Contract will be awarded to a Bidder who is not licensed as required by laws of the State of California.

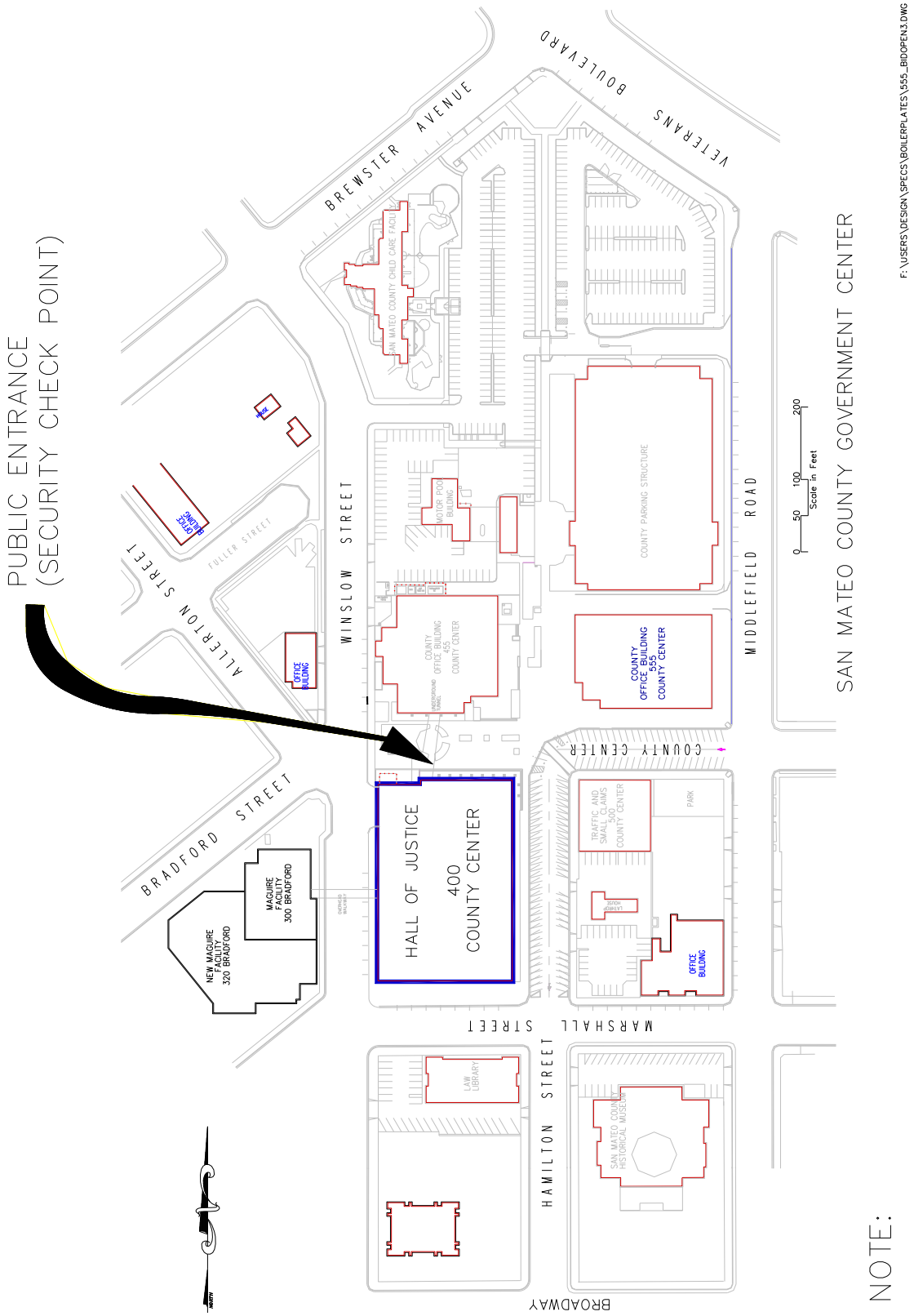
The County of San Mateo reserves the right to reject any or all bids and/or waive any informalities or irregularities in any bid received.

Bidders may not withdraw their bid for a period of **ONE HUNDRED AND TWENTY (120) DAYS** after the date set from the opening thereof.

BY ORDER OF THE
BOARD OF SUPERVISORS
COUNTY OF SAN MATEO

DATE: January 27 ,2023

Michael Callagy, County Executive Officer/ Clerk of the Board of Supervisors



SAN MATEO COUNTY GOVERNMENT CENTER

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NOTE:

Receipt of Bids in the Office of the County Manager/Clerk of the Board of Supervisors, Hall of Justice.
Refer to project Notice to Contractors for Time, Date or alternate location.

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PROPOSAL SECTION

Contractor's Check-Off List:

1. Complete **Bidder's Information** Sheet 1

2. Complete **Bid Proposal** Sheet 4

3. Check off for **Bidder's Security** (cash, cashier's check, certified check, or bidder's bond) 8

4. Complete **Principal(s) and Title(s)** Sheet 10

5. Complete **State Contractor's License No.** and **Department of Industrial Relations Registration No.** 11

6. Complete **Subcontractor List** Sheets 12

7. Complete **Certification of Intent** Sheet 17

8. **Equal Employment Opportunity** Sheets:
   i. Complete **Questionnaire for Bidder** Sheet 18
   ii. Complete **Contractor Report Form** 21

9. Complete **Equal Benefits Compliance Declaration Form** 27

10. Complete **Employee Jury Service Compliance Declaration Form** 31

11. Complete **Non-Collusion Declaration Form** 32

12. Complete **Equal Employment Opportunity Certification (Federal Requirement)** 33

13. Complete **Bidders Questionnaire and Statements** 34

14. Complete **Buy American Certification** 36

15. Complete **Certifications** Sheet: 39
   i. Certification of Non-Segregated Facilities
   ii. Debarment & Suspension Certification
   iii. Lobbying and Influencing Federal Employees
   iv. Certification of Offerer/Bidder Regarding Tax Delinquency and Felony Convictions
   v. Trade Restriction

16. Complete **Iran Contracting Act Certification**..... 44

17. Complete **Bidder's List Collection Form (Bidder's Information)**..... 45

18. Complete **Bidder's List Collection Form (Subcontractor's Information)**. 46

19. Complete **Safety Plan Compliance Document (SPCD) Certification**..... 48

20. Complete the following **DBE Forms**:
    i. **Disadvantaged Business Enterprise Statement**..... 49
    ii. **Contractor's DBE Plan**..... 50
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PROPOSAL TO THE COUNTY OF SAN MATEO
STATE OF CALIFORNIA

SAN CARLOS AIRPORT
RUNWAY 12-30 & CONNECTOR TAXIWAYS REHABILITATION PROJECT

COUNTY PROJECT NO. ASL03
PROJECT FILE NO. E5077

FEDERAL AVIATION ADMINISTRATION (FAA)
AIP PROJECT

NAME OF BIDDER: _____

STREET ADDRESS: _____

MAILING ADDRESS: _____

TELEPHONE NUMBER: (_____) _____

FAX NUMBER: (_____) _____

EMAIL FOR OFFICIAL NOTIFICATIONS: _____

The work for which this proposal is submitted is for construction in accordance with the County of San Mateo's and FAA's General Provisions, Special Provisions, and Agreement annexed hereto, the project plans described below, and the Department of Transportation Standard Plans, Revised Standard Plans, Standard Specifications, Revised Standard Specifications, 2018 edition, the Labor Surcharge and Equipment Rental Rates and the General Prevailing Wage Rates in effect on the date the work is accomplished.

It is the Contractor's obligation and responsibility to ensure that all work associated with this Project complies with all current Orders of the Health Officer of the County of San Mateo related to the Novel Coronavirus Disease 2019 (COVID-19). The County of San Mateo assumes no responsibility for work performed by Contractor that is not in compliance with all current Orders. The Contractor is advised to review the Orders of the Health Officer of the County of San Mateo, which can be found at the following link:

https://www.smchealth.org/health-orders-updates

LOCATION OF WORK

The work will be done in accordance with the Special Provisions and Agreement annexed hereto, and in accordance with the Standard Specifications of the County of San Mateo and the FAA.

The location and details of said work are further shown on the Plans titled **"Runway 12-30 & Connector Taxiways Rehabilitation Project at San Carlos Airport,"** File No. E5077 in the Department of Public Works.

TO THE BOARD OF SUPERVISORS
COUNTY OF SAN MATEO
STATE OF CALIFORNIA

The undersigned, as Bidder, declares that the only persons or parties interested in this Proposal as principals are those named herein; that this Proposal is made without collusion with any other person, firm or corporation; that he has carefully examined the location of the proposed work, the annexed proposed form of Agreement, and the Plans and Specifications therein referred to; that he proposes, and agrees if this Proposal is accepted, that he will contract with the County of San Mateo, in the form of the copy of the Agreement annexed hereto, to provide all necessary machinery, tools, apparatus and other means of construction and to do all the work and furnish all the materials specified in the Contract, in the manner and time therein prescribed and according to the requirements of the Engineer as therein set forth, and that he will accept in full payment therefor the following unit prices, to wit:

PROPOSAL TO THE COUNTY OF SAN MATEO

SAN CARLOS AIRPORT
RUNWAY 12-30 & CONNECTOR TAXIWAYS REHABILITATION PROJECT

COUNTY PROJECT NO. ASL03
PROJECT FILE NO. E5077

FEDERAL AVIATION ADMINISTRATION (FAA)
AIP PROJECT

NOTICE TO CONTRACTORS:
THE FOLLOWING FORMS MUST BE COMPLETED IN FULL BY AN OFFICIAL OF THE COMPANY AND SUBMITTED WITH THE BID:

1. **Contractor's DBE Plan**
2. **DBE Letter of Intent Form**
3. **DBE Good Faith Efforts Documentation**

FAILURE TO COMPLETE AND SUBMIT THE REQUIRED FORMS SHALL BE CONSIDERED AS REASON FOR DISQUALIFICATION FROM BIDDING.

BIDDERS CANNOT WITHDRAW THEIR BIDS FOR A PERIOD OF 120 DAYS AFTER BID OPENING.

Item No.	Section No.	Estimated Quantity	Unit of Measure	Item Description	Item Price (In Figures)	Total (In Figures)
1	P-101	13,600	LF	Filling of Cracks 1/4" to 1" Wide	$	$
2	P-101	56,130	SF	Removal of Rubber	$	$
3	P-101	2,880	SY	Micro-Mill Existing Pavement Bump (0.2" Depth)	$	$
4	P-101	11,100	SY	Remove Existing Asphalt Concrete Structural Section (34" Depth)	$	$
5	P-152	21,580	CY	Unclassified Excavation	$	$
6	P-153	12,170	CY	Control Low Strength Material (CLSM) - Rwy/Taxiway Edge (22" Thick)	$	$
7	P-153	7,570	CY	Control Low Strength Material (CLSM) - RSA Soil Stabilization (Variable Thickness)	$	$
8	P-209	13,870	SY	Crushed Aggregate Base Course - Rwy/Taxiway Edge (8" Thick)	$	$

Continued on next page

Item No.	Section No.	Estimated Quantity	Unit of Measure	Item Description	Item Price (In Figures)	Total (In Figures)
9	P-209	23,060	SY	Crushed Aggregate Base Course - RSA Soil Stabilization (11" Thick)	$	$
10	P-403	3,570	TON	Asphalt Surface Course (4" Runway & Connectors)	$	$
11	P-603	1,900	GAL	Emulsified Asphalt Tack Coat	$	$
12	P-608	23,160	SY	Asphalt Surface Treatment	$	$
13	P-615	73,800	SY	Tensar Triax TX-160 Heavy Duty Geogrid	$	$
14	P-620	48,200	SF	Removal of Pavement Markings	$	$
15	P-620	6,960	SF	Interim Runway Markings	$	$
16	P-620	17,800	SF	Paintstriping (White, Reflectorized)	$	$
17	P-620	9,040	SF	Paintstriping (Yellow, Reflectorized)	$	$
18	D-701	92	LF	12-Inch RCP, Class IV	$	$
19	D-751	3	EA	Catch Basin	$	$
20	L-108	22,400	LF	No. 8 AWG, 5KV, L-824, Type C Cable, Installed In Trench, Duct Bank or Conduit	$	$
21	L-108	14,650	LF	No. 6 AWG, Solid, Bare Copper Counterpoise Wire Installed in Trench	$	$
22	L-109	1	LS	Airport Electric Building Equipment	$	$
23	L-110	3,170	LF	Non-Encased Electrical Conduit, 1 Way - 2 Inch PVC Conduit, in Turf	$	$
24	L-110	425	LF	Concrete Encased Electrical Conduit, 1 Way - 2 Inch PVC Conduit, in Pavement	$	$

Continued on next page

Item No.	Section No.	Estimated Quantity	Unit of Measure	Item Description	Item Price (In Figures)	Total (In Figures)
25	L-110	10,200	LF	CLSM Encased Electrical Conduit, 1 Way - 2 Inch PVC Conduit, in RSA Soil Stabilization	$	$
26	L-110	320	LF	CLSM Encased Electrical Conduit, 1 Way - 3 Inch HDPE Conduit, In RSA Soil Stabilization	$	$
27	L-110	100	LF	Concrete Encased Electrical Duct Bank Extension, 2 Way - 3 Inch PVC Conduit, in Pavement	$	$
28	L-110	53	LF	Concrete Encased Electrical Duct Bank Extension, 3 Way - 3 Inch PVC Conduit, in Pavement	$	$
29	L-110	3,600	LF	Cable Removal in Existing Duct Bank or Conduit	$	$
30	L-110	59	EA	Electrical Drainage Gravel Sump	$	$
31	L-113	500	LF	2-Inch Schedule 80 HDPE Conduit Installed by Directional Drilling	$	$
32	L-115	4	EA	Removal of Electrical Pull Box	$	$
33	L-115	5	EA	Removal of Electrical Junction Can	$	$
34	L-115	8	EA	Electrical Junction Can, L-867 Size D	$	$
35	L-115	18	EA	Electrical Junction Can Plaza, 2-Way	$	$
36	L-125	190	EA	Medium Intensity Taxiway Edge Light Fixture, Led, Elevated	$	$
37	L-125	4	EA	Medium Intensity Taxiway Edge Light Fixture, Led, Semi-Flush	$	$
38	L-125	5	EA	Medium Intensity Runway Edge Light Fixture, Led, Semi-Flush	$	$
39	L-125	33	EA	Medium Intensity Runway Edge Light Fixture, Led, Elevated	$	$
40	L-125	5	EA	L-868B Load Bearing Light Base, in Pavement	$	$

Continued on next page

Item No.	Section No.	Estimated Quantity	Unit of Measure	Item Description	Item Price (In Figures)	Total (In Figures)
41	L-125	214	EA	L-867B Non-Load Bearing Light Base, in RSA Soil Stabilization	$	$
42	L-125	189	EA	Removal of Existing Light Fixture and Appurtenances, All Types	$	$
43	L-125	176	EA	Removal of Existing Light Base, All Types	$	$
44	L-125	26	EA	Airfield Guidance Sign, LED, 2 Module	$	$
45	L-125	1	EA	Airfield Guidance Sign, LED, 3 Module	$	$
46	L-125	14	EA	Airfield Guidance Sign, LED, 4 Module	$	$
47	L-125	39	EA	Removal of Existing Airfield Guidance Sign and Foundation	$	$
48	L-125	1	LS	Spare Light and Sign Parts (Not To Exceed $10,000)	$	$
49	SP-5	36,900	SY	Reinforcement Mirafi 600x Fabric	$	$
50	C-102	1	LS	Compliance with Pollution, Erosion, and Siltation Control	$	$
51	C-106	1	LS	Safety, Security and Maintenance of Traffic	$	$
52	C-105	1	LS	Mobilization (6% Maximum)	$	$
					TOTAL	$

Notes: (F) Final Pay Quantities - See Section 9-1.015, “Final Pay Items,” of the Standard Specifications.
(R) Revocable Item. See Special Provision section for additional information.

Bids are required for the entire work. The amount of the bid for comparison purposes will be the total of all items. The total of unit basis items will be determined by extension of the item price bid on the basis of the estimated quantity set forth for the item.

The Bidder shall set forth for each item of work, in clearly legible figures, an item price and a total for the item in the respective spaces provided for this purpose. In the case of unit basis items, the amount set forth under the "Total" column shall be the

extension of the item price bid on the basis of the estimated quantity for the item.

In case of discrepancy between the item price and the total set forth for the item, the item price shall prevail, provided however, if the amount set forth as an item price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or in the case of unit basis items, is the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail in accordance with the following:

1. As to lump sum items, the amount set forth in the "Total" column shall be the item price.
2. As to unit basis items, the amount set forth in the "Total" column shall be divided by the estimated quantity for the item and the price thus obtained shall be the item price.

After acceptance of this Proposal and award of the Contract, if the undersigned should fail to contract as aforesaid or should fail to give the "Performance" Surety Bond in the sum of one hundred percent (100%) of the Contract bid, the "Payment" Surety Bond in the sum of one hundred percent (100%) of the Contract bid, the Certificate of Insurance covering public liability and property damage in the amounts specified in the Agreement portion of these Contract documents, and the Certificate of Insurance covering Workmen's Compensation Insurance, within **TEN (10) WORKING DAYS** after award of the Contract, the County may, at its option, determine that the bidder has abandoned the Contract, thereupon this Proposal and the acceptance thereof shall be null and void, and the forfeiture of such security accompanying this Proposal shall operate and the same shall become the property of the County of San Mateo, State of California.

Accompanying this Proposal is:

- ☐ Cash
- ☐ A Cashier’s Check (made payable to the “County of San Mateo”)
- ☐ A Certified Check (made payable to the “County of San Mateo”)
- ☐ A Bidder’s Bond executed by an admitted surety insurer (made payable to the “County of San Mateo”) in the amount equal to at least ten percent (10%) of the total bid.

Bidders must, upon request, furnish evidence of their financial responsibility and ability to perform the work herein described.

PROVISIONS OF LABOR CODE

The Contractor shall be required to comply with all the payroll and apprenticeship provisions of Chapter 1, Division 2, Section 1776 and 1777.5 of the California Labor Code.

BIDDER'S FINANCIAL RESPONSIBILITY
TECHNICAL ABILITY & EXPERIENCE

THE LOW BIDDER MUST, UPON REQUEST, FURNISH EVIDENCE OF FINANCIAL RESPONSIBILITY AND ABILITY TO PERFORM THE WORK INCLUDED IN THIS PROPOSED CONTRACT. SUCH EVIDENCE MAY INCLUDE, BUT NOT BE LIMITED TO, A FINANCIAL STATEMENT AS OF THE DATE OF BID; A STATEMENT, WITH REFERENCES, OF COMPLETED WORK OF A SIMILAR CHARACTER TO THAT INCLUDED HEREIN; A STATEMENT OF THE LAST TWO PROJECTS PERFORMED REGARDLESS OF THEIR CHARACTER; AND SUCH OTHER INFORMATION WHICH WILL ENABLE THE DIRECTOR OF PUBLIC WORKS TO JUDGE THE BIDDER'S RESPONSIBILITY, EXPERIENCE, SKILL AND BUSINESS STANDING.

The names of all persons interested in the foregoing Proposal as principals are as follows:

_____

(Name of Corporation, Co-partnership, Individual)

_____	_____
(Name and Title)	(Name and Title)
_____	_____
(Name and Title)	(Name and Title)
_____	_____
(Authorized Signature of Bidder)	(Authorized Signature of Bidder)

***(NOTICE:** If the Bidder is a corporation, the legal name of the corporation and the names of the president, secretary, treasurer, and manager thereof shall be set forth together with the signature of the officer or officers authorized to sign Contracts in behalf of the corporation; if the Bidder is a co-partnership, the true name of the firm and the names of the principal partners shall be set forth together with the signature of the partner or partners authorized to sign Contracts in behalf of the co-partnership; and, if the Bidder is an individual, his full name shall be set forth and his signature shall be as the authorized officer. If the signature is by an agent, other than by an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the County prior to opening of bids or submitted with the bid; otherwise, the bid will be disregarded as irregular and unauthorized.)

Corporations must, upon request, furnish certification attesting to corporate existence and authority of officers to sign contracts and other documents.

The undersigned is licensed by the Contractor's State License Board of the State of California to perform the work hereinafter described, which State Contractor's License No. is:

State Contractor's License No.: _____
(Expires: _____)

Pursuant to State Senate Bill SB 854 (Stat. 2014, chapter 28), effective January 1, 2015, No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

Department of Industrial Relations Registration No.: _____
(Expires: _____)

LICENSEE: _____
(Please print)

ADDRESS: _____

CITY AND STATE: _____

_____ _____
Date of Proposal Signature

SUBCONTRACTORS

DESIGNATION OF SUBCONTRACTORS: Each Bidder shall set forth below the name, business address and telephone number of each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work or improvement to be performed under these Contract Documents. The Bidder shall also list the proposal item number(s) to be done, in whole or in part, by each subcontractor and the total amount of each subcontractor's work in dollars and as a percentage of the total bid amount. The Bidder's attention is directed to Section 5-1.13, “Subcontracting”, of the Standard Specifications.

SUBCONTRACTORS

1. Name: _____ Item No(s). _____
   Address: _____ Dollar Amount: $_____
   Tel: (____) _____ Percent of Total Bid: _____%
   License No.: _____
   Department of Industrial Relations Registration No.: _____

2. Name: _____ Item No(s). _____
   Address: _____ Dollar Amount: $_____
   Tel: (____) _____ Percent of Total Bid: _____%
   License No.: _____
   Department of Industrial Relations Registration No.: _____

3. Name: _____ Item No(s). _____
   Address: _____ Dollar Amount: $_____
   Tel: (____) _____ Percent of Total Bid: _____%
   License No.: _____
   Department of Industrial Relations Registration No.: _____

4. Name: _____ Item No(s). _____
   Address: _____ Dollar Amount: $_____
   Tel: (____) _____ Percent of Total Bid: _____%
   License No.: _____
   Department of Industrial Relations Registration No.: _____

SUBCONTRACTORS
(Continued)

5. Name: _____ Item No(s). _____
   Address: _____ Dollar Amount: $_____
   Tel: (____) _____ Percent of Total Bid: _____%
   License No.: _____
   Department of Industrial Relations Registration No.: _____

6. Name: _____ Item No(s). _____
   Address: _____ Dollar Amount: $_____
   Tel: (____) _____ Percent of Total Bid: _____%
   License No.: _____
   Department of Industrial Relations Registration No.: _____

7. Name: _____ Item No(s). _____
   Address: _____ Dollar Amount: $_____
   Tel: (____) _____ Percent of Total Bid: _____%
   License No.: _____
   Department of Industrial Relations Registration No.: _____

8. Name: _____ Item No(s). _____
   Address: _____ Dollar Amount: $_____
   Tel: (____) _____ Percent of Total Bid: _____%
   License No.: _____
   Department of Industrial Relations Registration No.: _____

9. Name: _____ Item No(s). _____
   Address: _____ Dollar Amount: $_____
   Tel: (____) _____ Percent of Total Bid: _____%
   License No.: _____
   Department of Industrial Relations Registration No.: _____

10. Name: _____ Item No(s). _____
    Address: _____ Dollar Amount: $_____
    Tel: (____) _____ Percent of Total Bid: _____%
    License No.: _____
    Department of Industrial Relations Registration No.: _____

SAN MATEO COUNTY

EQUAL EMPLOYMENT OPPORTUNITY (AFFIRMATIVE ACTION) PROGRAM

CONTRACT COMPLIANCE PROGRAM

The purpose of the **Contract Compliance Program** is two-fold:

1. **To prohibit and eliminate employment discrimination; and**
2. **To further the opportunities for minority persons to be gainfully employed in County construction contracts.**

The program requires equal employment opportunity efforts by Contractors to employ minority workers on the County's construction projects. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, national origin, age, disability, ancestry, sexual orientation, or sex. The Contractor will take equal employment opportunity actions to ensure that applicants are employed, and that employees are treated, during employment, without regard to their race, religion, color, national origin, age, disability, ancestry, sexual orientation, or sex; with the goal that the ethnic composition of the Contractor's work force will approximate the ethnic composition of the population of San Mateo County. Such action shall include, but not be limited to, employment, upgrading, demotion or transfer; recruitment; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship training and on-the-job training.

The **San Mateo County Equal Employment Opportunity Program** requires the Contractor to make two certifications. The first assures compliance with laws prohibiting discrimination. The second concerns the intent to develop and implement an equal employment opportunity program.

The Contractor is further required to:

1. Post **"EQUAL EMPLOYMENT OPPORTUNITY NOTICE(S)",** including the statement: **"AN EQUAL OPPORTUNITY EMPLOYER",** in all announcements of job openings;

2. Permit access by County and State compliance officials to his employment records; and

3. File monthly reports on prescribed forms:

A. **Monthly Manpower-Utilization Report**

B. **Weekly payroll Form WH-347** (which form can be found on the U.S. Department of Labor, Wage & Hour Division website, which website is addressed as http://www.dir.ca.gov/dlsr/PWD/Northern.html)

C. **Statement of Compliance** (which form is on the back of payroll form WH-347 or separate form WH-348, as requested by the County's contract compliance representative)

D. Assign an equal opportunity officer full time or as additional duty.

Union employees are to be recruited according to applicable labor agreements. If non-union employees are recruited for the project, the Contractor shall make use of minority-oriented news media and referral sources. The Contractor shall inform all subcontractors hired by him on the project(s) of their obligations under this program; and Contractor **will be responsible for the compliance with these regulations by his subcontractors**.

For failure to comply with the non-discrimination section, the Contractor is subject to a penalty of **two percent (2%) of the total amount payable for each working day during which he was found to be in non-compliance, or the cancellation of the contract in part or whole**.

The County's Contract Compliance Program is monitored by the San Mateo County Department of Public Works, 555 County Center, Redwood City, CA, 94063-1665, telephone (650) 363-4100.

Information and necessary forms are available at the **Department of Public Works**. In addition to evaluating Contractors' and subcontractors' equal opportunity efforts, the **Department of Public Works** will assist Contractors and subcontractors toward meeting these obligations.

CERTIFICATION OF COMPLIANCE
WITH LAWS PROHIBITING DISCRIMINATION

We are in compliance with the **EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENT OF THE EXECUTIVE ORDER 11246, TITLE VII OF THE CIVIL RIGHTS ACT OF 1964, THE CALIFORNIA FAIR EMPLOYMENT AND HOUSING ACT**, any other Federal or State laws relating to equal employment opportunity and the provisions of **Title 2, Chapter 2.50 of the San Mateo County Ordinance Code** and the Board established guidelines implementing them.

We will not discriminate against any employee or applicant for employment based on **race, religion, color, national origin, age, disability, ancestry, sexual orientation, or sex**. This pertains to the areas of **recruitment, hiring, training, upgrading, transfer, compensation and termination**.

CERTIFICATION OF INTENT

We will maintain or develop and implement, during the course of the work concerned, an **Equal Employment Opportunity Program** of hiring and employment conducted without regard to **race, religion, color, national origin, age, disability, ancestry, sexual orientation, or sex** of the applicants. With this Certification we shall submit any and all information that may be required by the County in connection with this program.

We certify that we have read and understood the County of San Mateo's **GENERAL EQUAL EMPLOYMENT OPPORTUNITY STATEMENT SECTION III-A**, which is included in the proposal section of the Specifications.

As a private Contractor, working under contracts with the County of San Mateo, we understand that these policies are the requirements of said County employment and we will, in our recruitment, training and staffing, work to implement this Section as applicable.

_____

Signature and Title of Authorized Representative or Bidder

_____

Date

SAN MATEO COUNTY
EQUAL EMPLOYMENT OPPORTUNITY PROGRAM

QUESTIONNAIRE FOR BIDDER

THIS REPORT MUST BE COMPLETED IN FULL BY AN OFFICIAL OF THE COMPANY AND SUBMITTED WITH THE BID.

PROJECT: Runway 12-30 & Connector Taxiways Rehabilitation Project – San Carlos Airport

NAME OF FIRM: _____

ADDRESS: _____

CITY/ZIP: _____

TELEPHONE: (____)_____ DATE OF SUBMITTAL: _____

OFFICIAL FOR COMPANY: _____

---

1. _____ Yes _____ No — Have you read and are you acquainted with the **Equal Employment Opportunity Requirement** of the Executive Order 11246, Title VII of the **Civil Rights Act of 1964**, the California Fair Employment Practices Act and **Title 2, Chapter 2.50** of the San Mateo County Ordinance Code?

2. _____ Yes _____ No — Does your employment advertising state that you are an Equal Opportunity Employer?

3. _____ Yes _____ No — Have all recruitment sources been advised that all qualified applicants will be considered for employment without regard to race, religion, color, national origin, age, disability, ancestry, sexual orientation, or sex?

4. _____ Yes _____ No — Were any employees hired by means other than the union hiring hall in the past year?

   How many? _____

   What positions? _____

   _____

   _____

5. If non-union personnel are employed by the company, or if a position cannot be filled by the union hall, specify the advertisement and recruitment sources that are used. (For example, State HRD, newspapers, high schools, vocational schools, referral agencies/organizations, community groups.)

_____

_____

_____

6. How many apprentices do you employ? _____

   How many of these are minorities? _____

7. _____ Yes _____ No Do you have a program for upgrading and counseling present employees?

   Describe: _____

   _____

   _____

   _____

   _____

   _____

   _____

   _____

8. _____ Yes _____ No Do you have a collective bargaining agreement with a labor union or other organization?

   Please list these groups_____

   _____

   _____

   _____

   _____

9. What percentage of your work force is covered by union agreement? _____

10. _____ Yes _____ No Have you advised the labor union and/or worker organizations of your company's responsibility under the Equal Employment Opportunity Program?

11. _____ Yes _____ No Does your company's collective bargaining agreement include a provision for non-discrimination in employment?

12. Describe any previous experience with Equal Employment Opportunity Programs:

If your company has a written Equal Employment Opportunity Program now in effect, please attach a copy.

COUNTY OF SAN MATEO
EQUAL EMPLOYMENT OPPORTUNITY PROGRAM

CONTRACTOR REPORT FORM
(To Be Submitted with Original Bid)

PROJECT: _____ DATE: _____

NAME OF BIDDER: _____

NAME OF PERSON SUBMITTING REPORT: _____

RACIAL/ETHNIC MAKEUP OF THE COMPANY

Be sure to include the total of all employees in each classification in the first column. Report the number of employees enrolled in formal on-the-job (apprenticeship) training programs in parenthesis () for each classification.

Minority Employees										
Job Classification	**Total (All Employees)**	**Ethnicity**								
		American-Indian or Native Alaskan	**Asian**	**Native Hawaiian or Pacific Islander**	**Black American or African American**	**Caucasian**	**Filipino**	**Hispanic or Latino (1)**	**Other (2)**	**Unidentified (3)**
Total (s)										

Notes: (1) "Hispanic" includes all persons of Mexican, South and Central American, Puerto Rican, Cuban or Spanish ancestry.
(2) "Other" includes all others whose origin consists of two or more races other than Hispanic or Latino.
(3) Use this category for employees who have chosen not to identify any race or ethnicity, including "Other".

SECTION III-A. GENERAL EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT

The Board of Supervisors of the County of San Mateo takes this opportunity to express its commitment to one of its highest priorities in the area of employment. This priority is assuring that all employees and applicants for employment are provided equal access to, and enjoyment of employment opportunities, and that they are not subjected to discrimination because of age (over 40), ancestry, creed, color, disability, marital status, medical condition, national origin, political or religious affiliation, race, sex, or sexual orientation.

The Board of Supervisors is committed to ensuring compliance with all applicable non-discrimination laws and regulations in order to attain a work environment that is free of discrimination so all County employees can provide quality public service.

The County will take positive measures toward eliminating artificial barriers to employment and achieving equal opportunity through its continued implementation and coordination of the County's Equal Employment Opportunity Program and through its review and evaluation of hiring and promotional policies and procedures.

It is the belief of the Board of Supervisors that equal employment opportunity is consistent with the basic merit system principle that all persons be afforded equal access to positions in public service based on their ability to do the job. Employment decisions shall be made on the basis of merit and in conformity with the principles of equal opportunity action.

Through adoption of the Equal Employment Opportunity Program, the Board of Supervisors commits the County, the operating departments, the Equal Employment Opportunity Coordinator, and all employees to a results-oriented Equal Employment Opportunity Program aimed at attaining a balanced workforce at all levels of County employment and achieving equal opportunity in County service.

EQUAL BENEFITS COMPLIANCE ORDINANCE NO. 04026

CHAPTER 2.84

ORDINANCE NO 04026

AN ORDINANCE OF THE SAN MATEO COUNTY ORDINANCE CODE (TITLE 2, ADMINISTRATION), REQUIRING SPECIFIED COUNTY CONTRACTORS TO PROVIDE FOR NON-DISCRIMINATION BY COUNTY CONTRACTORS IN THE PROVISION OF EMPLOYEE BENEFITS

WHEREAS, employee benefits routinely comprise a significant proportion of total employee compensation; and

WHEREAS, discrimination in the provision of employee benefits between employees with domestic partners and employees with spouses results in unequal pay for equal work; and

WHEREAS, County of San Mateo law prohibits discrimination based on marital status and/or sexual orientation; and

WHEREAS, it is the County's intent, through the contracting practices outlined herein, to equalize the total compensation between similarly situated employees with spouses and employees with domestic partners;

Section 1. The Board of Supervisors of the County of San Mateo, State of California, **ORDAINS** as follows:

Chapter 2.84 CONTRACTS – EQUAL BENEFITS

2.84.010 Definitions.

For the purposes of this chapter,

A. “Contract” means a legal agreement between the County and a contractor for public works, consulting, or other services, or for purchase of supplies, material or equipment for which the consideration is in excess of $5,000.

B. “Contractor” means a party who enters into a contract with the County.

C. “Contract Awarding Authority” means the Board of Supervisors or the individual authorized by the Board of Supervisors to enter into contracts on behalf of the County.

D. “Domestic Partner” means any person who is registered as a domestic partner with the Secretary of State, State of California registry or the registry of the state in which the employee is a resident.

E. “Employee Benefits” means the provision of any benefit other than pension and retirement benefits provided to spouses of employees or provided to an employee on account of the employee's having a spouse, including but not limited to bereavement leave; disability, life, and other types of insurance; family medical leave; health benefits; membership or membership discounts; moving expenses; vacation; travel benefits; and any other benefits given to employees, provided that it does not include benefits to the extent that the application of the requirements of this chapter to such benefits may be preempted by federal or state law.
(Ord. 4324, 08/15/06)

2.84.020 Discrimination in the provision of benefits prohibited.

(a) No contractor on a County contract shall discriminate in the provision of employee benefits between an employee with a domestic partner and an employee with a spouse, subject to the following conditions:

1. In the event that the contractor's actual cost of providing a particular benefit for the domestic partner of an employee exceeds that of providing it for the spouse of an employee, or the contractor's actual cost of providing a particular benefit to the spouse of an employee exceeds that of providing it for the domestic partner of an employee, the contractor shall not be deemed to discriminate in the provision of employee benefits if the contractor conditions providing such benefit upon the employee's agreement to pay the excess costs.

2. The contractor shall not be deemed to discriminate in the provision of employee benefits if, despite taking reasonable measures to do so, the contractor is unable to extend a particular employee benefit to domestic partners, so long as the contractor provides the employee with a cash payment equal to the contractor's cost of providing the benefit to an employee's spouse.

(b) The Board of Supervisors may waive the requirements of this chapter when it determines that it is in the best interests of the County. The County Executive Officer may waive the requirements of this chapter for contracts not needing the approval of the Board of Supervisors where waiver would be in the best interests of the County for such reasons as follows:

1. Award of a contract or amendment is necessary to respond to an emergency;

2. The contractor is a sole source;

3. No compliant contractors are capable of providing goods or services that respond to the County's requirements;

4. The requirements are inconsistent with a grant, subvention or agreement with a public agency;

5. The County is purchasing through a cooperative or joint purchasing agreement;

(c) Contractors should submit requests for waivers of the terms of this chapter to the Contract Awarding Authority for that contract, or in the case of Contracts approved by the Board, the County Executive Officer.

(d) The Contract Awarding Authority, or in the case of contracts approved by the Board, the County Executive Officer, may reject an entity's bid or proposals, or terminate a contract, if the Contract Awarding Authority determines that the entity was set up, or is being used, for the purpose of evading the intent of this chapter.

(e) No Contract Awarding Authority shall execute a contract with a contractor unless such contractor has agreed that the contractor will not discriminate in the provision of employee benefits as provided for in this chapter. (Ord. 4324, 08/15/06)

2.84.030 Application of Chapter.

The requirements of this chapter shall only apply to those portions of a contractor's operations that occur (i) within the County; (ii) on real property outside of the County if the property is owned by the County or if the County has a right to occupy the property, and if the contractor's presence at that location is connected to a Contract with the County; and (iii) elsewhere in the United States where work related to a County Contract is being performed. The requirements of this Chapter shall not apply to subcontracts or subcontractors of any contract or contractor. (Ord. 4324, 08/15/06)

2.84.040 Powers and duties of the County Executive Officer.

The County Executive Officer's office shall have the authority to:

(a) Adopt rules and regulations, in accordance with this chapter and the Ordinance Code of the County of San Mateo, establishing standards and procedures for effectively carrying out this chapter.

(b) Receive notification from employees of contractors regarding violations of this chapter.

(c) Determine and recommend to the Board of Supervisors for final decision the imposition of appropriate sanctions for violation of this chapter by contractors including, but not limited to:

1. Disqualification of the contractor from bidding on or being awarded a County contract for a period of up to 5 years; and

2. Contractual remedies, including, but not limited to termination of contract.

3. Liquidated damages in the amount of $2,500.

(d) Examine contractors' benefit programs covered by this chapter;

(e) Impose other appropriate contractual and civil remedies and sanctions for violations of this chapter;

(f) Allow for remedial action after a finding of non-compliance, as specified by rule;

(g) Perform such other duties as may be required or which are necessary to implement the purposes of this chapter. (Ord. 4324, 08/15/06)

2.84.050 Date of Application.

The provisions of this chapter shall apply to any contract awarded or amended on or after July 01, 2001, provided that if the contractor is then signatory to a collective bargaining agreement, this chapter shall only apply to any contract with that contractor which is awarded or amended after the effective date of the next collective bargaining agreement. (Ord. 4324, 08/15/06)

Section 2. **Severability –** The provisions of this ordinance are declared to be separate and severable. If a court of competent jurisdiction, all appeals having been exhausted or all appeal periods having run, finds any provision of this ordinance to be invalid or unenforceable as to any person or circumstance, such offending provision shall, if feasible, be deemed to be modified to be within the limits of enforceability or validity. However, if the offending provision cannot be so modified, it shall be null and void with respect to the particular person or circumstance, and all other provisions of this ordinance in all other respects, and the offending provision with respect to all other persons and all other circumstances, shall remain valid and enforceable.

COUNTY OF SAN MATEO
Equal Benefits Compliance Declaration Form
(To Be Submitted with Proposal)

I Vendor Identification

Name of Contractor: _____

Contact Person: _____

Address: _____

Phone Number: _____ Fax Number: _____

II Employees

Does the Contractor have any employees? _____ Yes _____ No

Does the Contractor provide benefits to spouses of employees? _____ Yes _____

_____ No

*If the answer to one or both of the above is no, please skip to Section IV. *

III Equal Benefits Compliance (Check One)

☐ Yes, the Contractor complies by offering equal benefits, as defined by Chapter 2.84, to its employees with spouses and its employees with domestic partners.

☐ Yes, the Contractor complies by offering a cash equivalent payment to eligible employees in lieu of equal benefits.

☐ No, the Contractor does not comply.

☐ *(NOTE: **DO NOT CHECK THIS BOX** unless the said agreement was executed/renewed on or before July 1, 2001. If checked, a copy of the collective bargaining agreement shall be submitted with Proposal.)*
The Contractor is under a collective bargaining agreement which began ***on or before July 1, 2001*** and expires on _____ (date). (Section 2.84.050)

IV Declaration

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that I am authorized to bind this entity contractually.

Executed this _____ day of _____, 20___ at _____ (City), _____ (State).

_____ Signature

_____ Name (Please Print)

_____ Title

_____ Contractor Tax Identification Number

CONTRACTOR EMPLOYEE JURY SERVICE ORDINANCE NO. 04269
CHAPTER 2.85

ORDINANCE NO 04269

AN ORDINANCE OF THE SAN MATEO COUNTY ORDINANCE CODE (TITLE 2, ADMINISTRATION), REQUIRING SPECIFIED COUNTY CONTRACTORS TO PROVIDE PAID JURY SERVICE TO FULL-TIME EMPLOYEES

The Board of Supervisors of the County of San Mateo, State of California, **ORDAINS** as follows:

Chapter 2.85 CONTRACTOR EMPLOYEE JURY SERVICE

2.85.010 Definitions

For the purposes of this chapter,

(a) "Contract" means a legal agreement between the County and a contractor for public works, consulting, or other services, or for purchase of supplies, material or equipment.

(b) "Contractor" means a party who enters into a contract with the County for which the contractor receives consideration of $100,000 or more.

(c) "Contract Authority" means the Board of Supervisors or the head of the department or agency presenting the proposed contract to the Board of Supervisors.

(d) "Employee " means any California resident who is a full-time employee of a contractor under the laws of California.

(e) "Full time " means 40 hours or more worked per week, or a lesser number of hours if (1) the lesser number is a recognized industry standard as determined by the County Executive Officer, or (2) the contractor has a long standing practice that defines the lesser number of hours as full time. (Ord. 4324, 08/15/06)

2.85.020 Contractor jury service policy

(a) A contractor shall have and adhere to a written policy that provides that its employees shall receive from the contractor, on an annual basis, no less than five days of regular pay for actual jury service in San Mateo County. The policy may provide that employees deposit any fees received for such jury service with the contractor or that the contractor deduct from the employees' regular pay the fees received for jury service.

(b) At the time of seeking a contract, a contractor shall certify to the County that it has and adheres to a policy consistent with this chapter or will have and adhere to such a policy prior to award of the contract.

(c) The Board of Supervisors may waive the requirements of this chapter when it determines that it is in the best interests of the County for such reasons as follows:

(1) Award of a contract or amendment is necessary to respond to an emergency;

(2) The contractor is a sole source;

(3) No compliant contractors are capable of providing goods or services that respond to the County's requirements;

(4) The requirements are inconsistent with a grant, subvention or agreement with a public agency;

(5) The County is purchasing through a cooperative or joint purchasing agreement.

(d) Contractors should submit requests for waivers of the terms of this chapter to the Contract Authority or the County Executive Officer.

(e) The County Executive Officer may reject a contractor's bid or proposal, or terminate a contract, if he determines that the contractor is in violation of the requirements of this chapter or was established, or is being used, for the purpose of evading the intent of this chapter.

(f) No contract shall be executed with a contractor unless such contractor is in compliance with this chapter. (Ord. 4324, 08/15/06)

2.85.030 Powers and duties of the County Executive Officer

The County Executive Officer's office shall have the authority to:

(a) Adopt rules and regulations, in accordance with this chapter and the Ordinance Code of the County of San Mateo, establishing standards and procedures for effectively carrying out this chapter.

(b) Receive notification from employees of contractors regarding violations of this chapter.

(c) Determine and recommend to the Board of Supervisors for final decision the imposition of appropriate sanctions for violation of this chapter by contractors including, but not limited to:

(1) Disqualification of the contractor from bidding on or being awarded a County contract for a period of up to 5 years; and

(2) Contractual remedies, including, but not limited to termination of contract.

(d) Impose other appropriate contractual sanctions for violations of this chapter;

(e) Allow for remedial action after a finding of non-compliance;

(f) Perform such other duties as may be required or which are necessary to implement the purposes of this chapter. (Ord. 4324, 08/15/06)

2.85.040 Date of Application

The provisions of this chapter shall apply to any contract awarded or amended on or after September 01, 2005, provided that if the contractor is then signatory to a collective bargaining agreement, this chapter shall only apply to any contract with that contractor which is awarded or amended after the effective date of the next collective bargaining agreement. (Ord. 4324, 08/15/06)

COUNTY OF SAN MATEO
Employee Jury Service Compliance Declaration Form
(To Be Submitted with Proposal)

I Vendor Identification

Name of Contractor: _____

Contact Person: _____

Address: _____

Phone Number: _____ Fax Number: _____

II Employees

Does the Contractor have any employees? _____ Yes _____ No

*If the answer to the above is no, please skip to Section IV. *

III Contractor Employee Jury Service Compliance (Check One)

☐ Yes, the Contractor complies by offering paid employee jury service, as defined by Chapter 2.85, to its employees.

☐ The Contractor will have and adhere to, prior to award of the Contract, a policy that complies by offering paid employee jury service, as defined by Chapter 2.85, to its employees.

☐ No, the Contractor does not comply.

☐ *(NOTE: **DO NOT CHECK THIS BOX** unless the said agreement was executed/renewed on or before September 1, 2005. If checked, a copy of the collective bargaining agreement shall be submitted with Proposal.)*

The Contractor is under a collective bargaining agreement which began ***on or before September 1, 2005*** and expires on _____ (date). (Section 2.85.040)

IV Declaration

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that I am authorized to bind this entity contractually.

Executed this _____ day of _____, 20__ at _____ (City), _____ (State).

_____ Signature

_____ Name (Please Print)

_____ Title

_____ Contractor Tax Identification Number

NON-COLLUSION DECLARATION FORM

THIS FORM SHALL BE EXECUTED BY BIDDER AND SUBMITTED WITH BID.

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [Date], at _____ [City], _____ [State].

"Contractor"

_____
(Print)

_____
(Signature)

(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS PROPOSAL)

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder _____ _____, proposed subcontractor _____, hereby certifies that he has_____/has not_____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filling requirements.

Note:

The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)) and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts, which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of $10,000 or under are exempt.)

Currently, Standard Form 100 ((EEO)-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

BIDDER'S QUESTIONNAIRE AND STATEMENTS

California Department of Industrial Relations (DIR) Information

In accordance with Labor Code section 1773.3, the District may be required to provide notice of the award to the Department of Industrial Relations on the Form PWC-100. The Bidder who is awarded the Contract shall submit to the District a completed Form PWC-100 including identification of the worker classifications for the Bidder and all listed subcontractors, within three (3) days of the award. Failure to provide a completed Form PWC-100 prior to execution of the Contract may result in forfeiture of the Bidder's Bid deposit or bond to the District, and the District may award the Contract to the next lowest responsive and responsible Bidder, or may call for new Bids.

The Contractor shall have an affirmative obligation to verify that all subcontractors are currently and validly registered with the Department of Industrial Relations and shall not permit a subcontractor of any tier to perform work on the project without first verifying the subcontractor's registration. The Contractor shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain valid registration for the duration of the project.

Bidder's DIR Registration Number:_____

California Public Contract Code Section 10162

All prospective bidders, under penalty of perjury, shall complete the following questionnaire. Has such prospective bidder, any officer of such bidder, or any employee of such bidder who has a proprietary interest in such bidder, has ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

YES ____ NO____

If so, explain the circumstances in the space below.

A bid may be rejected on the basis of a bidder, any officer of such bidder, or any employee of such bidder who has a proprietary interest in such bidder, having been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local project because of a violation of law or a safety regulation.

California Public Contract Code Section 10232

In accordance with Public Contract Code Section 10232, the prospective bidder, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the bidder within the immediately preceding two year period because of the bidder's failure to comply with an order of a federal court which orders the bidder to comply with an order

of the National Labor Relations Board. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement.

California Public Contract Code Section 10285.1

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder (has ____) (has not ____) been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement.

(This form must be completed and submitted with the Proposal.)

BUY AMERICAN CERTIFICATION

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws (Per Executive Order 14005 "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to federal financial assistance awards or federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured products offered in the United States.), U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

CERTIFICATION OF COMPLIANCE WITH FAA BUY AMERICAN PREFERENCE – CONSTRUCTION PROJECTS

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with its proposal. The bidder or offeror must indicate how it intends to comply with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e., not both) by inserting a checkmark (✓) or the letter "X".

☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101, BABA and other related U.S. statutes, guidance, and policies of the FAA by:

a) Only installing iron, steel and manufactured products produced in the United States;

b) Only installing construction materials defined as: an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber or drywall that have been manufactured in the United States.

c) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or

d) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

a) To provide to the Airport Sponsor or the FAA evidence that documents the source and origin of the iron, steel, and/or manufactured product.

b) To faithfully comply with providing U.S. domestic products.

c) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

d) Certify that all construction materials used in the project are manufactured in the U.S.

☐ The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

a) To the submit to the Airport Sponsor or FAA within 15 calendar days of being selected as the responsive bidder, a formal waiver request and required documentation that supports the type of waiver being requested.

b) That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.

c) To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.

d) To furnish U.S. domestic product for any waiver request that the FAA rejects.

e) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 2 Waiver (Nonavailability) - The iron, steel, manufactured goods or construction materials or manufactured goods are not available in sufficient quantity or quality in the United States. The required documentation for the Nonavailability waiver is

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire

b) Record of thorough market research, consideration where appropriate of qualifying alternate items, products, or materials including;

c) A description of the market research activities and methods used to identify domestically manufactured items capable of satisfying the requirement, including the timing of the research and conclusions reached on the availability of sources.

Type 3 Waiver – The cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the "facility/project." The required documentation for a Type 3 waiver is:

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;

b) Listing of all manufactured products that are not comprised of 100 percent U.S. domestic content (excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).

c) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.

d) Percentage of non-domestic component and subcomponent cost as compared to total "facility" component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

Type 4 Waiver (Unreasonable Costs) - Applying this provision for iron, steel, manufactured goods or construction materials would increase the cost of the overall project by more than 25 percent. The required documentation for this waiver is:

a) A completed Content Percentage Worksheet and Final Assembly Questionnaire from

b) At minimum two comparable equal bids and/or offers;

c) Receipt or record that demonstrates that supplier scouting called for in Executive Order 14005, indicates that no domestic source exists for the project and/or component;

d) Completed waiver applications for each comparable bid and/or offer.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date	Signature
Company Name	Title

(Buy American form(s) must be completed and submitted with the Proposal.)

CERTIFICATIONS

BIDDER'S NAME: _____

ADDRESS: _____

TELEPHONE NO.: _____ **FAX NO.** _____

IRS EMPLOYER IDENTIFICATION NUMBER: _____

NOTICE OF NONSEGREGATED FACILITIES REQUIREMENT

Notice to Prospective Federally Assisted Construction Contractors

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a federally-assisted construction contract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity Clause.
2. Contractors receiving federally-assisted construction contract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.
3. The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

Notice to Prospective Subcontractors of Requirements for Certification of Non-Segregated Facilities

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a subcontract exceeding $10,000, which is not exempt from the provisions of the Equal Opportunity Clause.
2. Contractors receiving subcontract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.
3. The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

* * * * *

CERTIFICATION OF NON-SEGREGATED FACILITIES

The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact,

segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

* * * * *

CERTIFICATION OF OFFEROR/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

Contractor certifies that Contractor is not identified on a list created pursuant to subdivision (b) of Section 2203 of the Public Contract Code as a person engaging in investment activities in Iran described in subdivision (a) of Section 2202.5 of the Public Contract Code, or as a person described in subdivision (b) of Section 2202.5 of the Public Contract Code, as applicable. Such certification information shall be submitted to the Department of General Services by Owner. Such certification is not require if Contractor has been permitted to submit a bid or proposal to Owner pursuant to subdivision (c) or (d) of Section 2203 of the Public Contract Code.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: http://www.sam.gov

2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.

3. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

* * * * *

CERTIFICATION REGARDING LOBBYING

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the

extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

* * * * *

CERTIFICATION OF OFFERER/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The Contractor must complete the following two certification statements. The Contractor must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The Contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

1) The Contractor represents that it is ( ) is not ( ) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2) The Contractor represents that it is ( ) is not ( ) a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If a Contractor responds in the affirmative to either of the above representations, the Contractor is ineligible to receive an award unless the Sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The Contractor therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. Code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 USC § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

* * * * *

TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);

2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and

3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC § 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR § 30.17, no contract shall be awarded to an Offeror or subcontractor:

1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR; or

2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list; or

3) who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

Printed Name & Title: _____

Signature: _____

Date: _____

(These certifications must be completed and submitted with the Proposal.)

IRAN CONTRACTING ACT CERTIFICATION
(Public Contract Code Section 2200 et seq.)

As required by California Public Contract Code Section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 et seq.) is true and correct:

☐ The Contractor is not:

(i) identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or

(ii) a financial institution that extends, for 45 days or more, credit in the amount of $20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

☐ The Authority has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, Agency will be unable to obtain the goods and/or services to be provided pursuant to the Contract.

☐ The amount of the Contract payable to the Contractor for the Work does not exceed $1,000,000.

Signed_____
Titled_____
Firm_____
Date_____

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of $250,000 or twice the Contract Price, termination of the Contract and/or ineligibility to bid on contracts for three years

(This form must be completed and submitted with the Proposal.)

BIDDER'S LIST COLLECTION FORM
(Bidder's Information)

The sponsor is required by CFR Title 49, Subtitle A, Part 26, Subpart A, Section 26.11 to collect the following information from the bidder. As such, it is the responsibility of the bidder to complete the following information as a condition of submitting a proposal for this project. The sponsor will consider incomplete information to be an irregular proposal.

Airport Name: _____ County Project No_____

Project Name: _____

Bidder's Information

Firm Name	Firm Street Address, City, State, Zip Code, Phone No.	DBE/Non DBE Status	Age of Firm	Annual Gross Receipts
	_____ _____ _____ _____ _____	☐ DBE ☐ Non-DBE	☐ Less than 1 year ☐ 1-3 years ☐ 4-7 years ☐ 8-10 years ☐ More than 10 yrs.	☐ Less than $500K ☐ $500K - $1M ☐ $1-$2M ☐ $2-$5M ☐ More than $5M

(This form must be completed and submitted with the Proposal.)

BIDDER'S LIST COLLECTION FORM
(Subcontractor's Information)

The sponsor is required by CFR Title 49, Subtitle A, Part 26, Subpart A, Section 26.11 to collect the following information from each subcontractor submitting a quote, bid or proposal to the bidder. As such, it is the responsibility of the bidder to complete the following information as a condition of submitting a proposal for this project. The sponsor will consider incomplete information to be an irregular proposal.

Please note that the information requested below must be filled out for each quote received by the bidder, regardless of DBE status. For example, if the bidder requests quotes from three contractors for electrical work, the information requested below must filled out for the three subcontractors. **It is important to note that providing the information does not commit the bidder to using any one of the three subcontractors in the work.**

Airport Name: _____ County Project No._____

Project Name: _____

Subcontractor's Information

Firm Name	Firm Street Address, City, State, Zip Code, Phone No.	DBE/Non DBE Status	Age of Firm	Annual Gross Receipts
	_____ _____ _____ _____ _____	☐ DBE ☐ Non-DBE	☐ Less than 1 year ☐ 1-3 years ☐ 4-7 years ☐ 8-10 years ☐ More than 10 yrs.	☐ Less than $500K ☐ $500K - $1M ☐ $1-$2M ☐ $2-$5M ☐ More than $5M
	_____ _____ _____ _____ _____	☐ DBE ☐ Non-DBE	☐ Less than 1 year ☐ 1-3 years ☐ 4-7 years ☐ 8-10 years ☐ More than 10 yrs.	☐ Less than $500K ☐ $500K - $1M ☐ $1-$2M ☐ $2-$5M ☐ More than $5M
	_____ _____ _____ _____ _____	☐ DBE ☐ Non-DBE	☐ Less than 1 year ☐ 1-3 years ☐ 4-7 years ☐ 8-10 years ☐ More than 10 yrs.	☐ Less than $500K ☐ $500K - $1M ☐ $1-$2M ☐ $2-$5M ☐ More than $5M

Firm Name	Firm Street Address, City, State, Zip Code, Phone No.	DBE/Non DBE Status	Age of Firm	Annual Gross Receipts
	_____ _____ _____ _____ _____	☐ DBE ☐ Non-DBE	☐ Less than 1 year ☐ 1-3 years ☐ 4-7 years ☐ 8-10 years ☐ More than 10 yrs.	☐ Less than $500K ☐ $500K - $1M ☐ $1-$2M ☐ $2-$5M ☐ More than $5M
	_____ _____ _____ _____ _____	☐ DBE ☐ Non-DBE	☐ Less than 1 year ☐ 1-3 years ☐ 4-7 years ☐ 8-10 years ☐ More than 10 yrs.	☐ Less than $500K ☐ $500K - $1M ☐ $1-$2M ☐ $2-$5M ☐ More than $5M
	_____ _____ _____ _____ _____	☐ DBE ☐ Non-DBE	☐ Less than 1 year ☐ 1-3 years ☐ 4-7 years ☐ 8-10 years ☐ More than 10 yrs.	☐ Less than $500K ☐ $500K - $1M ☐ $1-$2M ☐ $2-$5M ☐ More than $5M
	_____ _____ _____ _____ _____	☐ DBE ☐ Non-DBE	☐ Less than 1 year ☐ 1-3 years ☐ 4-7 years ☐ 8-10 years ☐ More than 10 yrs.	☐ Less than $500K ☐ $500K - $1M ☐ $1-$2M ☐ $2-$5M ☐ More than $5M
	_____ _____ _____ _____ _____	☐ DBE ☐ Non-DBE	☐ Less than 1 year ☐ 1-3 years ☐ 4-7 years ☐ 8-10 years ☐ More than 10 yrs.	☐ Less than $500K ☐ $500K - $1M ☐ $1-$2M ☐ $2-$5M ☐ More than $5M

(Copy this form and submit with your original proposal if more space is needed.)

(This form must be completed and submitted with the Proposal.)

SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) CERTIFICATION

Project Location: _____

Project Name: _____

Contractor's Official Name: _____

Contact Person: _____ Telephone: _____

Street Address: _____

City:_____State:_____Zip: _____

Certification Statement:

I certify that I have read the Construction Safety and Phasing Plan (CSPP) included in the Contract Documents and if awarded this Contract, I will abide by its requirements as written.

I certify that I have read the Safety Plan Compliance Document (SPCD) included in the Contract Documents and if awarded this Contract, I will abide by its requirements as written;

I certify that I will provide the information required in the SPCD prior to the start of construction work, if awarded this Contract, and that I will provide any additional information requested by the Owner.

_____ _____

Printed Name of Signer Signature

_____ _____

Title Date

DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATEMENT

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the Sponsor to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract.

DISADVANTAGED BUSINESS ENTERPRISE:

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the Sponsor to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit proposals. Award of this contract will be conditioned upon satisfying the DBE requirements of this contract. These requirements apply to all bidders, including those who qualify as a DBE. A DBE contract goal of 10 percent has been established for this contract. The bidder shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26, to meet the contract goal for DBE participation in the performance of this contract. Excerpts from 49 CFR Part 26 are included in Section 70-21.13.

As a matter of responsibility, all Bidders or Offerors shall submit the "Contractor's DBE Plan", and "DBE Letter of Intent Forms" from each of the DBE firms the Bidder or Offeror intends to use with the bid/proposal. If the contract goal is not met, Bidder or Offeror shall include documentation of good faith efforts with its DBE Plan with the bid/proposal.

The Contractor's DBE Plan Form and DBE Letter Of Intent Form are located in Special Provisions. The website for the Unified Certification Program directory in the state of California is: https://dot.ca.gov/hq/bep/find_certified.

CERTIFICATION OF BIDDER/OFFEROR: The undersigned Bidder or Offeror will satisfy the DBE requirements of these specifications in the following manner (please check the appropriate space):

_____ The Bidder or Offeror is committed to meeting or exceeding the DBE utilization goal stated above on this contract.

_____ The Bidder or Offeror, is unable to meet the DBE utilization goal stated above. However, we are committed to a minimum of 10% DBE utilization on this contract, and will include documentation demonstrating good faith efforts.

SMALL BUSINESS PARTICIPATION:

This Contract does not have a Small Business Element (SBE) set-aside.

IRS Number: _____

_____

Signature and Title

(This form must be completed and submitted with the Proposal.)

CONTRACTOR'S DBE PLAN

(Submit this form and attach a DBE Letter of Intent Form for each DBE subcontractor, supplier or manufacturer.)

Airport Name: _____

Project Name: _____

County Project No: _____

Total Awarded Contract Amount: $_____

Name of Bidder's Firm: _____

Street Address: _____

City:_____ State:_____ Zip: _____

Printed name of signer:_____

Printed title of signer:_____

DBE UTILIZATION SUMMARY

	DBE Contract Amount		DBE Value	Contract %
DBE Prime Contractor	$_____ x 1.00 =		$_____	_____%
DBE Subcontractors	$_____ x 1.00 =		$_____	_____%
DBE Suppliers *	$_____ x 0.60 =		$_____	_____%
DBE Brokers **	$_____ x 1.00 =		$_____	_____%
DBE Manufacturers	$_____ x 1.00 =		$_____	_____%
Total Proposed DBE Participation ***			$_____	_____%
Established DBE Goal			$_____	_____%

* Applicable only to regular dealers.

** Applicable only to the amount of fees or commissions charged for assistance in the procurement of material and supplies, or fees and transportation charges for delivery of material and supplies.

*** If the total proposed DBE participation is less than the established DBE goal, bidder must provide written documentation of the good faith efforts as required by 49 CFR Part 26.

Affirmation:

The undersigned hereby assures that the information included herein is true and correct, and that the DBE firm(s) listed on the attached DBE Letter of Intent Forms have agreed to perform a commercially useful function in the work items noted for each firm. The undersigned further understands that no changes to this plan may be made without prior approval from the Civil Rights Staff of the Federal Aviation Administration.

By:_____

(Signature of Bidder's representative) (Title)

(This form must be completed and submitted with the Proposal.)

DBE LETTER OF INTENT FORM

(Submit one form for each DBE subcontractor, supplier or manufacturer.)

Project Name/Location: _____

County Project No: _____

Name of Bidder's Firm: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Name of DBE firm: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Contact Person: _____ Telephone: _____

Certifying Agency: _____ Expiration Date: _____

(DBE firm shall submit evidence, such as a photocopy, of their certification status)

Classification: ☐ Prime Contractor ☐ Subcontractor ☐ Broker
☐ Manufacturer ☐ Supplier

Disadvantaged Group (check one):

Black American ☐ Male ☐ Female ☐	Hispanic American ☐ Male ☐ Female ☐	Native American ☐ Male ☐ Female ☐	Subcont. Asian American ☐ Male ☐ Female ☐
Asian Pacific American ☐ Male ☐ Female ☐	Non-Minority ☐ Male ☐ Female ☐	Other (not of any group listed here) ☐ Male ☐ Female ☐	

SUMMARY OF WORK ITEMS

Work Item(s)	Description of Work Item	NAICS	Estimated Quantity	Total Value

The bidder is committed to utilizing the above-named DBE firm for the work described above. The estimated dollar value of this work is $ _____.

Affirmation:

The above-named DBE firm affirms that it will perform the portion of the contract for the estimated dollar value as stated above.

By: _____
(Signature of DBE firm's representative) (Title)

By: _____
(Signature of Bidders representative) (Title)

If the bidder does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

(This form must be completed and submitted with the Proposal.)

Intentionally Left Blank

AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 2023, by and between the COUNTY OF SAN MATEO, State of California, hereinafter called the "County" and _____, hereinafter called the "Contractor,"

W I T N E S S E T H:

THAT, for and in consideration of the mutual covenants and agreements hereinafter contained, the parties hereto agree as follows:

I. Services to be performed by Contractor: The Contractor will at his own proper cost and expense, do all the work and furnish all the labor, materials, equipment and utilities necessary to perform and complete in good workmanlike and substantial manner, and to the satisfaction of the Director of Public Works of the County of San Mateo, hereinafter called "Engineer," for the project

SAN CARLOS AIRPORT
RUNWAY 12-30 & CONNECTOR TAXIWAYS REHABILITATION PROJECT

COUNTY PROJECT NO. ASL03
PROJECT FILE NO. E5077

FEDERAL AVIATION ADMINISTRATION (FAA)
AIP PROJECT

and all in strict accordance with the Plans, Specifications, Notice to Contractors, Special Provisions and Proposal on file in the office of the Director of Public Works, which said Plans, Specifications, Notice to Contractors, Special Provisions and Proposal are hereby specifically referred to and by such reference made a part thereto.

II. Payments: The Contractor will receive and accept and the County will pay the prices specified in the Contractor's Proposal, dated _____, 2023, on file in the office of the Director of Public Works of the County of San Mateo and by reference made a part of this Agreement, as full compensation for furnishing all labor, materials and equipment for doing all the work contemplated and embraced in this Agreement; the Contractor assumes any and all loss or damage arising out of the

nature of the work aforesaid, or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by the County, and for all risks of every description connected with the work, and also assumes any and all expenses incurred by or in consequence of the suspension or discontinuance of work and for well and faithfully completing the work, and the whole thereof, in the manner and to the Plans, Specifications and Special Provisions and requirements of the Engineer hereunder. The Contractor shall guarantee all materials and workmanship for a minimum period of one (1) year from date of acceptance of the project by the Director of Public Works or as stated in the Plans and Specifications and Special Provisions. Any defects due to faulty materials, method of installation or workmanship within that period shall be repaired by the Contractor promptly upon notice by the Engineer, at the expense of the Contractor.

It is distinctly understood that the estimate set forth in the Notice to Contractors is only an approximation of the amount of work to be done and the County does not expressly or by implication agree that the actual amount of work will correspond with the amount set forth therein, and payment shall be made to the Contractor as above set forth.

Payment to the Contractor shall be made progressively by the County for the work and materials furnished under this Agreement in accordance with the provisions of Section 9 of the Special Provisions portion of these Contract documents.

III. **Term:** Time is of the essence in the Agreement, and the work to be performed hereunder shall be completed within

Sixty (60) CALENDAR DAYS

from the date of commencement of the work, which commencement shall be within **TEN (10) CALENDAR DAYS** after receiving Notice to Proceed from the Engineer.

IV. **Termination:** This Contract is subject to termination as provided by Section 4410 and Section 4411 of the Government Code of the State of California, being portions of the Emergency Termination of Public Contracts Act of 1949. In the event that the Contract is terminated pursuant to said sections, compensation to the Contractor shall be determined on the basis of the reasonable value of the work done, including preparatory work. As an exception to the foregoing, in the case of any fully

completed separate item or portion of the work for which there is a separate Contract price, the Contract price shall control.

V. Relationship of Parties: Contractor agrees and understands that the work/services performed under this Agreement are performed as independent contractor and not as an employee of the County and that Contractor acquires none of the rights, privileges, powers, or advantages of County employees.

VI. Merger Clause: This Agreement, together with the Notice to Contractors, the Contractor's Proposal, the Plans, Specifications and Special Provisions and the Payment and Performance Bonds form the Contract, and said documents incorporated herein by reference become as fully a part of the Contract as if hereto attached or herein set forth in full. The Standard Specifications of the County of San Mateo, State of California, which, except as specifically noted in the County Contract documents and specifications, are identical with the Standard Specifications of the State of California, Department of Transportation, 2018 edition, and are on file with the County Executive Officer/Clerk of the Board of Supervisors, County of San Mateo, are incorporated herein by reference as a part of the Contract documents and shall apply to this project except where the terms of this Agreement or other Contract documents are inconsistent therewith, in which case the provisions of this Contract shall prevail.

This Agreement constitutes the sole Agreement of the parties hereto and correctly states the rights, duties, and obligations of each party as of this document's date. Any prior agreement, promises, negotiations, or representations between the parties not expressly stated in this document are not binding. All subsequent modifications shall be in writing and signed by the parties.

VII. Surety Bonds: The performance of this Contract is secured by a "Payment" Surety Bond in the sum of one hundred percent (100%) of the Contract bid, and a "Performance" Surety Bond in the sum of one hundred percent (100%) of the Contract bid. "Payment" and "Performance" Surety Bonds have been approved as to form by County Counsel, of which samples of same are attached as Appendix C in the Special Provisions.

VIII. Insurance: The Contractor shall not commence work under this Contract

until he has obtained all insurance required under this paragraph and such insurance has been approved by the County, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained. The Contractor shall furnish County with certificates of insurance evidencing the required coverage, and there shall be a specific contractual liability endorsement extending the Contractor's coverage to include the contractual liability assumed by the Contractor pursuant to this Contract. Certificates of Insurance shall be filed with the County within **TEN (10) WORKING DAYS** after award of the contract. These certificates shall specify or be endorsed to provide that **THIRTY (30) CALENDAR DAYS'** notice must be given, in writing, to County of any pending change in the limits of liability or of any cancellation or modifications of the policy.

A. Worker's Compensation and Employer's Liability Insurance

The Contractor shall have in effect during the entire life of this Contract, Worker's Compensation and Employer's Liability Insurance providing full statutory coverage; and in case any work is sublet, the Contractor shall require all subcontractors similarly to provide Worker's Compensation and Employer's Liability Insurance to full statutory limits. In signing this Contract, the Contractor makes the following certifications, required by Section 1861 of the Labor Code:

> "I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of the code, and I will comply with such provisions before commencing the performance of the work of this Contract."

B. Liability Insurance

The Contractor shall take out and maintain during the life of this Contract such Bodily Injury Liability and Property Damage Liability Insurance as shall comply with Section 7-1.05, "Indemnification," and Section 7-1.06, "Insurance," of the Standard Specifications and protect him/her and any subcontractor performing work covered by this Contract, from claims for damages for bodily injury, including accidental death, as well as from claims for property damage including third party property damage, to include coverage on property in the care, custody and control of the Contractor, and also including coverage for what

are commonly known as the “X, C and U” exclusions (having to do with blasting, collapse and underground property damage), which may arise from the Contractor's operations under this Contract, whether such operations be by himself/herself or by any subcontractor or by anyone directly or indirectly employed by either of them and the amounts of such insurance shall be **ONE MILLION DOLLARS ($1,000,000)** combined single bodily injury and property damage for each occurrence. The County of San Mateo, Federal Aviation Administration, and their officers, agents, servants and employees, shall be named as additional insureds on any such policies of insurance, which shall also contain a provision stating that the insurance afforded thereby to the County of San Mateo, Federal Aviation Administration, and their officers, agents, servants and employees, shall be primary insurance to the full limits of liability of the policy, and that if the County of San Mateo, Federal Aviation Administration, and their officers and employees, have other insurance against a loss covered by such policy, such other insurance shall be excess insurance only.

Such statements, mentioned above, shall be included on a separate endorsement to be submitted to the County with the Certificate of Insurance.

Such insurance shall include:

1) **Comprehensive General Liability $1,000,000**

2) **Motor Vehicle Liability Insurance $1,000,000**

C. In case of the breach of any provision of this Article, the County, at its option, may take out and maintain at the expense of the Contractor, or subcontractor, such insurance as the County may deem proper and may deduct the cost of taking out and maintaining such insurance from any sums which may be due, or become due, to the Contractor, under this Contract.

D. Hold Harmless

The Contractor's attention is directed to Section 7-1.05, “Indemnification,” and Section 7-1.06, “Insurance,” of the Standard Specifications.

The provisions contained in Section 7-1.05, “Indemnification,” and Section 7-1.06, “Insurance,” of the Standard Specifications of the State of California, Department of Transportation, shall be applicable with the understanding that

where said provisions specifically refer to the State of California, a department or division of the State or an official, officer or employee of the State, said provision shall be interpreted to refer to the County of San Mateo, Federal Aviation Administration, and their officers, agents, servants and employees thereof connected with the work, including but not limited to the Director of Public Works, their duly authorized representatives, other appropriate department, division, official, officer or employee of the County of San Mateo, and Federal Aviation Administration.

The provisions of Section 7-1.05, "Indemnification," and Section 7-1.06, "Insurance," of the Standard Specifications are superseded by the following:

> "To the full extent permitted by law, Contractor shall indemnify and save harmless the County, its officers, employees, and servants from all claims, suits, or actions of every name, kind, and description, brought for, or on account of:
>
> 1. Injuries to or death of any person, including Contractor, its officers, employees and servants, or
>
> 2. Damage to any property of any kind whatsoever and to whomsoever belonging, or
>
> 3. Any sanctions, penalties or claims of damages resulting from Contractor's failure to comply with applicable laws, or
>
> 4. Any other loss or cost resulting from the contractor's negligent or reckless acts or omissions or willful misconduct in connection with the performance of any work required of Contractor or payments made pursuant to this Agreement, provided that this shall not apply to injuries or damages for which the County has been found in a court of competent jurisdiction to be liable by reason of its own negligence or willful misconduct.
>
> The duty of Contractor to indemnify and save harmless, as set forth herein, shall include the duty to defend, as set forth In Section 2778 of the California Civil Code.
>
> The obligations set forth in this Section shall continue beyond the term of this Agreement as to any act or omission which occurred during or under this Agreement."

E. Compensation

All insurance required by the paragraphs of this section shall be obtained and maintained by the Contractor at Contractor's own expense and County shall not compensate Contractor for said insurance expenses other than as they are included in the Contract prices the County pays for the various items of work.

F. Nothing herein contained shall be construed as limiting in anyway the extent to which the Contractor may be held responsible for payments of damages resulting from his operation.

IX. Prevailing Wages: Contractor hereby agrees to pay not less than prevailing rates of wages, which are effective on the date the Notice to Contractors is issued for each craft or type of workman or mechanic needed to execute the Contract as provided for by the County for the performance of public work., and be responsible for compliance with all the provisions of the California Labor Code, Article 2-Wages, Chapter 1, Part 7, Division 2, Section 1770 et seq. and Section 1810 et seq., and particularly Section 1775 and 1776(a) thereof. A copy of the prevailing wage scale established by the Department of Industrial Relations is on file in the office of the Director of Public Works, and available at www.dir.ca.gov/DLSR or by phone at 415-703-4774. California Labor Code Section 1776(a) requires each contractor and subcontractor to keep accurate payroll records of trades workers on all public works projects and to submit copies of certified payroll records upon request.

Additionally, pursuant to State Senate Bill SB 854 (Stat. 2014, chapter 28), effective January 1, 2015:

- No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].
- No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
- This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

X. California Labor Code: The Contractor expressly covenants and agrees

to comply with all the provisions of the Labor Code of the State of California limiting the hours of labor on public works to eight (8) hours during any one calendar day, and forty (40) hours in any one calendar week, requiring the payment of not less than the prevailing wage rates, and further agrees to the forfeitures provided for in said Labor Code and as set forth in Section 7, "Legal Relations and Responsibility to the Public," of the Standard Specifications and all amendments thereto, in the event of a violation of any of the provisions thereof during the course of execution of this Contract.

The Contractor expressly agrees to be responsible for compliance with all the provisions of Sections 1776 and 1777.5 of the California Labor Code.

XI. Non-Discrimination and Other Requirements:

a. General Non-discrimination:

No person shall be excluded from participation in, denied benefits of, or be subject to discrimination under this Agreement on the basis of their race, color, religion, national origin, ancestry, age, disability (physical or mental), sex, sexual orientation, gender identity, marital or domestic partner status, religion, political beliefs or affiliation, familial or parental status (including pregnancy, childbirth or related conditions), medical condition (including cancer-related), military service, or genetic information. Contractor shall ensure full compliance with Federal, state and local laws, directives and executive orders regarding non-discrimination for all employees and Subcontractors under this Agreement.

b. Equal Employment Opportunity:

Contractor shall ensure equal employment opportunity based on objective standards of recruitment, classification, selection, promotion, compensation, performance evaluation, and management relations for all employees under this Agreement. Contractor's equal employment policies shall be made available to County upon request.

c. Section 504 of the Rehabilitation Act of 1973:

Contractor shall comply with Section 504 of the Rehabilitation Act of 1973, as amended, which provides that no otherwise qualified individual with a disability shall, solely by reason of a disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination in the performance of any services this Agreement. This Section applies only to contractors who are

providing services to members of the public under this Agreement.

d. Compliance with County's Equal Benefits Ordinance:

Contractor shall comply with all laws relating to the provision of benefits to its employees and their spouses or domestic partners, including, but not limited to, such laws prohibiting discrimination in the provision of such benefits on the basis that the spouse or domestic partner of the Contractor's employee is of the same or opposite sex as the employee.

e. Discrimination Against Individuals with Disabilities:

The nondiscrimination requirements of 41 C.F.R. 60-741.5(a) are incorporated into this Agreement as if fully set forth here, and Contractor and any subcontractor shall abide by the requirements of 41 C.F.R. 60–741.5(a). This regulation prohibits discrimination against qualified individuals on the basis of disability and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified individuals with disabilities.

f. History of Discrimination:

Contractor certifies that no finding of discrimination has been issued in the past 365 days against Contractor by the Equal Employment Opportunity Commission, the California Department of Fair Employment and Housing, or any other investigative entity. If any finding(s) of discrimination have been issued against Contractor within the past 365 days by the Equal Employment Opportunity Commission, the California Department of Fair Employment and Housing, or other investigative entity, Contractor shall provide County with a written explanation of the outcome(s) or remedy for the discrimination prior to execution of this Agreement. Failure to comply with this Section shall constitute a material breach of this Agreement and subjects the Agreement to immediate termination at the sole option of the County.

g. Reporting; Violation of Non-discrimination Provisions:

Contractor shall report to the County Executive Officer the filing in any court or with any administrative agency of any complaint or allegation of discrimination on any of the bases prohibited by this Section of the Agreement or the Section titled "Compliance with Laws". Such duty shall include reporting of the filing of any and all charges with the Equal Employment Opportunity

Commission, the California Department of Fair Employment and Housing, or any other entity charged with the investigation or adjudication of allegations covered by this subsection within 30 days of such filing, provided that within such 30 days such entity has not notified Contractor that such charges are dismissed or otherwise unfounded. Such notification shall include a general description of the circumstances involved and a general description of the kind of discrimination alleged (for example, gender-, sexual orientation-, religion-, or race-based discrimination).

Violation of the non-discrimination provisions of this Agreement shall be considered a breach of this Agreement and subject the Contractor to penalties, to be determined by the County Executive Officer, including but not limited to:

i) Termination of this Agreement;

ii) Disqualification of the Contractor from bidding on or being awarded a County contract for a period of up to 3 years;

iii) Liquidated damages of $2,500 per violation; and/or

iv) Imposition of other appropriate contractual and civil remedies and sanctions, as determined by the County Executive Officer.

To effectuate the provisions of this paragraph, the County Executive Officer shall have the authority to:

i) Examine Contractor's employment records with respect to compliance with this paragraph;

ii) Offset all or any portion of the amount described in this paragraph against amounts due to Contractor under the Contract or any other Contract between Contractor and County.

Contractor shall report to the County Executive Officer the filing by any person in any court of any complaint of discrimination or the filing by any person of any and all charges with the Equal Employment Opportunity Commission, the Fair Employment and Housing Commission or any other entity charged with the investigation of allegations within 30 days of such filing, provided that within such 30 days such entity has not notified Contractor that such charges are dismissed or otherwise unfounded. Such notification shall include the name of the complainant, a copy of such complaint and a description of the circumstance. Contractor shall provide County with a copy of its

response to the Complaint when filed.

Compliance with Equal Benefits Ordinance. With respect to the provisions of employee benefits, Contractor shall comply with the County Ordinance which prohibits contractors from discriminating in the provision of employee benefits between an employee with a domestic partner and an employee with a spouse.

XII. Compliance with County Employee Jury Service Ordinance: Contractor shall comply with Chapter 2.85 of the County's Ordinance Code, which states that Contractor shall have and adhere to a written policy providing that its employees, to the extent they are full-time employees and live in San Mateo County, shall receive from the Contractor, on an annual basis, no fewer than five days of regular pay for jury service in San Mateo County, with jury pay being provided only for each day of actual jury service. The policy may provide that such employees deposit any fees received for such jury service with Contractor or that the Contractor may deduct from an employee's regular pay the fees received for jury service in San Mateo County. By signing this Agreement, Contractor certifies that it has and adheres to a policy consistent with Chapter 2.85. For purposes of this Section, if Contractor has no employees in San Mateo County, it is sufficient for Contractor to provide the following written statement to County: "For purposes of San Mateo County's jury service ordinance, Contractor certifies that it has no full-time employees who live in San Mateo County. To the extent that it hires any such employees during the term of its Agreement with San Mateo County, Contractor shall adopt a policy that complies with Chapter 2.85 of the County's Ordinance Code." The requirements of Chapter 2.85 do not apply if this Agreement's total value listed in the Section 16 is less than one-hundred thousand dollars ($100,000), but Contractor acknowledges that Chapter 2.85's requirements will apply if this Agreement is amended such that its total value meets or exceeds that threshold amount.

XIII. Termination of Agreement: The Contract may be terminated by the County in the event the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he or any of his subcontractors should violate any of the provisions of the Contract, or if he should persistently or repeatedly refuse, or

should fail, except in cases where extension of time is provided, to furnish enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to subcontractors, or for materials or labor, or persistently disregard laws, ordinances, or the instructions of the Engineer. In the event of any of the foregoing conditions, the Engineer is authorized and directed to serve written notice upon the Contractor and his Surety of its intention to terminate the Contract, such notice to contain the reasons for action and unless within **TWO (2) CALENDAR DAYS** after serving of such notice such conditions shall be remedied and satisfactory arrangements for continuation be made, the Contract shall, upon expiration of **TWO (2) CALENDAR DAYS**, cease and terminate. In the event of any such termination, the Engineer may take over the work and prosecute the same to completion by Contract or by any other method he may deem advisable, and at the expense of the Contractor, and the Contractor and his Surety shall be liable to the County for any excess cost occasioned thereby, and in such event, the County may without liability to so doing take possession of and utilize such materials, appliances, plant and other property belonging to the Contractor as may be on the site of the work, and necessary therefore. In such cases, the Contractor shall not be entitled to receive any further payment until the work is completed.

XIV. Compliance with Laws: The Contractor shall comply with all existing and future State and Federal and regulating laws and all ordinances and regulations of the County of San Mateo which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

Controlling Law: The validity of this Agreement and of its terms or provisions, as well as the rights and duties of the parties hereunder, the interpretation, and performance of this Agreement shall be governed by the laws of the State of California.

XV. Contract Assignability: Neither party to the Contract shall assign the Contract or sublet it as a whole without written consent of the other, nor shall the Contractor assign any monies due or to become due to him hereunder without the previous written consent of the County. The Contractor shall neither mortgage nor

convey title to equipment or material to be used in this work, without the written permission of the County. .

XVI. COVID-19: This Provision relates to issues associated with the Novel Coronavirus Disease 2019 (COVID-19) and shall supersede any other conflicting sections or provisions of this Contract and its attachments. The ongoing COVID-19 pandemic may impact the County's ability to proceed with this Project.

Although this Project is proceeding as an Essential Infrastructure Project as determined by the County Board of Supervisors/County Executive Officer, this determination could change in the future based on Health Orders issued by the San Mateo County Health Officer or State of California, or future determinations of the County Board of Supervisors/County Executive Officer. Should future Health Orders or the County Board of Supervisors/County Executive Officer directives preclude the Project from proceeding as scheduled, the County reserves the right to:

- Cancel the Project, terminate the Contractor's work once the Contractor has safely secured the work area, and compensate the Contractor for work completed and materials purchased prior to cancellation of the Project and labor and materials, as approved by the Engineer, required to safely secure the work area such that work can be discontinued on the Project; **or**
- The County and Contractor may reach a mutually agreeable extension for completion of the Project such that the work can resume after being halted provided it complies with all Health Orders issued by the Health Officer of the County of San Mateo or the State of California and as approved by the County Board of Supervisors/County Executive Officer.

It is the Contractor's obligation and responsibility to ensure that all work associated with this Project complies with all current Orders of the Health Officer of the County of San Mateo related to the Novel Coronavirus Disease 2019 (COVID-19). The County of San Mateo assumes no responsibility for work performed by Contractor that is not in compliance with all current Orders. The Contractor is advised to review the Orders of the Health Officer of the County of San Mateo, which can be found at the following link:

https://www.smchealth.org/post/health-officer-statements-and-orders

XVII. Contract Materials: The County hereby promises and agrees with the said Contractor to employ and does hereby employ the said Contractor to provide the materials, unless otherwise specified, and to do the work according to the terms and conditions herein contained and referred to, for the prices aforesaid and hereby contracts to pay the same at the time, in the manner and upon the conditions above set forth, and the said parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to the full performance of the covenants herein contained.

XVIII. Retention of Records, Right to Monitor and Audit:

A. CONTRACTOR shall maintain all required records for three (3) years after the COUNTY makes final payment and all other pending matters are closed, and shall be subject to the examination and/or audit of the County, a Federal grantor agency, and the State of California.

B. Reporting and Record Keeping: CONTRACTOR shall comply with all program and fiscal reporting requirements set forth by appropriate Federal, State and local agencies and as required by the COUNTY.

C. CONTRACTOR agrees upon reasonable notice to provide to COUNTY, to any Federal or State department having monitoring or review authority, to COUNTY's authorized representatives, and/or their appropriate audit agencies upon reasonable notice, access to and the right to examine all records and documents necessary to determine compliance with relevant Federal, State, and local statutes, rules and regulations, and this Agreement, and to evaluate the quality, appropriateness and timeliness of services performed.

XIX. Notices: Any notice, request, demand or other communication required or permitted hereunder shall be deemed to be properly given when both: (1) transmitted via email to the email address listed below or transmitted via facsimile, if available, to the number listed below; and (2) sent to the physical address listed below by either being deposited in the United States mail, postage prepaid, or deposited for overnight delivery, charges prepaid, with an established overnight courier that provides a tracking number showing confirmation of receipt.

In the case of County, to:

Ann M. Stillman, Director of Public Works
County of San Mateo
555 County Center, 5th Floor
Redwood City, CA 94063-1665
Facsimile: 650-361-8220
Email: astillman@smcgov.org

In the case of Contractor, to:

(Contractor Name)
(Contractor Address)
(City, State Zip)
Facsimile:
Email:

XX. Contract Amount and Change Orders:

A. Contract Amount

The amount payable to Contractor under the terms of this agreement is _____ DOLLARS ($_____).

B. Change Orders

The Board of Supervisors has authorized the Director of Public Works to execute change orders to modify the scope of work provided under this agreement, and to increase the County's maximum fiscal obligation to correspond to those changes. The Board of Supervisors has directed that in the event of change orders, the County's maximum fiscal obligation shall not exceed _____DOLLARS ($_____). Any payments in excess of the amount authorized by the Board of Supervisors will require additional approval of the Board of Supervisors.

XXI. Proprietary Rights and Confidentiality: The requirements of this Agreement pertaining to the protection of proprietary rights and confidentiality shall survive termination of this Agreement.

XXII. Electronic Signature: Both County and Contractor wish to permit this Agreement and future documents relating to this Agreement to be digitally signed in accordance with California law and County's Electronic and Facsimile Signatures Administrative Memo (B-29). Any party to this Agreement may

revoke such agreement to permit electronic signatures at any time in relation to all future documents by providing notice pursuant to this Agreement.

IN WITNESS WHEREOF, the parties to these presents have hereunto set their hands the year and date first above written.

"County" COUNTY OF SAN MATEO
State of California

BY: _____
President, Board of Supervisors
County of San Mateo

ATTEST:

_____
Michael Callagy, County Executive Officer/
Clerk of the Board of Supervisors

"Contractor" _____
Name of Contractor

BY: _____
(Authorized Signature and Seal of Bidder)

COUNTY OF SAN MATEO

STATE OF CALIFORNIA

COUNTY SPECIAL PROVISIONS
FOR

SAN CARLOS AIRPORT
RUNWAY 12-30 & CONNECTOR TAXIWAYS REHABILITATION PROJECT

COUNTY PROJECT NO. ASL03
PROJECT FILE NO. E5077

FEDERAL AVIATION ADMINISTRATION (FAA)
AIP PROJECT

DATE: January 27, 2023

SECTION 1.
DEFINITIONS OF TERMS TO BE USED IN THE SPECIAL PROVISIONS, NOTICE TO CONTRACTORS, PROPOSAL, AGREEMENT OR OTHER CONTRACT DOCUMENTS

Except as specifically stated herein, the definitions contained in the Standard Specifications of the State of California, Department of Transportation, as set forth per Section 2-1, “Plans and Specifications,” of these Special Provisions and hereafter referred to as “Standard Specifications,” shall be applicable with the understanding that where said definitions specifically refer to the State of California, a department or division of the State or an official, officer or employee of the State, said definition shall be interpreted to refer to the County of San Mateo, the Department of Public Works, or other appropriate department, division, official, officer or employee of the County of San Mateo.

Definition 7-1.02L, “Public Contract Code,” of the Standard Specifications shall not be interpreted to include the provisions of Article 7.1 of Division 2, Part 2, Chapter 1 of the Public Contract Code.

END OF SECTION

SECTION 2.
BIDDING

The Bidder's attention is directed to all the provisions of Section 2, "Bidding," of the Standard Specifications and these Special Provisions. The County will accept a Bidder's Bond in the form issued by an admitted surety insurer in lieu of the sample forms provided herein in Appendix B of the Agreement. The County will not be responsible for any oral interpretations to Bidders with respect to any of the work embraced herein.

The contractor, sub-recipient or subcontractor shall not discriminate on the basis of race, color, sex, or national origin in the performance of this contract. The contractor shall carry out applicable requirements of Title 49 CFR (Code of Federal Regulations) part 26, "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs," in the award and administration of US DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate. Each subcontract signed by the bidder must include this assurance.

Failure of the bidder to fulfill the requirements of the Special Provisions for submittals required to be furnished after bid opening, including but not limited to escrowed bid documents, where applicable, may subject the bidder to a determination of the bidder's responsibility in the event it is the apparent low bidder on a future public works contracts.

All proposals must be made upon the blank form contained herein.

2-1. Plans and Specifications

Subject to the exceptions stated herein, the work embraced herein shall be done in accordance with the Standard Plans and Specifications as adopted by the County of San Mateo insofar as the same may apply, and in accordance with the following Special Provisions.

As set forth in **Resolution No. 077277** of the Board of Supervisors of the County of San Mateo, adopted **February 11, 2020,** which approved the **2018** Standard Plans and Standard Specifications, of the State of California, Department of Transportation as the Standard Plans and Standard Specifications

of the County of San Mateo, State of California.

In the event that a discrepancy arises between the project Plans, these Special Provisions, the Standard Plans and the Standard Specifications, governing ranking of Contract parts in descending order is:

1. FAA General Provisions and Technical Specifications
2. County Special Provisions
3. Project Plans
4. Caltrans Revised Standard Specifications
5. Caltrans Standard Specifications
6. Caltrans Revised Standard Plans
7. Caltrans Standard Plans
8. Supplemental Project Information

Should an error or conflict appear in the Contract Documents, or a conflict with the documents and actual conditions, the Contractor shall notify the Engineer at once, and the Engineer will issue instructions. If the Contractor proceeds with the work without such instructions, he shall make good any resulting unacceptable work or consequences.

Whenever the documents could be construed to be ambiguous or conflicting, the Contractor is deemed to have included the cost of the more expensive material, method, or requirement in the Contract Amount.

Figure dimensions shall govern over scaling and large-scale details shall govern over small scale details.

2-1.01. Federal Lobbying Restrictions

Title 31, Subtitle II, Chapter 13, Subchapter III, Section 1352, of the United States Code prohibits Federal funds from being expended by the recipient or any lower tier sub-recipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than Federal funds have been paid for the same purposes in connection with this Federal-aid contract, the recipient shall submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

The above referenced certification and disclosure of lobbying activities shall be included in each subcontract and any lower-tier contracts exceeding $100,000. All disclosure forms shall be forwarded from tier to tier until received by the Engineer.

The Contractor, subcontractors and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

(1) A cumulative increase if $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(3) A change in the officer(s), employees(s), or Member(s) contacted to influence or attempt to influence a covered Federal Action.

2-1.02. Disadvantaged Business Enterprise (DBE)

The bidder's attention is directed to the provisions in Sections 2-1.12 and 5-1.13B, "Disadvantaged Business Enterprises," of the Standard Specifications and these Special Provisions for the requirements and conditions concerning DBEs.

This contract is subject to Title 49 CFR 26.13(b):

> "The contractor, sub-recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of Title 49 CFR (Code of Federal Regulations) part 26 in the award and administration of US DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate."

Each subcontract signed by the bidder must include this assurance.

Contractor shall take necessary and reasonable steps to ensure that DBEs have the opportunity to participate in the contract (49 CFR 26).

To ensure there is equal participation of the DBE groups specified in 49 CFR 26.5, the County specifies a goal for DBEs.

Contractor shall make work available to DBEs and select work parts consistent with available DBE subcontractors and suppliers.

Contractor shall meet the DBE goal or demonstrate that he/she made adequate good faith efforts to meet this goal. The DBE goal, as shown on the Notice to Contractors, is ten percent (10%).

It is Contractor's responsibility to verify that the DBE firm is certified as a DBE at date of bid opening. For a list of DBEs certified by the California Unified Certification Program, go to:

https://dot.ca.gov/programs/civil-rights/dbe-search

and choose the "Access the DBE Query Form" link.

All DBE participation will count toward the California Department of Transportation's federally mandated statewide overall DBE goal.

Credit for materials or supplies you purchase from DBEs counts towards the goal in the following manner:

1. One hundred percent (100%) counts if the materials or supplies are obtained from a DBE manufacturer.
2. Sixty percent (60%) counts if the materials or supplies are obtained from a DBE regular dealer.
3. Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies count if obtained from a DBE that is neither a manufacturer nor regular dealer. 49 CFR 26.55(e)(1)(i) and 49 CFR 26.55 (e)(2)(ii), respectively, defines "manufacturer" and "regular dealer."

Contractor receives credit towards the goal if he/she employs a DBE trucking company that performs a commercially useful function as defined in 49 CFR 26.55(d)(1) through (4) and (6).

DBE Commitment Submittal

The Contractor is advised of the following:

a. Contractor shall submit DBE information on the "Contractor's DBE Plan" form included in the Proposal section of this document. Said form shall be submitted, by each bidder, with the

Proposal.

b. **Written confirmation from each DBE stating that it is participating in the contract shall be submitted. Include confirmation with the DBE Letter of Intent Form. A copy of a DBE's quote will serve as written confirmation that the DBE is participating in the contract.**

c. **If Contractor does not submit the DBE Letter of Intent Form and written confirmation from each DBE with their bid, the County will find said Contractor's bid to be non-responsive and it will be disqualified.**

Good Faith Efforts Submittal

Regardless of whether or not the Contractor has met the DBE goal, the Contractor shall complete and submit the "Disadvantaged Business Enterprise Statement" form with the bid showing that an adequate good faith effort was made to meet the goal. Only good faith efforts directed towards obtaining participation by DBEs will be considered. **Good faith efforts documentation must be submitted with the Proposal.**

Contractor's good faith efforts documentation must include the following information and supporting documents, as necessary:

1. Items of work Contractor has made available to DBE firms. Contractor shall identify those items of work he/she might otherwise perform with its own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, Contractor shall show the dollar value and percentage of the total contract. It is the Contractor's responsibility to demonstrate that sufficient work to meet the goal was made available to DBE firms.
2. Names of certified DBEs and dates on which they were solicited to bid on the project. Include the items of work offered. Describe the methods used for following up initial solicitations to determine with certainty if the DBEs were interested, and the dates of the follow-up. Attach supporting documents such as copies of letters, memos, facsimiles sent, telephone logs, telephone billing statements, and other evidence of solicitation. Contractor is reminded to solicit certified DBEs through all reasonable and available means and provide sufficient time to allow DBEs to respond.

3. Name of selected firm and its status as a DBE for each item of work made available. Include name, address, and telephone number of each DBE that provided a quote and their price quote. If the firm selected for the item is not a DBE, provide the reasons for the selection.
4. Name and date of each publication in which Contractor requested DBE participation for the project. Attach copies of the published advertisements.
5. Names of agencies and dates on which they were contacted to provide assistance in contacting, recruiting, and using DBE firms. If the agencies were contacted in writing, provide copies of supporting documents.
6. List of efforts made to provide interested DBEs with adequate information about the plans, specifications, and requirements of the contract to assist them in responding to a solicitation. If Contractor has provided information, identify the name of the DBE assisted, the nature of the information provided, and date of contact. Contractor shall provide copies of supporting documents, as appropriate.
7. List of efforts made to assist interested DBEs in obtaining bonding, lines of credit, insurance, necessary equipment, supplies, and materials, excluding supplies and equipment that the DBE subcontractor purchases or leases from the prime Contractor or its affiliate. If such assistance is provided by Contractor, identify the name of the DBE assisted, nature of the assistance offered, and date. Contractor shall provide copies of supporting documents, as appropriate.
8. Any additional data to support demonstration of good faith efforts. The County may consider DBE commitments of the 2nd and 3rd responsible bidders when determining whether the low bidder made adequate good faith efforts to meet the DBE goal.

END OF SECTION

SECTION 3.
CONTRACT AWARD AND EXECUTION

The bidder's attention is directed to the provisions in Section 3, "Contract Award and Execution," of the Standard Specifications and these Special Provisions for the requirements and conditions concerning award and execution of contracts.

However, the following supersedes the second paragraph in Section 3-1.04, "Contract Award," of the Standard Specifications:

> "The award of contract, if awarded, will be made to the lowest responsible bidder within **ONE HUNDRED TWENTY (120) DAYS** after the opening of the proposals. If the lowest responsible bidder refuses or fails to execute the contract, the County may award the contract to the second lowest responsible bidder. If the second lowest responsible bidder refuses or fails to execute the contract, the County may award the contract to the third responsible bidder. The period of time after that specified above within which the award of the contract may be made shall be subject to extension for such further period as may be agreed upon, in writing, between the County and the bidder concerned."

Bidders who wish to lodge a protest for consideration as to the bidding process or the award of a contract to the lowest responsible bidder must do so as follows:

(1) Protests based upon alleged improprieties in a solicitation, which are apparent prior to bid opening, shall be filed **two (2) business days** prior to bid opening.

(2) Protests other than those covered by paragraph 1, above, shall be filed no later than **ten (10) calendar days** after the bid opening.

(3) All protests shall be delivered to:

Director of Public Works
County of San Mateo
555 County Center, 5th Floor
Redwood City, CA 94063

Untimely protests, which do not meet the deadline requirements specified above, will not be accepted or considered.

Bid protests must be submitted in writing to the addressee and address listed above. Bid protests must at a minimum include the following:

- Project Name
- Project File Number
- A complete statement describing the basis for the bid protest, which includes

a detailed statement of all legal and factual grounds for the protest
- Documentation supporting the protestor's grounds for the protest
- The type of relief requested and the legal basis for such relief

If a valid protest is filed timely, the Department will investigate the bid protest. The protested bidder shall have **three (3) business days** to respond to the Department and to provide any information requested by the Department. The Department shall respond to the protesting party, stating its findings. The Department Director shall make a recommendation to the San Mateo County Board of Supervisors regarding the bid protest.

Bid protests are to be delivered to the following address: 555 County Center, 5th Floor Redwood City, CA 94063.

The award of the contract, if it is awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed.

The contract shall be executed by the successful bidder and shall be returned, together with the contract bonds, to the County so that it is received within ten (10) days, not including Saturdays, Sundays and legal holidays, after the bidder has received the contract for execution. Failure to do so shall be just cause for forfeiture of the proposal guaranty. The executed contract documents shall be delivered to the following address: 555 County Center, 5th Floor Redwood City, CA 94063.

Paragraph 1 of Section 3-1.02, “Contract Bonds,” of the Standard Specifications is amended to read:

> “The Contractor shall provide, at the time of the execution of the Agreement or Contract for work, at his own expense, a surety bond in an amount equal to at least one hundred percent (100%) of the contract price as security for the faithful performance of said agreement. Contractor shall also provide, at the time of the execution of the agreement or contract for work, and at his own expense, a separate surety bond in the amount equal to at least one hundred percent (100%) of the contract price as security for the payment of all persons performing and furnishing materials in connection with said agreement. Sureties on each of said bonds shall be satisfactory to County Counsel.”
>
> “Reference is made to **Appendix B** of these Special Provisions for a sample of both a “Payment Bond” and “Performance Bond” that have been approved as to form by County Counsel.”

A successful bidder certified as a DBE should describe the work it has committed to performing with its own forces as well as any other work that it has committed to be performed by DBE subcontractors, suppliers and trucking companies.

The Contractor shall provide written confirmation from each DBE that the DBE is participating in the contract. A copy of a DBE's quote will serve as written confirmation that the DBE is participating in the contract. If a DBE is participating as a joint venture partner, the successful bidder is encouraged to submit a copy of the joint venture agreement.

END OF SECTION

SECTION 4.
DESCRIPTION OF WORK

The work to be done consists, in general, of demolition and reconstruction of the outermost 12-ft± of pavement on Runway 12-30 and all connector taxiways; Prepare all other existing pavement within Runway 12-30 and all connector taxiways by removing rubber and filling all cracks before placing a polymer modified asphalt emulsion seal coat; obliterate and remark several areas along the runway; re-stripe all treated areas; localized drainage improvements; new edge lighting and guidance signage for Runway 12-30 and all connector taxiways; as well as any other items and details not mentioned above, but required by the Project Plans, Contract Documents, County and FAA Specifications, and the directions of the Engineer.

END OF SECTION

SECTION 5.
CONTROL OF WORK

Attention is directed to the provisions of Section 5, “Control of Work,” of the Standard Specifications, except as herein provided, and to Section 2-1, “Plans and Specifications,” of these Special Provisions.

5-1. Differing Site Conditions

This section shall be used in lieu of Section 4-1.06, “Differing Site Conditions (23 CFR 635.109),” of the Standard Specifications. Section 4-1.06 of the Standard Specifications shall not apply.

Contractor's Notification

Contractor shall promptly notify the Engineer if either of the following conditions are found:

1. Physical conditions differing materially from either of the following:
   - Contract documents
   - Job site examination
2. Physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract.

Contractor shall include details explaining the information relied on and the material differences discovered.

If Contractor fails to notify the Engineer promptly, the differing site condition claim is waived, for the period between discovery of the differing site condition and notification to the Engineer.

If Contractor disturbs the site after discovery and before the Engineer's investigation, Contractor waives the differing site condition claim.

Engineer's Investigation and Decision

Upon Contractor’s notification, Engineer shall investigate job site conditions and:

1. Notify Contractor whether to resume affected work
2. Decide whether the condition differs materially and is cause for an adjustment of time, payment, or both

Contractor may protest the Engineer's decision.

5-2. Repair of Equipment

The work of installing, assembling, repairing or reconditioning, or other work of any nature on machinery, equipment or tools used in or upon the work shall be considered a part of the work to be performed under the contract and any laborers, workers or mechanics working on the machinery, equipment or tools, unless employed by bona fide commercial repair shops, garages, blacksmith shops or machine shops, which have been established and operating on a commercial basis for a period of at least 2 months prior to the award of the contract, shall be subject to all the requirements relating to labor set forth in these specifications and in the special provisions.

5-3. Cooperation

Attention is directed to Sections 5-1.20, “Coordination with Other Entities,” and 5-1.36, “Property and Facility Preservation,” of the Standard Specifications, and to these Special Provisions. The utility companies may be rearranging their facilities within the project area and it is expected that they will cooperate with the Contractor to the end that the work may be handled in an efficient manner.

The Contractor shall contact USA North811 (USA) service alert a minimum of forty-eight (48) hours in advance of any excavation or trenching work. USA may be contacted either on-line at usanorth811.org or by phone by dialing (800) 642-2444 or 811.

5-4. Permits and Licenses

Attention is directed to Section 5-1.20B, “Permits, Licenses, Agreements, and Certifications,” of the Standard Specifications and these Special Provisions.

The Contractor shall have at least two employees trained in confined space entry regulations CAL/OSHA Confined Space Regulations, Title 8 CCR GISO 5156, 5157, and 5158 at the site whenever there are open trenches or underground work going on. It is understood that all fall protection, retrieval and atmospheric monitoring equipment shall be furnished and maintained by the Contractor at the Contractor’s expense. This shall include but not be limited to cost associated with compliance with Confined Space Entry Regulations shall be at the expense of the Contractor.

5-5. Project Appearance

The Contractor shall maintain a neat appearance to the work. Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in the unit prices paid for the various Contract items of work involved, and no additional compensation will be allowed therefore.

5-6. Preservation of Property

The Contractor's attention is directed to Section 5-1.36, “Property and Facility Preservation,” of the Standard Specifications.

5-7. Air Pollution Control

Air pollution control shall conform to the provisions of Section 14-9.02, “Air Pollution Control,” of the Standard Specifications.

5-8. Obstructions

Attention is directed to the provisions in Sections 5-1.36C, “Nonhighway Facilities,” 15, “Existing Facilities,” and 51-1.03E(9), “Utility Facilities,” of the Standard Specifications.

5-9. Sound Control

Sound control shall conform to the provisions in Section 14-8.02, “Noise Control,” of the Standard Specifications.

5-10. Public Convenience

Public Convenience shall conform to the provisions in Section 7-1.03, “Public Convenience,” of the Standard Specifications and to these Special Provisions.

5-11. Disposal of Material Outside the Highway Right of Way

Disposal of Material Outside the Highway Right Of Way shall conform to the provisions of Sections 5-1.20B(4), “Contractor-Property Owner Agreement,” and 14-10, “Solid Waste Disposal and Recycling,” of the Standard Specifications, and Section 14, “Construction Waste Management,” of these Special Provisions. The Contractor’s attention is further directed to Appendix “A”, “Construction Waste Management Plan,” of these Special Provisions.

5-12. Not Used.

5-13. Subcontracting

Attention is directed to the provisions in Section 7-0.20, “Subcontracting,”

of these Special Provisions and Section 5-1.13, "Subcontracting," of the Standard Specifications.

The Contractors engaged in Federal-aid projects shall physically incorporate provisions contained in Federal Form FHWA-1273 in all subcontracts, lower tier contracts, and purchase orders. Copies of subcontracts shall be available to the Engineer upon written request as stated in Section 5-1.13, “Subcontracting,” of the Standard Specifications.

Full compensation for conforming to the requirements of this section shall be considered as included in the unit prices paid for the various Contract items of work, and no additional compensation will be allowed therefore.

END OF SECTION

SECTION 6.
CONTROL OF MATERIALS

Attention is directed to Section 6, "Control of Materials," of the Standard Specifications and these Special Provisions.

The Contractor shall furnish all materials required to complete the work under this Contract.

The County uses a Quality Assurance Plan (QAP) to provide assurance that the materials incorporated into construction projects are in conformance with the contract specifications. Contractor may examine records and reports of tests performed by the County if they are available on the job site. Contractor shall schedule work to allow time for the testing requirements in the QAP.

The Contractor is advised that this project is subject to the “Buy America” provisions of the Surface Transportation Assistance Act of 1982 as amended by the Intermodal Surface Transportation Efficiency Act of 1991. The Contractor’s attention is directed to Section 7-0.15, “Buy America Requirements,” of these Special Provisions.

The Contractor shall furnish steel and iron materials to be incorporated into the work that are produced in the United States except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)]

2. If the total combined cost of the materials does not exceed the greater of 0.1 percent of the total bid or $2,500, material produced outside the United States may be used

Production includes:

1. Processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition

2. Coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials

For steel and iron materials to be incorporated into the work, Contactor shall submit a Certificate of Compliance under Section 6-2.03C, "Certificates of Compliance," of the Standard Specifications that certifies all production processes occurred in the

United States except for the above exceptions.

6-1. Certificates of Compliance

Certificates of Compliance, conforming to the provisions in Section 6-2.03C, “Certificates of Compliance,” of the Standard Specifications shall be furnished for all manufactured products, unless otherwise waived by the Engineer.

6-2. Materials Testing

Whenever the specifications require compliance with specified values for the following applicable properties, tests will be made as indicated:

Material To Be Tested	Property Being Tested	Acceptable Test Method(s)	Description
Aggregate Base	Relative Compaction	CT 231 or ASTM D6938	Determines field densities using a nuclear gage.
Asphalt Concrete	Relative Compaction	CT 375 or ASTM D2950	Determines field densities using a nuclear gage.

Any costs to the County for testing layers which fail the compaction requirements may be deducted from any progress payment due to the Contractor when, in the opinion of the Engineer, such failure results from the Contractor's lack of diligence in pursuing compaction effort. In the event that a test fails, any testing after the first shall be at the Contractor’s expense.

See FAA General Contract Provisions, Section 60 (Control of Materials) for additional materials testing requirements.

END OF SECTION

SECTION 7.
LEGAL RELATIONS AND RESPONSIBILITY

Attention is directed to the provisions of Section 7, “Legal Relations and Responsibility to the Public,” of the Standard Specifications, these Special Provisions, and to the provisions of paragraph VIII, “Insurance,” of the Agreement (AG) portion of the Contract Documents for insurance requirements and the provisions related to Novel Coronavirus Disease 2019 (COVID-19) in the Proposal (PR) and Sections XV, “COVID-19” and XII, “Electronic Signature,” of the Agreement (AG) portions of the Contract Documents.

7-0.10. Federal Forms, Posters and Data Required of Contractor During Construction

The Contractor is advised that there are Federal posters required to be posted at the job site and forms required to be submitted during construction. Reference is made to the “Federal Requirements for Federal-Aid Construction Projects” section of these Special Provisions for a listing of the most-commonly required forms.

The Contractor is further advised that, should Contractor fail to post the required posters at the job site or provide the Federal forms in a timely manner without due cause, as determined by the Engineer, the Engineer shall have the option, at his discretion, to either withhold the progress payment or issue a stop work order until such forms have been submitted to the Engineer.

7-0.11. Required Listing of Proposed Subcontractors

All proposed subcontractors shall be listed by the Contractor in conformance with Section 2-1.10, “Subcontractor List,” of the Standard Specifications.

Each proposal shall have listed therein the name and address of each subcontractor to whom the bidder proposed to subcontract portions of the work in an amount in excess of one-half of one percent (0.5%) of his total bid or $10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. The bidder's attention is directed to other provisions of said Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

A sheet for listing the subcontractors, as required herein, is included in the Proposal.

Bidders are cautioned that this listing requirement is in addition to the requirement to provide a list of DBE subcontractor after the opening of the proposals via completion and submittal of the DBE forms included in the Contract documents.

7-0.12. Submission of DBE Information, Award, and Execution of Contract

The bidder's attention is directed to the provisions in Section 2-1.02, “Disadvantaged Business Enterprise (DBE),” and Section 3, "Contract Award and Execution," of these Special Provisions for the requirements and conditions concerning submittal of DBE information, and award and execution of contract.

It is the bidder's responsibility to meet the goal for DBE participation or to provide information to establish that the bidder made good faith efforts to do so.

7-0.13. Labor Nondiscrimination

The Contractor is advised that the State Standard Specifications shall apply if and where any conflicts between Section 2-1.02 "Disadvantaged Business Enterprise (DBE),” this Section 7-0.13, "Labor Nondiscrimination," and Section 7-1, "Equal Employment Program for Minority Employment," of these Special Provisions and the State Standard Specifications exist.

Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations:

NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM (GOV. CODE, SECTION 12990)

Your attention is called to the "Nondiscrimination Clause", set forth in Section 7-1.02I(2)), "Nondiscrimination," of the Standard Specifications, which is applicable to all non-exempt State contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The Specifications are applicable to all nonexempt State construction contracts and subcontracts of $5,000 or more.

7-0.14. Prevailing Wage

Attention is directed to Section 7-1.02K(2), "Wages," of the Standard Specifications.

In accordance with the provisions of Section 1770 of the Labor Code, the Board of Supervisors of the County of San Mateo has ascertained the prevailing rate of wages applicable to the work to be done, which prevailing wage rates have been established as indicated in the Notice to Contractors and are incorporated herein by reference.

7-0.15. Buy America Requirements

Attention is directed to the "Buy America" requirements of the Surface Transportation Assistance Act of 1982 (Section 165) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) Sections 1041(a) and 1048(a), and the regulations adopted pursuant thereto. In accordance with said law and regulations, all manufacturing processes for steel and iron materials furnished for incorporation into the work on this project shall occur in the United States; with the exception that pig iron and processed, pelletized and reduced iron ore manufactured outside of the United States may be used in the domestic manufacturing process for such steel and iron materials. The application of coatings, such as epoxy coating, galvanizing, painting, and any other coating that protects or enhances the value of such steel or iron materials shall be considered a manufacturing process subject to the "Buy America" requirements.

A Certificate of Compliance, conforming to the provisions in Section 6-2.03C, "Certificates of Compliance," of the Standard Specifications, shall be furnished for steel and iron materials. The certificates, in addition to certifying that the materials comply with the specifications, shall also specifically certify that all manufacturing processes for the materials occurred in the United States, except for the above exceptions.

The requirements imposed by said law and regulations do not prevent a minimal use of foreign steel and iron materials if the total combined cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract cost or $2,500, whichever is greater. The Contractor shall furnish the Engineer acceptable documentation of the quantity and value of any foreign steel and iron prior to incorporating such materials into the work.

7-0.16. Removal of Asbestos and Hazardous Substances

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters

materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe. The Contractor shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay in conformance with the provisions in Section 8-1.07C, "Payment Adjustments," of the Standard Specifications.

7-0.17. Subcontractor and DBE Records

The Contractor shall use each DBE subcontractor as listed on the Contractor's DBE Plan and DBE Letter of Intent Forms, included in the Contract document, unless an authorization is received for substitution.

The County requests the Contractor to:

1. Notify the Engineer of any changes to its anticipated DBE participation.
2. Provide this notification before starting the affected work.

The Contractor shall maintain records including:

1. Name and business address of each 1st-tier subcontractor
2. Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
3. Date of payment and total amount paid to each business

If Contractor is a DBE contractor, Contractor shall include the date of work performed by its own forces and the corresponding value of the work.

Prior to the fifteenth of each month, the Contractor shall submit a Monthly DBE Trucking Verification form.

If a DBE is decertified before completing its work, the DBE must notify the Contractor in writing of the decertification date and the Contractor must

immediately notify the County in writing of the DBE's decertification date. If a business becomes a certified DBE before completing its work, the business must notify the Contractor and the County in writing of the certification date and submit the notifications to the County. On work completion, Contractor shall complete a Subcontractor's Prompt Payment Certification. Contractor shall submit the form to the County within 30 days of contract acceptance.

Upon work completion (i.e. completion of the contract bid items), a summary of these records shall be prepared on the Monthly Payment Report, and certified correct by the Contractor or Contractor's authorized representative, and shall be furnished to the Engineer. The form shall be furnished to the Engineer within 90 days from the date of contract acceptance. The amount of $10,000 will be withheld by the County from payment to the Contractor until a satisfactory form is submitted by the Contractor. The County will release the $10,000 withheld upon submission of a satisfactorily completed form by the Contractor.

7-0.18. DBE Certification Status

If a DBE subcontractor is decertified during the life of the project, the decertified subcontractor shall notify the Contractor in writing with the date of decertification. If a subcontractor becomes a certified DBE during the life of the project, the subcontractor shall notify the Contractor in writing with the date of certification. The Contractor shall furnish the written documentation to the Engineer.

Upon completion of the contract, "Disadvantaged Business Enterprises (DBE) Certification Status Change" Form CEM-2403(F) indicating the DBEs' existing certification status shall be signed and certified correct by the Contractor. The certified form shall be furnished to the Engineer within 90 days from the date of contract acceptance.

7-0.19.Performance of Disadvantaged Business Enterprises

DBEs must perform work or supply materials as listed in the Contractor's DBE Plan and DBE Letter of Intent Forms to be submitted with Contractor's bid and as specified under Section 2-1.02, "Disadvantaged Business Enterprise (DBE)," of these Special Provisions. The Contractor SHALL NOT terminate or substitute a DBE listed for convenience and perform the work with his/her own forces or obtain materials from other sources without prior written authorization

from the County.

The County authorizes a request to use other forces or sources of materials if the Contractor shows any of the following justifications:

1. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.
2. Contractor stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet the Contractor's bond requirements.
3. Work requires a contractor’s license and listed DBE does not have a valid license under Contractors License Law.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials.
5. Listed DBE's work is unsatisfactory and not in compliance with the contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt or insolvent.
8. Listed DBE voluntarily withdraws with written notice from the Contract.
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
11. County determines other documented good cause.

Contractor shall notify the original DBE of its intent to use other forces or material sources and provide the reasons. Contractor shall provide the DBE with 5 days to respond to its notice and advise the Contractor and the County of the reasons why the use of other forces or sources of materials should not occur. The Contractor's request to use other forces or material sources must include:

1. One or more of the reasons listed in the preceding paragraph
2. Notices from the Contractor to the DBE regarding the request
3. Notices from the DBEs to the Contractor regarding the request

If a listed DBE is terminated, or substituted Contractor must make good faith efforts to find another DBE to substitute for the original DBE. The substitute

DBE must perform at least the same amount of work as the original DBE under the contract to the extent needed to meet the DBE goal.

The substitute DBE must be certified as a DBE at the time of request for substitution.

Unless the County authorizes (1) a request to use other forces or sources of materials or (2) a good faith effort for a substitution of a terminated DBE, the County does not pay for work listed on the Contractor's DBE Plan and DBE Letter of Intent Forms, included in the Contract documents, unless it is performed or supplied by the listed DBE or an authorized substitute.

7-0.20. Subcontracting

No subcontract releases the Contractor from the contract or relieves the Contractor of their responsibility for a subcontractor's work.

If the Contractor violates Pub Cont Code § 4100 et seq., the County of San Mateo may exercise the remedies provided under Pub Cont Code § 4110. The County of San Mateo may refer the violation to the Contractors State License Board as provided under Pub Cont Code § 4111.

The provisions in the third paragraph of Section 5-1.13, "Subcontracting," of the Standard Specifications, that the Contractor shall perform with the Contractor's own organization contract work amounting to not less than 50 percent of the original contract price, is not changed by the Federal Aid requirement specified under "Required Contract Provisions Federal-Aid Construction Contracts" that the Contractor perform not less than 30 percent of the original contract work with the Contractor's own organization.

Each subcontract must comply with the contract.

Each subcontractor must have an active and valid State contractor's license with a classification appropriate for the work to be performed (Bus & Prof Code, § 7000 et seq.).

Submit copies of subcontracts upon request by the Engineer.

Before subcontracted work starts, submit a Subcontracting Request form.

Attention is directed to the provisions in Section 5-1.13, "Subcontracting," of the Standard Specifications and these Special Provisions. Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on

a public works project. The contractor shall not use a debarred contractor. This list of debarred contractors is available from the Department of Industrial Relations web site at: http://www.dir.ca.gov/DLSE/Debar.html

Upon request by the Engineer, immediately remove and not again use a subcontractor who fails to prosecute the work satisfactorily.

Each subcontract and any lower tier subcontract that may in turn be made shall include “Exhibit 12-G Required Federal-Aid Contract Language" of Caltrans’ most current Local Assistance Procedure Manual. Noncompliance shall be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the contract.

7-0.21. Prompt Progress Payment to Subcontractors

A prime contractor or subcontractor shall pay any subcontractor not later than 7 days of receipt of each progress payment in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The 7 days is applicable unless a longer period is agreed to in writing. Any delay or postponement of payment over 30 days may take place only for good cause as determined by the County and with the County’s prior written approval. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanctions and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

The Contractor’s attention is directed to Section 9-2, “Payments to Contractor,” of these Special Provisions for the provisions applicable to payments to be made to the prime contractor.

7-0.22. Prompt Payment of Funds Withheld to Subcontractors

Section 9-1.16, “Progress Payments,” of the Standard Specifications shall not apply.

The County shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the

County, of the contract work, and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted, including incremental acceptances of portions of the contract work by the County. Federal Law (49CFR26.29) requires that any delay or postponement of payment over the 30 days may take place only for good cause and with the County's prior written approval. Any violation of this provision shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the California Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or non-payment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor. This provision applies to both DBE and non-DBE prime contractors and subcontractors.

The Contractor's attention is directed to Section 9-3, "Payments Withheld from Contractor," of these Special Provisions for the provisions applicable to payments that may be withheld from the prime contractor.

7-0.23. Partnering

The County will promote the formation of a "Partnering" relationship with the Contractor in order to effectively complete the contract to the benefit of both parties. The purpose of this relationship will be to maintain cooperative communication and mutually resolve conflicts at the lowest possible management level.

The Contractor may request the formation of such a "Partnering" relationship by submitting a request in writing to the Engineer after approval of the contract. If the Contractor's request for "Partnering" is approved by the Engineer, scheduling of a "Partnering" workshop, selecting the "Partnering" facilitator and workshop site, and other administrative details shall be as agreed to by both parties.

The costs involved in providing a facilitator and a workshop site will be borne equally by the County and the Contractor. The Contractor shall pay all

compensation for the wages and expenses of the facilitator, and of the expenses for obtaining the workshop site. The County's share of such costs will be reimbursed to the Contractor in a change order written by the Engineer. Markups will not be added. All other costs associated with the "Partnering" relationship will be borne separately by the party incurring the costs.

The establishment of a "Partnering" relationship will not change or modify the terms and conditions of the contract and will not relieve either party of the legal requirements of the contract.

7-0.24. Procurement of Recovered Materials

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired by the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

7-1. Equal Employment Opportunity Program for Minority Employment

It is the intent of the Board of Supervisors of the County of San Mateo to prohibit and eliminate employment discrimination and to further the opportunities for minority persons to be gainfully employed in the performance of County construction contracts. Award of a contract to a low bidder will not be made until such bidder has complied with the provisions of Section 2.50.040 of Title 2, Chapter 2.50, as amended, of the San Mateo County Ordinance Code and with these guidelines.

7-1.1. Definitions

EQUAL EMPLOYMENT OPPORTUNITY PROGRAM: An Equal Employment Opportunity Program (EEOP) is a set of specific and result oriented procedures to which a Contractor commits himself in order to achieve equal

employment opportunity.

COMPLIANCE OFFICER: The Compliance Officer (CO) means the County official designated by the County Executive Officer to represent him in the administration of these guidelines and in the enforcement of the provisions of Sections 2.50.040 and 2.50.050 of Title 2, Chapter 2.50.

7-1.2. Certifications of Compliance and Intent

Every bidder will submit with his bid, as required by Section 2.50.050 of Title 2, Chapter 2.50, a Certification of Compliance with the laws prohibiting discrimination and a Certification of Intent to implement an equal employment opportunity program on the form furnished in the Proposal section of these Specifications.

7-1.3. Equal Employment Opportunity Program

In addition to furnishing the Certifications of Compliance and Intent, each bidder will submit his equal employment opportunity program with his bid proposal. The EEOP shall contain the following information:

A. Analysis of current work force

(1) Total number of employees;

(2) Numerical racial breakdown of employees by job classification;

(3) Information on apprentices.

These figures will provide the base by which the low bidder's EEOP will be evaluated. Factors to be considered both in the original statistics and in any plans for future employment will include the percentage of minority population in San Mateo County, the availability of minority construction workers and the present minority representation in the various construction trades.

B. The affirmative actions the bidder has taken and will take to ensure equal employment opportunity. These shall include:

(1) Recruiting and hiring minority persons. If non-union personnel are employed, this would involve employment advertising through sources serving the minority population. These include local minority newspapers, referral agencies, high schools, vocational schools and community groups. Specific information on these sources may be obtained from the Compliance Officer. Union

employees will be recruited in accordance with applicable labor agreements. The bidder will seek to have included or will reaffirm clauses in all labor agreements prohibiting discrimination based on race, religion, color, national origin, age, disability, ancestry, sexual orientation, or sex. It is also suggested that bidders assist in admitting minority workers who are over the traditional apprenticeship entry age to the various craft training programs.

(2) Providing adequate opportunity for the upgrading or further training of all employees to insure equal opportunity in advancement and promotion. This might include a counseling service, information and assistance with night classes, or special career-directed program information.

(3) Appointing an Equal Employment Opportunity Coordinator, full time or as an additional duty. This person will have the responsibility of administering an active program, informing company personnel and union representatives of company policy, and advising all subcontractors of their obligation to this program.

(4) Establishing or maintaining an apprenticeship/training program designed to ensure hiring of additional minority employees in the journeyman and skilled classes. Each bidder is urged to support or develop and implement an Apprenticeship Program for his trade.

(5) Selecting minority subcontractors or subcontractors who are known for their ongoing programs of apprenticeship for minorities. This includes advising minority Contractor associations of opportunities for subcontracts. Joint ventures with minority sub-contractors are encouraged.

C. The EEOP should state any previous experience the bidder has had with similar plans and the results of that effort. Current affirmative action plans should be described in detail.

7-1.4. Equal Employment Opportunity Program Evaluation

A. The Compliance Officer **(CO)** will review the EEOP submitted by the low bidder in order to determine whether the program submitted complies with the provisions of Section 2.50.040 of Title 2, Chapter 2.50,

as amended, of the San Mateo County Ordinance Code, and these guidelines. If deficiencies are indicated, CO may request additional information from the bidder or suggest appropriate remedies. The CO will be available to answer questions relative to the guidelines and to advise those seeking assistance of other sources. CO will not be responsible for the service or lack of service rendered by the consultant recommended, nor will the CO develop an EEOP or serve as a recruiter for any bidder.

The low bidder may withdraw his EEOP for revision after consultation with the CO; however, the revised program must be resubmitted by a date not later than fifteen (15) calendar days after the opening of bids.

B. All subcontractors listed in the low bidder's proposal shall be required to file completed Certificates of Compliance and Intent and their EEOP with the Bidder for submission to the County. The EEOP of each subcontractor will be evaluated by criteria established for the low bidder's EEOP.

C. The CO, upon conclusion of the EEOP review, will report his findings and recommendation to the Director of Public Works. The CO will keep acceptable EEOP's on file for six (6) months. During this time period, if the bidder or subcontractors bid for other County contracts, they may refer to the EEOP on file and state any changes, but will not be required, unless specifically requested, to re-file their program.

7-1.5. Inclusion of EEOP and Certificates

Upon award of the Contract by the Board of Supervisors, the EEOP and certifications for the bidder and all subcontractors, which have been approved and accepted by the County, will become an integral part of the Contract and subject to the provisions thereof.

7-1.6. Compliance of Contractor

A. The Contractor will post, in conspicuous places available to employees and applicants for employment, notices, provided by the County, stating that the Contractor is obliged to comply with the provisions of these guidelines and the provisions of Section 2.050.040 of Title 2, Chapter 2.50, as amended, of the San Mateo County Ordinance Code.

These notices will also be sent to all unions, employee organizations and other recruiting sources providing employees to the Contractor.

B. All announcements of job openings will include the statement, "An Equal Opportunity Employer."

C. The Contractor will make written progress reports on a form provided by the County to illustrate the effectiveness of his EEOP at intervals established by the County.

D. The **CO** will monitor the Contractor's EEOP until completion of the Contract and will report non-compliance of the Contractor in adhering to his EEOP to the Director of Public Works.

E. The Contractor will permit, during Contractor's normal business hours and at Contractor's place of business, access by the County to his records of employment, employment advertisements, application forms and other data and records pertaining to Contractor's employment practices, for the purpose of determining whether Contractor is complying with the non-discrimination and equal employment opportunity rules of the County.

7-1.7. Compliance of Subcontractor

All subcontractors listed by the bidder are subject to all the provisions of these guidelines and the provisions of Section 2.050.040 of Title 2, Chapter 2.50, as amended, of the San Mateo County Ordinance Code.

7-1.8. Penalties for Non-Compliance

The penalties for non-compliance are listed in Title 2, Chapter 2.50, Section 2.50.050, which states:

a. “Every public works contract shall provide that a contractor who, within the time specified in the contract, does not submit an equal employment plan and make the certifications required in this chapter shall be in breach of the contract.”

b. “If, after an award is made, the contractor is found by the County or by a Federal or State agency empowered to make such findings to be in substantial or material violation of the Fair Employment Practices Act of the State of California, the Equal Employment Opportunity Requirement of Executive Order 11246, title VII of the Civil Rights Act of 1964, or of the provisions of this chapter or of the Board-established guidelines implementing them, he may be found to be in material breach of contract, and the County shall have the power to cancel the

contract in whole or in part, or alternatively, to deduct for each working day during which the contractor is found to have been in such non-compliance, two percent (2%) of the total amount payable to the contractor."

7-1.9. Waiver of Compliance

In the event that any of the requirements of Sections 2.050.040 and 2.050.050 of Title 2, Chapter 2.50, as amended, of the San Mateo County Ordinance Code, are found to result in an undue hardship upon a low bidder, bidder may submit evidence of hardship and a petition for waiver of such requirements to the Director of Public Works for recommendation to the Board of Supervisors. Such a waiver may only be granted by the Board and, if approved, shall become an integral part of the contract.

7-1.10 Employee Benefits

All Contractors with contracts with the County of $5,000 or more shall comply with the provisions of Title 2, Chapter 2.84, as amended, of the San Mateo County Ordinance Code with respect to the provisions on employee benefits. As set forth in the ordinance, such contractors are prohibited from discriminating in the provisions of employee benefits between an employee with a domestic partner and an employee with a spouse. A copy of the Ordinance and Compliance form is attached to the Proposal Section of these Specifications.

In the event it is determined, by the County, that any portion of the County Ordinance Code regarding employee benefits conflict with Federal or State regulations, the Federal or State regulations shall take precedence over the County Ordinance Code.

7-1.11 Non-Discrimination

No person shall be excluded from participation in, denied benefits of, or be subject to discrimination under this Agreement on the basis of their race, color, religion, national origin, age, sex, sexual orientation, pregnancy, childbirth or related conditions, medical condition, mental or physical disability or veteran's status. Contractor shall ensure full compliance with Federal, State and local laws, directives and executive orders regarding non-discrimination for all employees and Subcontractors under this Agreement.

Violation of the non-discrimination provisions of this Agreement shall be

considered a breach of this Agreement and subject the Contractor to penalties, to be determined by the County Executive Officer, including but not limited to:

i) termination of this Agreement;

ii) disqualification of the Contractor from bidding on or being awarded a County contract for a period of up to 3 years;

iii) liquidated damages of $2,500 per violation;

iv) imposition of other appropriate contractual and civil remedies and sanctions, as determined by the County Executive Officer.

To effectuate the provisions of this paragraph, the County Executive Officer shall have the authority to:

i) examine Contractor's employment records with respect to compliance with this paragraph;

ii) set off all or any portion of the amount described in this paragraph against amounts due to Contractor under the Contract or any other Contract between Contractor and County.

Contractor shall report to the County Executive Officer the filing by any person in any court of any complaint of discrimination or the filing by any person of any and all charges with the Equal Employment Opportunity Commission, the Fair Employment and Housing Commission or any other entity charged with the investigation of allegations within thirty (30) days of such filing, provided that within such thirty (30) days such entity has not notified Contractor that such charges are dismissed or otherwise unfounded. Such notification shall include the name of the complainant, a copy of such complaint and a description of the circumstance. Contractor shall provide County with a copy of its response to the Complaint when filed.

In the event it is determined, by the County, that any portion of these requirements regarding non-discrimination conflict with Federal or State regulations, the Federal or State regulations shall take precedence over County requirements.

7-2. Prevailing Wages

The Contractor's attention is directed to Section 7-1.02K(2), "Wages," of the Standard Specifications and the Federal Requirements section of these Special Provisions.

The Contractor's attention is further directed to the following requirements of State Senate Bill SB 854 (Stat. 2014, chapter 28), effective January 1, 2015:

(1) No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

(2) No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

(3) This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

7-2.1. Payroll Records

Reference is made to Section 7-1.02K(3), "Certified Payroll Records (Labor Code § 1776)," of the Standard Specifications. In particular, the Contractor's attention is directed 'to the last paragraph, which is amended to read:

> "If by the 7th working day after the 25th of the month, the Contractor has not submitted satisfactory payrolls for all work performed during the monthly period ending on or before the 25th of that month, the Department may withhold an amount equal to ten percent (10%) of the estimated value of the work performed (exclusive of Mobilization) from that month's estimate, except that this withholding shall not exceed $10,000 nor be less than $1,000. Withholdings for failure to submit satisfactory payrolls shall be additional to all other withholdings or retentions provided for in the contract. The withholding for failure to submit payrolls for any monthly period will be released for payment on the monthly estimate for partial payments next following the date that all the satisfactory payrolls for which the withholding was made are submitted."

The Contractor is advised that Contractor shall submit either Contractor's Daily Dispatch Report at the start of each working day OR a Daily Personnel and Equipment Log (included as Appendix C of

these Special Provisions) to the Engineer by the start of the first working day subsequent to the performance of the work, or Contractor may incur task-specific liquidated damages in the amount of $500 per calendar day for every day hence until submittal is made.

The Contractor is further advised that, pursuant to State Senate Bill SB 854 (Stat. 2014, chapter 28), effective January 1, 2015, all contractors and subcontractors working on a contract for public work on a public works project must furnish electronic certified payroll records to the Labor Commissioner.

7-2.2. Contractor Employee Jury Service

All Contractors with contracts with the County of $100,000 or more shall comply with the provisions of Title 2, Chapter 2.85, as amended, of the San Mateo County Ordinance Code, with respect to provision of jury duty pay to employees and have and adhere to a written policy that provides that its employees shall receive from the Contractor, on an annual basis, no less than five (5) days of regular pay for actual jury service in San Mateo County. The policy may provide that employees deposit any fees received for such jury service with the Contractor or that the Contractor deduct from the employees' regular pay the fees received for jury service. A copy of the Ordinance and a Compliance Form is attached to the Proposal Section of these Specifications.

Award of a Contract to a low bidder will not be made until such bidder has certified compliance with the provisions of Title 2, Chapter 2.85, as amended, of the San Mateo County Ordinance Code.

7-3. Highway Construction Equipment

Attention is directed to Section 7-1.02O, "Vehicle Code," of the Standard Specifications and these Special Provisions.

Pursuant to the authority contained in Section 591 of the Vehicle Code, the County has determined that, within such areas as are within the limits of the project and are open to public traffic, the Contractor shall comply with all the requirements set forth in Divisions 11, 12, 13, 14 and 15 of the Vehicle Code. Attention is directed to the statement in Section 591 that this section shall not relieve him or any person from the duty of exercising due care. The Contractor shall take all necessary precautions for safe operation of his equipment and the

protection of the public from injury and damage from such equipment.

7-4. Public Safety

Public Safety shall conform to the provisions in Section 7-1.04, “Public Safety,” of the Standard Specifications and to these Special Provisions.

Full compensation for conforming to the requirements of this section shall be considered as included in the unit prices paid for the various Contract items of work, and no additional compensation will be allowed therefore.

7-5. Trench Safety

Trench Safety shall conform to the provisions in Section 7-1.02K(6)(b), “Excavation Safety,” of the Standard Specifications and these Special Provisions.

Full compensation for conforming to the requirements of this section shall be considered as included in the unit prices paid for the various Contract items of work, and no additional compensation will be allowed therefore.

END OF SECTION

SECTION 8.
PROGRESS OF WORK AND TIME OF COMPLETION

Attention is directed to the provisions of Section 8, “Prosecution and Progress,” of the Standard Specifications, except as herein provided.

8-1. Time of Completion

The Contractor shall begin work within **TEN (10) CALENDAR DAYS** after receiving Notice to Proceed from the Department of Public Works, and shall diligently prosecute the same to completion before the expiration of

Sixty (60) CALENDAR DAYS

from the date of said beginning, as described above.

The Contractor is advised that punch list items are required to be completed before the expiration of the working days stated above.

The Contractor may request, in writing, for an extension of working days, which request shall state the reason for said request and the number of additional working days. The Engineer will consider said request and respond, in writing, stating either the number of additional working days approved or the reason for denying the request.

8-2. Liquidated Damages

Attention is directed to Sections 8-1.04, “Start of Job Site Activities,” 8-1.05, "Time," and 8-1.10, "Liquidated Damages," of the Standard Specifications. The Contractor shall pay to the County of San Mateo the sum of Two Thousand Dollars ($2,000.00) per calendar day for every calendar day delay over and above the number of calendar days prescribed above for finishing the work.

8-3. Progress Schedule

The Contractor is advised that an initial/baseline project schedule and subsequent schedule updates is required for the work included under this Contract, and such schedules shall be in accordance with these Special Provisions.

The provisions of Section 8-1.02, “Schedule,” of the Standard Specifications are superseded by the following:

> “The Contractor shall submit a baseline project schedule to the Engineer within **five (5) working days** after receipt of the

Notice to Proceed from the Department of Public Works. This baseline schedule and any subsequent schedule updates shall show:

(1) Completion of all work within the specified contract time;

(2) The proposed order of work; and

(3) Projected starting and completion times for major phases of the work, for the total project, including dates for ordering materials and for substantial completion of the project. Reference is made to Section 8-1, "Time of Completion," of these Special Provisions."

The Contractor is advised that:

(1) Contractor shall notify the Engineer a minimum of twenty-four (24) hours prior to cancellation of any scheduled work. Should the Contractor fail to provide such notice, the cost for any travel time and mileage incurred by the Engineer will be deducted from the total amount due to the Contractor.

(2) When requested, Contractor shall submit subsequent schedule updates within five (5) calendar days after receipt of written request from the Engineer. Failure to provide such subsequent schedule updates may be sufficient enough cause for the Engineer to issue a "Stop Notice," and work may not be allowed to proceed until such subsequent schedule update has been submitted and approved.

The schedule shall be developed by a critical path method. The baseline progress schedule shall have as many activities as necessary, and as approved by the Engineer, to be sufficient to assure adequate planning of the project, and to permit monitoring and evaluation of progress and the analysis of time impacts. The Contractor shall provide sufficient material, equipment, and labor to meet the completion times in this schedule.

The baseline project schedule submitted shall meet in all respects the time and order of work requirement of the contract. If the Contractor fails to define any element of work, activity or logic, and the error is discovered by either party, it shall be corrected by the Contractor at the next scheduled monthly update or revision.

The Engineer shall have **five (5) working days** to review and accept,

reject or return a submitted schedule for revision. The Contractor shall not commence project work until after receipt of written approval of the preliminary project schedule from the Engineer.

The Contractor shall submit a revised progress schedule within **five (5) working days** when requested by the Engineer, or when there is significant change in the Contractor's operations that will affect the work schedule.

During the period of the Contract, on or before the first calendar day of each month, the Contractor shall submit to the Engineer a complete, updated progress schedule. Said updated schedules shall provide a complete analysis of work previously completed and work yet to be performed, including a status update of each salient component that is delayed or not on schedule, the impact such delays will have on each of the remaining salient features of the work (with revised completion dates), and a revised completion date for all of the project work. Updated schedules shall incorporate all current schedule information, actual progress, approved adjustments of time and proposed changes in sequence and logic.

The Engineer may require the Contractor to also submit, on a weekly basis, a schedule of work for the following workweek. The Engineer will determine the dates for submittal of weekly schedules.

If the Contractor or the Engineer considers that an approved or anticipated change will impact the contract progress, a schedule analysis and revised schedule supporting the proposed adjustment of time shall be submitted to the Engineer for review and approval.

If the Engineer deems that the baseline progress schedule, any necessary progress schedules and/or required supplemental schedules do not provide the information required in the Section and/or is unacceptable in size, appearance, neatness and legibility, progress payments will be withheld by the Engineer until a schedule containing the required information and/or with improved appearance has been submitted by the Contractor and approved in writing by the Engineer.

The Engineer's written approval of any schedule shall not transfer any of the Contractor's responsibilities to the Engineer. The Contractor alone shall remain responsible for adjusting forces, equipment, and work schedules to ensure completion of the work within the time(s) specified in the contract. Full

compensation for conforming to all of the provisions of this Section, "Progress Schedule," shall be considered as included in the unit prices paid for the various Contract items of the work, and no additional compensation will be allowed therefore.

Full compensation for conforming to the requirements of this Section shall be considered as included in the unit prices paid for the various Contract items of work, and no additional compensation will be allowed therefore.

END OF SECTION

SECTION 9.
MEASUREMENT AND PAYMENT

9-1. Force Account Work

Attention is directed to the provisions of Section 9-1.04, “Force Account,” of the Standard Specifications and these Special Provisions.

The first sentence of bullet item 2 under Section 9-1.04B, “Labor,” of the Standard Specifications is amended to read:

> “Labor surcharge percentage in *Labor Surcharge and Equipment Rental Rates* and *General Prevailing Wage Rates* current during the work paid at force account for:”

With respect to extra work, the Bidder's attention is directed to the provisions of Section 4-1.05, “Changes and Extra Work,” of the Standard Specifications. No extra work or change shall be made, unless pursuant to a written contract change order from the Engineer. No claim for an addition to the Contract sum shall be valid unless so ordered.

9-2. Payments to Contractor

Payments shall be made according to the provisions of Section 9, “Payment,” of the Standard Specifications and these Special Provisions. Attention is directed to Section 9-1.16, “Progress Payments,” regarding progress or partial payments, and to Section 9-1.17, “Payment After Contract Acceptance,” regarding final estimates and payments.

Section 9-1.16E(2), “Progress Withholds,” of the Standard Specifications is superseded by the following:

> The County of San Mateo shall retain five percent (5%) of such estimated value of the work done, and five percent (5%) of the value of materials so estimated to have been furnished and delivered and unused or furnished and stored as aforesaid as part security for the fulfillment of the Contract by the Contractor. In no event shall the County of San Mateo withhold less than five percent (5%) of the total Contract price until final completion and acceptance of the project.

The Contractor may, upon request and at the Contractor's own expense, substitute security for any money withheld to ensure performance of the Contract in accordance with Government Code Section 4590.

The filing of a Notice of Completion for the work herein provided shall not

constitute an acceptance by the County of latent defects in said work.

The Contractor's attention is directed to Section 7-0.21, "Prompt Progress Payment to Subcontractors," of these Special Provisions for the provisions applicable to payments to be made by a prime contractor or subcontractor to any subcontractor.

9-3. Payments Withheld from Contractor

The County may withhold sufficient monies from any sum otherwise due the Contractor, pursuant to this Agreement, to protect the County against loss on account of:

A. Repair or replacement of street pavement or base, and/or culverts or other structures, on or near the work, damaged by reason of the Contractor's operations due to hauling materials or moving heavy equipment.

B. Defective work not corrected.

C. Claims filed or reasonable evidence indicating probable filing of claims.

D. Failure of the Contractor to make payments properly to the subcontractors for material or labor.

E. Reasonable doubt that the Contract can be completed for the balance then unpaid.

F. Damage to another Contractor.

G. Failure of the Contractor to provide water pollution control.

H. Failure of the Contractor to submit satisfactory as-built drawings.

Payment of the amounts withheld shall be made upon the determination by the County that the withholding of such amounts is no longer necessary.

The Contractor's attention is directed to Section 7-0.22, "Prompt Payment of Funds Withheld to Subcontractors," of these Special Provisions for the provisions applicable to the return, by a prime contractor or subcontractor, of all monies withheld in retention from any subcontractor.

9-4. Stop Notices

Section 9-1.16E(4), "Stop Notice Withholds," of the Standard Specifications is superseded by the following:

> "The County of San Mateo, by and through the Department of Public Works or other appropriate County office or officers, may at its option and at any time retain any amounts due the Contractor, sums sufficient to cover claims filed pursuant to Section 9000 et seq. of the

Civil Code."

9-5. Construction Claims

Each Bidder is hereby notified of Section 9204 and Section 20104 et seq. of the Public Contract Code as those Sections (attached hereto as Appendix D) relate to the resolution of construction claims and to Section 3186 of the Civil Code, as amended January 1, 1999 with regard to stop notices and public entity's rights to retain monies in order to provide for that entity's reasonable cost of litigation. The Bidder is further notified that all provisions of Section 9204 and Section 20104 et seq. of the Public Contract Code and Section 3186 of the Civil Code, as outlined above, shall be considered as incorporated into and become an integral part of these Specifications.

END OF SECTION

SECTION 13.
WATER POLLUTION CONTROL

The provisions of Section 13, "Water Pollution," of the Standard Specifications are superseded by these Special Provisions and the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). Information regarding this program is available at **www.flowstobay.org.**

The Contractor is advised that failure to fully comply with the provisions of this Section, and all requirements listed in the California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit Order No. R2-2015-0049 (MRP), and where applicable, the State Water Resources Control Board NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities Order No. 2010-0014-DWQ (Construction General Permit), and any resource agency permits obtained for the project, where applicable, except where amended in writing and signed by the Director of Public Works or his duly authorized representative, shall constitute substantial non-compliance with the requirements of the Clean Water Act, the NPDES permit program, and the Contract.

The County shall provide periodic site monitoring to ensure that the work complies with the requirements specified herein and in any resource agency permits. The County will provide the Contractor with copies of the completed monitoring reports. Should any work be found to be non-compliant, a follow up site monitoring visit will be conducted to ensure the items have been corrected. If deficiencies noted during a monitoring visit are not corrected before the follow up monitoring visit, the costs associated with additional follow up visits to correct the noted deficiencies shall be deducted from the final payment for all of the Contract work.

Attention is directed to Section 21, "Erosion and Sediment Control," of these Special Provisions and the plans for erosion control requirements.

Construction sites are common sources of water pollution. Materials and wastes that blow or wash into a storm drain, gutter, or street have a direct impact on local creeks and wetlands, San Francisco Bay and the Pacific Ocean. The Contractor shall be responsible for any environmental damage caused by his operations and those of his

subcontractors or employees.

Water pollution shall be defined as including the introduction of any material, including sediment, trash, or other debris, equipment or vehicles into any watercourse, including creeks, ponds, ditches, storm drain facilities, and any surfaces immediately tributary to those areas, except as specifically authorized by any resource agency permits. Water pollution controls are materials and measures that prevent the introduction of any material to any watercourse. Water pollution control materials and measures may consist of temporary silt fencing; straw mulch/straw logs; spill cleanup materials; pavement sweepers; sand bags or continuous berms; etc.

Water pollution controls shall be applied, maintained and removed by the Contractor as specified herein and as directed by the Engineer. For construction activities occurring between June 15 and September 15, sufficient quantities of applicable water pollution control materials shall be available at the work site prior to commencing any work. For construction activities occurring between September 15 and June 15, all applicable water pollution control measures shall be installed, and all applicable water pollution control materials shall be available at the work site, prior to commencing any work.

13.1 Water Pollution Control Program

Before starting any work on the project, the Contractor shall submit, for acceptance by the Engineer, a written program including Storm Water Pollution Prevention Plans (SWPPPs) and applicable plan drawings and details to control water pollution effectively during construction of the project. The program shall show the schedule for any erosion control work included in the contract and for all water pollution control measures that the Contractor proposes to take in connection with construction of the project to minimize the effects of the operations upon water resources. The Contractor shall not perform any clearing and grubbing or earthwork on the project, other than that specifically authorized in writing by the Engineer, until the program has been approved by the Engineer.

The Contractor is advised that ***the SWPPP shall be prepared by a Qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP) in accordance with the requirements of the Construction General Permit.*** The SWPPP shall list the name and telephone number of the designated QSD. All amendments to the SWPPP shall be signed by the QSD

and shall include a listing of the date of initial preparation and the date of each amendment. The SWPPP shall also include a list of names of all subcontractors and individuals who will be directed by the QSP, their telephone numbers and work addresses, the specific areas of responsibility and emergency contact numbers.

If the measures being taken by the Contractor are inadequate to control water pollution effectively, the Engineer may direct the Contractor to revise the operations and the water pollution control program. The directions will be in writing and will specify the items of work for which the Contractor's water pollution control measures are inadequate. No further work shall be performed on those items until the water pollution control measures are adequate and, if also required, a revised water pollution control program has been approved. Attention is directed to "Contractor Response" of this Section for additional provisions relating to correction of the Contractor's water pollution control program, and payment.

The Engineer will notify the Contractor of the acceptance or rejection of any submitted or revised water pollution control program within 5 working days. The SWPPP must be submitted within 10 days after the pre-construction meeting for agency review and approval.

The County will not be liable to the Contractor for failure to accept all or any portion of an originally submitted or revised water pollution control program, nor for any delays to the work due to the Contractor's failure to submit an acceptable water pollution control program or failure to adhere to the provisions of an accepted water pollution control program.

A. Contractor Response

The Contractor is advised that he may be required to respond to the work site after hours and/or on weekends or holidays to mitigate potential water pollution, soil erosion or sedimentation and/or to repair damaged water pollution controls. Failure to respond within four (4) hours of notification by the Department of Public Works shall constitute substantial non-compliance with these Special Provisions.

Should the County Road Maintenance Division be required to provide any after-hours, weekend or holiday repairs to the Contractor's water pollution

controls due to the Contractor's failure to respond, all costs associated with providing that response, including overtime wages, equipment and material costs, shall be deducted from the Contractor's final payment. The Contractor shall also be fully responsible for any fines, penalties or mitigations imposed by any regulatory agency caused by his failure to respond, regardless if the County Road Maintenance Division attempts any repairs or pollution prevention work in his absence.

B. Excavation and Grading

The Contractor shall not commence any excavation, backfilling, grading or stockpiling operations until water pollution control materials have been delivered to the work site. The Contractor shall certify, in writing, that the quantity of water pollution control materials at the site is sufficient to protect against water pollution caused by the work, and shall specify the type of material and intended use in said written certification.

Excavation and grading activities shall be scheduled for dry weather periods. Excavation and grading activities shall not be allowed to commence or continue during periods of rainfall or runoff.

The Contractor may elect to perform excavation or grading activities immediately prior to periods of forecasted rain if he certifies in writing to the Engineer that the site will be completely secured against erosion and/or water pollution at the conclusion of the workday and prior to any rainfall. The work site shall be considered as completely secured against erosion and/or water pollution during or prior to forecast periods of rain if the turbidity of runoff from the site does not exceed the turbidity of runoff from adjacent, undisturbed sites by more than 50 NTUs (Nephelometric Turbidity Units). Should the turbidity of runoff from the work site exceed this limit, the Contractor shall be required to immediately place additional erosion and/or water pollution controls at his expense as directed by the Engineer, and shall be subject to any administrative fines or penalties associated with water quality or permit violations, and no additional compensation will be allowed therefore.

C. General Housekeeping

The Contractor shall control the amount of runoff entering upon disturbed construction and staging areas, particularly during excavation, to reduce the

amount of water pollution controls required. Temporary diversion berms and/or sandbags may be employed to divert runoff from entering upon construction and staging areas as approved by the Engineer.

Paved surfaces shall be broom-swept as necessary to prevent water pollution. Water spray system of the sweeper units shall be used as appropriate to reduce dust generation. If pavement flushing is necessary, silt ponds or other techniques to trap sediment and other pollutants shall be required.

Dumpsters shall be covered, maintained, and checked frequently for leaks. It is recommended that dumpsters be lined with plastic to prevent leakage of liquids. At no time will the Contractor be permitted to wash dumpsters at the site.

The Contractor shall place trashcans and recycling receptacles around the site for use by his forces. Trashcans and recycling receptacles shall be kept covered and shall be emptied at appropriate intervals to reduce litter at the site.

All wastes shall be disposed of properly outside the highway right of way in accordance with Section 5-11, “Disposal of Material Outside the Highway Right of Way,” and Section 14, “Construction Waste Management,” of these Special Provisions.

The Contractor shall maintain portable toilets in good working order and wastes shall be disposed of properly. The Contractor shall check toilets frequently for leaks, and repair or replace any toilets found to be leaking. Portable toilets shall be protected against tipping by ground anchors, bollards, or any other suitable means as approved by the Engineer.

D. Stockpiles

All soil and/or rock stockpiles shall be protected against wind, rainfall and runoff at all times. Plastic sheeting may be used to cover soils, including aggregate base, and shall be securely anchored by sandbags or other suitable means. At no time will any stockpiled materials be allowed to erode into any watercourse or onto any roadway or other tributary surface.

E. Vehicle Maintenance

The Contractor shall designate a completely contained area of the construction site, well away from watercourses and tributary areas, for auto and equipment parking, refueling, and routine vehicle and equipment maintenance. The Contractor shall require the use of drip pans or drop cloths to catch drips and

spills if any vehicle or equipment fluids (e.g. motor oil, radiator coolant, etc.) must be drained on site. Diesel oil shall not be used to lubricate or clean equipment or parts. All spent fluids shall be stored in separate containers, and recycled whenever possible, or disposed of as hazardous waste.

Spills or leaks shall be immediately contained and cleaned up by the Contractor, all at his expense, and shall be reported to the Engineer immediately after containment.

All vehicles and equipment shall be maintained in good repair. The Contractor shall inspect frequently for and immediately repair any leaks. The Contractor shall perform major maintenance, repair jobs, and vehicle and equipment washing off site.

F. Spill Prevention and Response

Fluid spills shall not be hosed down. The Contractor shall use dry cleanup methods (absorbent materials, cat litter, and/or rags) whenever possible. If water must be used, the Contractor will be required to collect the water and spilled fluids and dispose of it as hazardous waste. Spilled fluids shall not be allowed to soak into the ground or enter into any watercourse.

Spilled dry materials shall be swept up immediately. The Contractor shall not wash down or bury any dry spills. Spills on dirt areas shall be removed by digging up and properly disposing of contaminated soil. The Contractor shall report significant spills to the Engineer immediately.

G. Tire Washing

Should the Contractor’s equipment be tracking soil onto a public road, the Engineer shall require a tire-washing swale at the exit from the construction site and/or staging areas. The Engineer shall also require that soil be removed from the traveled way by whatever means necessary to prevent water pollution.

H. Roadwork and Paving

The Contractor shall avoid creating excess dust when breaking and/or removing asphalt or concrete. Broken asphalt and/or concrete pieces shall be completely removed from the site as soon as possible, or shall be stored in a separate, secure stockpile protected against from wind, rainfall and runoff. Material derived from roadway work shall not be allowed to enter any watercourse, or tributary area.

Slurry resulting from sawcutting operations shall be shoveled or vacuumed and completely removed from the site. The Contractor shall not be permitted to sweep or flush any sawcutting debris or slurry into any watercourse, or tributary area.

I. Concrete and Mortar

Except as approved by the Engineer for temporary concrete washouts for concrete mixers or trucks, the Contractor shall ensure that concrete and mortar are contained within the lines and grades shown on the Plans and not allowed to leave the construction site. Any excess concrete, mortar and/or mix water placed or spilled beyond the limits of concrete construction as shown on the Plans shall be immediately collected, removed and disposed of properly.

Location of temporary concrete washouts for concrete mixers or trucks shall be as approved, in writing, by the Engineer. Should the Contractor allow washing out of concrete mixers or trucks prior to receiving said written approval, Contractor may be required to clean up the unapproved washout area to the satisfaction of the Engineer and/or relocate temporary concrete washouts, all at the Contractor's sole expense, and no additional compensation will be allowed therefore.

Dry sacks of cement shall be protected against wind, rainfall and runoff. Opened sacks of cement shall be secured and protected from spilling.

J. Training

Contractor shall ensure that all persons responsible for preparing, amending and implementing SWPPPs be appropriately trained in accordance with the requirements of the Construction General Permit and these Special Provisions. The Contractor shall provide documentation of all training for persons responsible for implementing these requirements upon request by the Engineer.

When required, the County will provide introductory training to the Contractor, his employees and subcontractors at the job site before work commences for any project with resource agency permits. The training will provide background information on sensitive species, permit requirements and site-specific water quality issues. When not required, the County is available to provide such training at the Contractor's request.

The contract lump sum paid for this item, per FAA Technical Specification C-102 “Temporary Air and Water Pollution, Soil Erosion, and Siltation Control,” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in protecting water resources, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer.

END OF SECTION

SECTION 14.
CONSTRUCTION WASTE MANAGEMENT

The County has established that this Project shall minimize the creation of construction and demolition waste on the job site. Factors that contribute to waste such as over packaging, improper storage, ordering error, poor planning, breakage, mishandling, and contamination, shall be minimized. For any waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.

No separate measurement or payment shall be made for this item, the cost of which shall be considered incidental to other items of work. "Construction Waste Management," shall include furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in managing and disposing of waste, complete in place, as shown on the Plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer.

14-1. Diversion Goals

One hundred percent (100%) of inert wastes, and at least fifty percent (50%) of the remaining construction and demolition debris shall be diverted from landfills.

Inert wastes, such as concrete, brick, rock, asphalt, and soil not intended for on-site use, shall be taken to a facility that will reuse or recycle them.

Other mixed construction & demolition (C&D) wastes shall be taken to a facility with a C&D sorting program, as listed in the Construction and Demolition Debris Recycling Guide referenced below, if additional recycling is needed in order to meet the requirements set forth in this Section. If debris box service is used, the debris boxes must be taken to a C&D sorting facility if materials are not separated on-site for recycling.

The Contractor has the option of separating on-site for recycling non-inert materials, such as cardboard, paper, wood, metals, green waste, new gypsum wallboard, tile, porcelain fixtures, and other easily recycled materials, and directing them to recycling facilities and taking the remaining mixed waste (but no more than 50% by weight or yardage) to a facility for disposal. If waste is taken for disposal, documentation must be provided to show that 50% of C&D wastes

(in addition to 100% of inert wastes) have been diverted.

14-2. References and Resources

A Construction and Demolition Guide (C&D Guide) is available online at **https://www.smcsustainability.org/waste-reduction/construction-demolition/.** For more information or resources, contact the County of San Mateo's Office of Sustainability by phone at (888) 442-2666 or by email at sustainability@smcgov.org. The Contractor's attention is directed to **Appendix A** for the County of San Mateo Waste Management Plan Form and the Waste Management Daily Transport Report.

14-3. Waste Management Plan and Daily Transport Report

The Contractor is required to complete a Waste Management Daily Transport Report, listing details of the material transported on that particular day, which is to be signed by both the Contractor's representative and the County inspector on the job site.

The Waste Management Plan shall be submitted to the Engineer, Department of Public Works, 555 County Center – 5th Floor, for approval within SEVEN (7) WORKING DAYS after the pre-construction conference. The Waste Management Plan shall include a description of how the contractor will meet the requirements of this contract and shall include a list of disposal and recycling facilities where waste materials will be taken, a description of what will be taken to each facility (inert wastes, metals, wood, glass, plastics, mixed waste, etc.), a description of the means of transportation of recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and designated center, or whether mixed materials will be collected by a waste hauler and removed from the site), and an estimated amount (weight, yardage, etc.). Approval will be granted if the plan shows:

- One hundred percent (100%) of inert wastes being reused or recycled AND at least fifty percent (50%) of C&D wastes being reused or recycled; OR
- All waste that is not separated on-site for recycling is sent to a mixed C& D sorting facility for recycling.

14-4. Waste Management Plan Implementation

A. Plan Distribution:

The contractor shall provide copies of the approved Waste

Management Plan to the project superintendent and each subcontractor.

B. Instruction:

The contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.

C. Meetings:

The contractor shall conduct monthly Construction Waste Management meetings or at least one meeting for projects with length of less than twenty (20) working days. Meetings shall include subcontractors affected by the Waste Management Plan. At a minimum, waste management goals and issues shall be discussed at regularly scheduled project meetings.

D. Separation Facilities:

The contractor shall designate a specific area or areas to facilitate separation of materials for potential reuse, salvage, recycling, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid co-mingling of materials. Bins set within the County Right of Way shall be subject to approval by the County. All bins used shall be protected during non-working hours from offsite contamination.

E. Materials Handling Procedures:

Materials to be recycled shall be protected from contamination, and shall be handled, stored and transported in a manner that meets the requirements set by the designated facilities for acceptance.

F. Hazardous Wastes:

Hazardous wastes shall be separated, stored, and disposed of according to State and local regulations. Unless specified in other section, the County is not aware of any hazardous wastes within the project site. Notify the Engineer if hazardous waste is encountered.

G. Reporting:

As a condition of final approval and retention release, submit documentation to the Engineer. Projects that establish monthly progress payments shall also require monthly reporting on the Waste Management

Plan. Such reports shall be submitted prior to the monthly cutoff for progress payments and shall include, at a minimum, a summary of waste materials recycled, salvaged and disposed of for the Project. Submitted with this summary will be documentation (receipts/scale tickets, waybills) showing the quantities and types of materials diverted and disposed. The documentation shall coincide with the Waste Management Daily Transport Reports (in Appendix A) that were signed by both the Contractor and the County inspector. A Notice of Completion will not be filed for the project and retention released until all reports as required for the project are submitted and approved.

The above-mentioned summary and documentation shall contain the following information:

(1) For each material recycled and salvaged from the Project, include the amount (in cubic yards or tons, or in the case of salvaged items, state quantities by number, type and size of items) and the destination (i.e., recycling facility, used building materials yard or other local users).

(2) For each material landfilled or incinerated from the Project, include the amount (in cubic yards or tons) of material and the identity of the landfill, incinerator and/or transfer station. All projects are subject to inspection.

(3) Documentation shall consist of photocopies of receipts and weight tags or other records of measurement or equivalent documentation from recycling companies, deconstruction contractors, and landfill and disposal companies. The contractor shall sign the completed Waste Management Plan to certify its accuracy as part of the documentation of compliance.

It is unlawful for any person to submit documentation to the County for an approved Waste Management Plan that that said person knows to contain any false statements, including but not limited to false statements regarding weight and/or yardage of materials recycled or diverted, or to submit any false or fraudulent receipt or weight tag or other record of measurement.

END OF SECTION

SECTION 21.
EROSION AND SEDIMENT CONTROL

The provisions of Section 21, "Erosion Control," of the Standard Specifications are superseded by these Special Provisions.

The Contractor is advised that failure to fully comply with the provisions of this Section and/or Section 13, “Water Pollution Control,” of these Special Provisions, and all requirements listed in the National Pollutant Discharge Elimination System (NPDES) General Permit, San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, and any resource agency permits obtained for the project, where applicable, except where amended in writing and signed by the Director of Public Works or his duly authorized representative, shall constitute substantial non-compliance with the requirements of the Clean Water Act, the NPDES permit program, and the Contract.

The County shall provide periodic site monitoring to ensure that the work complies with the requirements specified herein and in any resource agency permits. The County will provide the Contractor with copies of the monitoring reports. Should the work be found to be non-compliant, a follow up site monitoring visit will be conducted to ensure the items have been corrected. The costs associated with any compliance monitoring required beyond a single follow up site monitoring visit shall be deducted from the final payment for all of the Contract work.

21-1. Temporary Erosion Control

The Contractor shall be required to adhere to the provisions of Section 13, “Water Pollution Control,” this Section, and the directions of the Engineer throughout the work.

Temporary erosion controls may consist of straw logs, straw mulch, silt fencing, temporary berms, or any combination of these or other means acceptable to the Engineer to prevent polluted runoff and/or wind erosion. The use of any type of hay or any straw containing oat or weed seed is expressly forbidden. The Contractor is encouraged to review the Best Management Practices (BMPs) included in the County of San Mateo Maintenance Standards for installation and maintenance recommendations.

Temporary erosion controls shall be applied, maintained and removed by the Contractor as specified herein and as directed by the Engineer. The

Contractor shall not commence any excavation, backfilling, grading or stockpiling operations until sufficient quantities and types of temporary erosion control materials have been delivered to the work site as determined by the Engineer.

Additional temporary erosion controls, if necessary and as directed by the Engineer, shall be installed at the conclusion of the workweek to the satisfaction of the Engineer. The Engineer may also require the installation of temporary erosion controls at the conclusion of any workday when rain and/or wind is occurring or forecast.

The Contractor is advised that he may be required to respond to the work site after hours and/or on weekends or holidays to mitigate potential erosion or sedimentation and/or to repair damaged silt fencing and other erosion controls. Provisions for the Contractor's Required Response are included in Section 13, "Water Pollution Control," of these Special Provisions.

A. Staging Areas

The Contractor shall contain runoff that may potentially leave any staging area to within the staging area by any suitable means approved by the Engineer.

Staging area BMPs shall be maintained throughout the duration of the work. Staging area BMPs shall be completely removed and disposed of outside the highway right of way in accordance with the provisions of Section 5-11, "Disposal of Material Outside the Highway Right-of-Way" of these Special Provisions, by the Contractor at his expense at the conclusion of the work. Attention is directed to Section 13, "Water Pollution Control," of these Special Provisions for provisions relating to tracking of mud from staging areas.

B. Staging Area Finish

The Contractor shall finish all staging areas as specified herein and as directed by the Engineer.

All stockpiles, debris and exclusion fencing shall be completely removed and disposed of outside the highway right of way by the Contractor at the conclusion of construction operations. Staging area surfaces shall be smoothed and contoured to drain in the same manner as prior to their use. The smoothed and contoured surface shall be covered

with not less than six (6) inches and not more than twelve (12) inches of three-inch (3”) un-compacted drain rock unless other material is approved in advance in writing by the Engineer. Any adjacent areas disturbed by the Contractor’s operations shall be smoothed and mulched as specified below.

Loose soil and/or rock resulting from any grading work required to restore the pre-construction condition shall not be scattered or “flaked” on any slope.

C. Mulch

The Contractor shall mulch all finished soil surfaces at the conclusion of the work and as part of any winterization as shown on the Plans, as specified herein and as directed by the Engineer.

Mulch shall consist of a uniform application of rice straw to a depth of not less than two (2) inches. Straw bales and flakes shall be broken apart and loosely spread prior to crimping. Mulch shall be manually crimped into the soil surface using rakes, pitchforks or other appropriate means. Mulch shall not be track-walked using heavy equipment.

The Contractor may propose in writing an alternate type of straw mulch. Any type of proposed straw shall be certified by the manufacturer as weed-free and seed-free. The Contractor may also propose to use locally collected redwood duff (fallen dried redwood leaves, seeds and seed pods, small twigs, etc.) in addition to or instead of rice straw. Written proposals for alternate straw or redwood duff shall include identification of the source of the material, including written permission from the property owner to collect redwood duff, if applicable. Proposals to use alternate types of straw or redwood duff will be submitted to the Engineer for his approval not less than three (3) working days in advance of placing mulch. The Engineer reserves the right to reject alternate proposals and require the use of rice straw mulch.

The Contractor shall avoid mulching over newly-planted trees/plants. Mulch shall not be applied below the ordinary high-water line of any water body.

D. Winterization

Should the Contractor fail to complete the work within the specified number of working days with any time extensions allowed by the Engineer and the permitting agencies, the Contractor shall be required to winterize the sites and any staging areas at his expense as specified herein and as directed by the Engineer.

Winterization shall include, at a minimum, removal or securing, at the Engineer's option, of any stockpiled materials; removing equipment from the vicinity; restoring staging areas for winter use by the County's Road Maintenance Division as specified under "Staging Area Finish" above; covering any vertical excavation faces with plastic sheeting secured with sandbags and not extending below the ordinary high water line; mulching all other excavations with rice straw as specified under "Mulch" above; and ensuring positive drainage through the work sites.

E. Payment

The contract lump sum paid for this item, per FAA Technical Specification C-102 "Temporary Air and Water Pollution, Soil Erosion, and Siltation Control," for conformance with this Special Provision shall be considered as included in the Contract price paid for Water Pollution Control, and no additional compensation will be allowed therefore.

END OF SECTION

Appendix A

County of San Mateo Waste Management Plan Form

Waste Management Daily Transport Report

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County of San Mateo
WASTE MANAGEMENT PLAN

Submit to:
County of San Mateo
Department of Public Works
555 County Center, 5th Floor
Redwood City, CA 94063

Information and support: 888-442-2666
www.smcsustainability.org/waste-reduction/construction-demolition

Case/group number(s):
BLD _____ - _____

Project address:

Street: _____

City: _____

Zip Code: _____

Green Halo number(s):

_____

WMP required because project is a:

❑ Residential ❑ Demolition

❑ Nonresidential ❑ New Construction

❑ Addition

Section One: Permit Application

This Waste Management Plan (WMP) must be completed, submitted for review, and approved to obtain a permit. Separate WMPs are required for demolition and construction at the same site unless the Building Department requires only one permit. Need for a WMP is at the discretion of the Building Official or designee.

Applicant's Name: _____ Owner's Name: _____

Phone Number: _____ Email: _____

Applicant is (please check one): ❑ Owner ❑ Architect ❑ Builder ❑ Owner/Builder ❑ Other _____

Contractor (if applicable): _____ Contact Phone Number: _____

Project Description: _____

Project Square Footage: _____ Estimated Completion Date: _____

Waste Management Requirements:
You are required to recycle or re-use all inert solids (asphalt, brick, concrete, dirt, fines, rock, sand, and stone) and 65% of all construction and demolition debris.

I understand that I am required by San Mateo County Building Regulations Section 9210 - Adoption Of 2016 California Green Building Standards Code (Building Regulations) to salvage, reuse, or recycle **all inert solids** (asphalt, brick, concrete, dirt, fines, rock, sand, and stone) and **a minimum of 65%** of all construction and demolition debris (C&D). _____(Initial)

I understand that failure to meet the requirements of the Building Regulations shall constitute a misdemeanor, and shall be punishable by imprisonment in the county jail for up to 6 months and/or a fine of up to $1,000, calculated as a percentage of the required 65% diversion of C&D debris, and that the fine must be paid as a condition of final approval. _____ (Initial)

At the completion of this project, or more frequently if required, all weight tags or other equivalent documentation from salvage, recycling and waste facilities will be provided and I understand that I may not be issued my final inspection unless all original receipts and documentation are submitted to the County of San Mateo Department of Public Works. _____ (Initial)

Recycling and waste facilities ask for the correct origin of the materials generated as they come through the scale house. These tons are reported to the State of California. I understand that I need to advise my debris box company, waste haulers, and my drivers that the materials generated on this project originated in Unincorporated County of San Mateo. _____ (Initial)

1) Deconstruction/salvage/reuse:

What materials will be salvaged/reused? _____

Deconstruction or salvage company (if applicable): _____

What materials will be reused on site? _____

How will this be documented? _____

2) Material transportation:

Will you be using a hauling company, debris box company or hauling the material yourself?

❑ Hauler ❑ Debris Box ❑ Self-haul

If using a hauling or debris box company, which company? _____

Have they been notified that the diversion of 65% mixed debris and all insert solids is required? ❑ Yes ❑ No

3) Waste management plan:

Check the materials you anticipate generating and fill in the facilities that you plan to use.

Category	Material	√	Reuse, Recycling or Disposal Facility
Mixed C&D	Mixed Debris		
Inerts	Asphalt		
	Bricks		
	Concrete		
	Dirt		
	Other inert solids		
Source Separated	Cardboard		
	Metals		
	Wood		
	Roofing		
	Carpet		
	Drywall		
	Yard trimmings		
	Other		
Disposal	Waste		

The undersigned hereby agrees to comply with the Waste Management Plan as submitted and is the owner or authorized agent to sign for the owner of this project.

Applicant Signature _____ **Date** _____

County Approval: ❑ Approved ❑ Approved with comments ❑ Denied

All receipts, weight tags and documentation for salvage, recycling, and disposal must be submitted:

❑ On completion of project ❑ Other _____

Office of Sustainability Approval: _____ Date: _____

County of San Mateo
WASTE MANAGEMENT PLAN

Case/Group Number(s):
BLD _____ - _____

Project Address:

Street: _____

City: _____

Section Two: Final Report Approval

Please complete, submit, and get this section approved by the Department of Public Works, prior to obtaining final approval by the Department of Public Works no later than 30 days after completion of the demolition or construction project. Please provide weight of materials in **tons**. If needed, please use the conversion table on the next page to convert cubic yards to tons.

This section must be completed and signed, and all receipts or other supporting documentation must be attached in order to receive final project approval.

Category	Date	Material/items	Name of facility debris was hauled to	Weight (Tons)	Volume (CU. YD.)
Mixed C&D					
Salvage/Reuse					
Inerts Asphalt, bricks, concrete, dirt, rock, sand, soil, stone					
Source Separated Cardboard, wood, metal, sheetrock, wire, carpet, yard trimmings					
Disposal (Waste)					

❑ All receipts or equivalent documentation for salvage, recycling, and disposal are hereby attached.

❑ This project has recycled all of the inert solids and at least 65% of all debris generated.

Applicant Signature _____ **Date** _____

County Approval: ☐ Approved ☐ Approved with Comments ☐ Fine Payment Required

Comments:

_____

Fine Calculation: 1 – (C&D Diversion % Achieved ____ / 65%) x $1000 = $_____

Office of Sustainability Approval: _____ Date: _____

County of San Mateo
WASTE MANAGEMENT PLAN

Cubic Yards to Tons Conversion Table

Category	Material	Cubic Yards	Pounds	Tons
Mixed C&D	Mixed load C&D	1	500	0.25
Inerts	Asphalt	1	1380	0.69
	Bricks	1	3000	1.5
	Concrete	1	1860	0.93
	Dirt	1	2000	1
	Other inert solids	1	1240	0.62
Source Separated	Cardboard	1	100	0.05
	Metals	1	900	0.45
	Wood	1	300	0.15
	Asphalt roofing	1	1188	0.59
	Carpet	1	600	0.3
	Drywall	1	400	0.2
	Green waste	1	300	0.15
	Gravel	1	2600	1.3
Disposal	Waste	1	300	0.15

WASTE MANAGEMENT DAILY TRANSPORT REPORT				
Date :		**Day :**	**Multiple Pages : Yes___ No ___**	
			Contractor Representative :	
Project :				
			County Inspector :	
	Transport Vehicle Type	**Vehicle License/I.D.**	**Load Destination**	
			Inert Material	**Non-Inert Material**
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Note : Inert material shall be as defined in the Construction Waste Management Section of these specifications.

Comments :

_____
_____
_____
_____
_____
_____

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Appendix B

Sample “Payment Bond” Form

Sample “Performance Bond” Form

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PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That WHEREAS, the County of San Mateo hereinafter designated as the "County," has awarded to _____, hereinafter designated
(Contractor's Name)
as the "Principal," a contract dated _____, hereinafter designated
(Contract Award Date)
as the "Contract," which Contract is by this reference made a part hereof, for the work described as _____.
(Project Name, Location & Number)

And WHEREAS, pursuant to law, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by whom the Contract is awarded to secure the claims to which reference is made in Sections 9550 to 9566 and 9100 to 9364 both inclusive, of the Civil Code of California.

NOW THEREFORE, THESE PRESENTS WITNESSETH:

That the said Principal and the undersigned, _____
(Surety's Name)
as corporate Surety, are held and firmly bound unto all laborers, material men and other persons referred to in said statutes in the sum of

_____ Dollars ($)

lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the above bonded Principal, contractor, person, company or corporation, or his or its sub-contractor, fails to pay any claimant name in Section 9100 of the Civil Code of the State of California, or amounts due under the Unemployment Insurance Code, with respect to work or labor performed by any such claimant, that the Surety on this bond will pay the same, in an amount not exceeding the aggregate sum specified in this bond, and also, in case suit is brought upon this bond, a reasonable attorney's fee, which shall be awarded by the court to the prevailing party in said suit, and attorney's fees to be taxed as costs in said suit.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Section 9100 to 9364 of the Civil Code, so as to give a right of action to them or

their assigns in any suit brought upon this bond.

This bond is executed and filed to comply with the provisions of the act of Legislature of the State of California as designated in the Civil Code, Sections 9550-9566 inclusive, and all amendments thereto.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

And the said Surety, for value received, hereby stipulates and agrees that no change will be made which increases the total Contract price more than twenty percent (20%) in excess of the original Contract price without notice to the Surety, then, this obligation to be void, otherwise to remain in full force and virtue.

Correspondence relating to this bond shall be sent to the Surety at the address set forth below.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety this _____ day of _____, 20____.

_____	_____
Principal	Surety
_____	_____
Signature	Signature
_____	_____
Printed Name	Printed Name
	Address for Notices:
	_____
	_____
	_____
	_____

NOTE: Notary acknowledgement for Surety and Surety's Power of Attorney must be attached.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That WHEREAS, the County of San Mateo hereinafter designated as the "County," has awarded to _____, hereinafter designated
(Contractor's Name)
as the "Principal," a contract dated _____, hereinafter designated
(Contract Award Date)
as the "Contract," which Contract is by this reference made a part hereof, for the work described as _____.
(Project Name, Location & Number)

And WHEREAS, Principal is required to furnish a bond in connection with the Contract, guaranteeing the faithful performance thereof.

NOW THEREFORE, THESE PRESENTS WITNESSETH:

That the said Principal and the undersigned, _____,
(Surety's Name)
as corporate Surety, are held and firmly bound unto the County in the sum of

_____ Dollars ($)

lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above bonded Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term of said Contract and any extensions thereof that may be granted by the County, with or without notice to the Surety, and during the life of any guarantee required under the Contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, except that no change will be made which increases the total

Contract price more than twenty percent (20%) in excess of the original Contract price without notice to the Surety, then, this obligation to be void, otherwise to remain in full force and virtue.

Correspondence relating to this bond shall be sent to the Surety at the address set forth below.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety this _____ day of _____, 20___.

_____	_____
Principal	Surety
_____	_____
Signature	Signature
_____	_____
Printed Name	Printed Name
	Address for Notices:
	_____
	_____
	_____
	_____

NOTE: Notary acknowledgement for Surety and Surety's Power of Attorney must be attached.

Appendix C

Daily Personnel and Equipment Log

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DAILY PERSONNEL AND EQUIPMENT LOG

Using as many copies of this form necessary, the Contractor shall provide the Engineer with a list of all personnel and their title and, if applicable, equipment said employee is operating. This information is required of the Prime and their Subcontractors.

This form, if used in lieu of Contractor's Daily Dispatch Report, shall be submitted to the Engineer by the start of the first working day subsequent to the performance of the work, or Contractor may incur task-specific liquidated damages in the amount of $500 per day for every day hence until submittal is made. Reference is made to Section 7-4.1., "Payroll Records," of the Project Special Provisions.

Date: _____ **Project No.:** ASL03

Project: _____

Contractor: _____

Is this log for Subcontractor? _____ **Yes** _____ **No**

If yes, Name of Subcontractor: _____

Personnel		Equipment			
Name	**Title/ Trade**	**No.**	**Type**	**Make**	**Model**

Notes:

_____

_____

_____

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Appendix D

Public Contract Code
Sections 9204 and 20104 et seq.

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Public Contract Code Section 9204 et seq.

9204.

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3) (A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code

who either is in direct contract with a contractor or is a lower tier subcontractor.
(d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.
(B) The claimant shall furnish reasonable documentation to support the claim.
(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.
(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.
(2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.
(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.
(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.
(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.
(E) This section does not preclude a public entity from requiring arbitration of disputes

under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.
(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.
(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.
(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.
(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.
(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.
(g) This section applies to contracts entered into on or after January 1, 2017.
(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.
(i) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2027, deletes or extends that date.

SEC. 2.

The Legislature finds and declares that it is of statewide concern to require a charter city, charter county, or charter city and county to follow a prescribed claims resolution process to ensure there are uniform and equitable procurement practices.

SEC. 3.

If the Commission on State Mandates determines that this act contains costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

Public Contract Code Section 20104 et seq.

20104.

(a) (1) This article applies to all public works claims of three hundred seventy-five thousand dollars ($375,000) or less which arise between a contractor and a local agency.
(2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.
(b) (1) “Public work” means “public works contract” as defined in Section 1101 but does not include any work or improvement contracted for by the state or the Regents of the University of California.
(2) “Claim” means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.
(c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.
(d) This article applies only to contracts entered into on or after January 1, 1991.
(Amended by Stats. 2010, Ch. 697, Sec. 47. Effective January 1, 2011. Operative July 1, 2012, by Sec. 105 of Ch. 697.)

20104.2.

For any claim subject to this article, the following requirements apply:
(a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.
(b) (1) For claims of less than fifty thousand dollars ($50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.
(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
(3) The local agency’s written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.
(c) (1) For claims of over fifty thousand dollars ($50,000) and less than or equal to three hundred seventy-five thousand dollars ($375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting

the claim or relating to defenses to the claim the local agency may have against the claimant.
(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.
(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.
(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.
(f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.
(Added by Stats. 1994, Ch. 726, Sec. 22. Effective September 22, 1994.)

20104.4.

The following procedures are established for all civil actions filed to resolve claims subject to this article:
(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
(b) (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

(2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.
(3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.
(c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.
(Amended by Stats. 2004, Ch. 182, Sec. 54. Effective January 1, 2005. Operative July 1, 2005, by Sec. 64 of Ch. 182.)

20104.6.

(a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.
(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.
(Added by Stats. 1994, Ch. 726, Sec. 22. Effective September 22, 1994.)

COUNTY OF SAN MATEO
SAN CARLOS AIRPORT

PROJECT TITLE:
RUNWAY 12-30 & CONNECTOR TAXIWAYS REHABILITATION PROJECT

FAA SPECIAL PROVISIONS:

FAA General Contract Provisions, Special Provisions to the FAA General Provisions, General Construction Items, Technical Specifications, and Special Provisions to the FAA Technical Specifications



01/27/2023

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Part 1 – General Contract Provisions

Section 10 Definition of Terms

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	**AASHTO**	The American Association of State Highway and Transportation Officials.
10-02	**Access Road**	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	**Advertisement**	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	**Airport**	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	**Airport Improvement Program (AIP)**	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	**Air Operations Area (AOA)**	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	**Apron**	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	**ASTM International (ASTM)**	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	**Award**	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-10	**Bidder**	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

Paragraph Number	Term	Definition
10-11	**Building Area**	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	**Calendar Day**	Every day shown on the calendar.
10-13	**Certificate of Analysis (COA)**	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	**Certificate of Compliance (COC)**	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	**Change Order**	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	**Contract**	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	**Contract Item (Pay Item)**	A specific unit of work for which a price is provided in the contract.
10-18	**Contract Time**	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-19	**Contractor**	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	**Contractors Quality Control (QC) Facilities**	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).

Paragraph Number	Term	Definition
10-21	**Contractor Quality Control Program (CQCP)**	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	**Control Strip**	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	**Construction Safety and Phasing Plan (CSPP)**	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	**Drainage System**	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	**Engineer**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, of the contract work and acting directly or through an authorized representative.
10-26	**Equipment**	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	**Extra Work**	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-28	**FAA**	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	**Federal Specifications**	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.

Paragraph Number	Term	Definition
10-30	**Force Account**	**a.** Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. **b.** Owner Force Account - Work performed for the project by the Owner's employees.
10-31	**Intention of Terms**	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-32	**Lighting**	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	**Major and Minor Contract Items**	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	**Materials**	Any substance specified for use in the construction of the contract work.
10-35	**Modification of Standards (MOS)**	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	**Notice to Proceed (NTP)**	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	**Owner**	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is County of San Mateo, Public works Department.

Paragraph Number	Term	Definition
10-38	**Passenger Facility Charge (PFC)**	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	**Pavement Structure**	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	**Payment bond**	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-41	**Performance bond**	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	**Plans**	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	**Project**	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	**Proposal**	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	**Proposal guaranty**	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	**Quality Assurance (QA)**	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	**Quality Control (QC)**	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	**Quality Assurance (QA) Inspector**	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

Paragraph Number	Term	Definition
10-49	**Quality Assurance (QA) Laboratory**	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	**Resident Project Representative (RPR)**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	**Runway**	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	**Runway Safety Area (RSA)**	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	**Safety Plan Compliance Document (SPCD)**	Details how the Contractor will comply with the CSPP.
10-54	**Specifications**	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	**Sponsor**	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	**Structures**	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	**Subgrade**	The soil that forms the pavement foundation.
10-58	**Superintendent**	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.

Paragraph Number	Term	Definition
10-59	**Supplemental Agreement**	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%: (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	**Surety**	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	**Taxilane**	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	**Taxiway**	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	**Taxiway/Taxilane Safety Area (TSA)**	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-64	**Work**	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	**Working day**	A working day shall be any day other than a legal holiday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.
10-66	**Owner Defined terms**	The following terms are included in this contract:
	Contract Drawings	Plans.
	Subcontractor	The subcontractor refers any individual, firm, or corporation to whom the contractor, with approval of the Owner, sublets any part of work.

Paragraph Number	Term	Definition
	Time and Materials Work	An item or items of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified and an agreed price cannot be agreed upon. The Contractor shall perform this work and the Owner agrees to pay the Contractor based upon the work performed by the Contractor's employees and subcontractors, and for materials and equipment used in the construction (along with the Contractor's allowed overhead and profit).

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Contractors). See the *Notice to Contractors* and *Instructions to Bidders* located in the front of these Contract Documents.

20-02 Qualification of bidders. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

In addition, each bidder who receives a written request shall furnish the following to the Owner:

a. A list of the categories of work to be performed by the bidder's work force and a list of work to be subcontracted out (See Section 80-01).

b. A list of construction projects completed in the past five years. The list shall include the project name, completion date, total contract value, value of bidder's portion of the work, engineer and owner contact information (names and phone numbers).

c. A list of construction projects in progress and under contract including the project name, percent complete, estimated completion date, total contract value, value of bidder's portion of the work, engineer and owner contact information (names and phone numbers).

d. A Schedule of Values showing the following information:

    1. For each lump sum bid item: Provide a breakdown of values for major products, assemblies or operations, indicating separate amounts for (a) purchased materials, (b) labor, and (c) construction equipment, which total to the lump sum price bid for each item.

    2. For each unit price bid item: Provide a breakdown of values for the unit price allocated to (a) purchased materials, (b) labor, and (c) construction equipment which total to the unit price bid for each item.

    The Schedule of Values will be reviewed by the Engineer. Any additional detail or justification for cost distribution shall be provided by the apparent low bidder upon request. The Schedule of Values shall serve as a basis for computing progress payments during construction for installed portions of lump sum items, and to assist the Engineer in determining if change order costs are reasonable.

e. The bidder and all subcontractors shall provide evidence of appropriate state contracting license for the categories of work performed. The bidder must have a Class "A" License as determined by the California State License Board.

f. Provide a copy of the active System for Award Management (SAM) registration (https://sam.gov) for your company; or a signed certification that the individual, firm, or its principals is not suspended, debarred or excluded from work on federally funded projects.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

20-03 Contents of proposal forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

Mobilization, if included in this proposal, is specified in Item C-105.

A prebid conference will not be required on this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements. The location, date and time are stated in the Advertisement.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.

c. Documented record of Contractor default under previous contracts with the Owner.

d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie

evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

Prices should be written in whole dollars and cents. The extended total amount of each item should not be rounded.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.No faxed or emailed proposals will be accepted. The official time shall be kept locally by the Owner.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by fax or by email before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms,* of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than 7 calendar days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

Section 30 Award and Execution of Contract

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern. Where discrepancies in the summation of the products occur, the Owner will make the necessary corrections and the corrected values will be used in the Owner's consideration of proposals.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.

b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within 120 calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

The Owner reserves the right to award only the Base Bid, to award any Alternate Bid (if Alternates are an option), or to award either the Base Bid or the Alternate Bid plus Add-On Bids (if Add-On bids are an option).Where discrepancies occur that affect the bid total(s) as described in the subsection titled CONSIDERATION OF PROPOSALS, the contract amount awarded will reflect the corrected values.

Where alternate bids and/or add-on bids are included in the proposal, the lowest qualified bidder will be determined by comparison of the combination of Base Bid, or Alternate Bid, plus Add-On bids which are chosen by the Owner.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals.* Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds*.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the

surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

The successful bidder shall submit in triplicate, a "Performance Bond" guaranteeing the performance of the work equal to one hundred percent (100%) of the amount of the Contract awarded, and a "Labor and Material Payment Bond" guaranteeing the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work equal to one hundred percent (100%) of the amount of the Contract awarded.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds,* of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.

The Contractor shall also furnish the required insurance certificates in accordance with the subsection titled RESPONSIBILITY FOR DAMAGE CLAIMS of Sections 70 and 200. The successful bidder shall recognize that the proposal included in the contract for execution may differ from the proposal which was submitted with their bid. The proposal included in the contract for execution will include corrections to discrepancies which were discovered during the Owners consideration of proposals, and will contain only the pages from the successful bidder's proposal which cover the bids which were awarded. As a result, the proposal pages in the contract to be executed may contain pages which are not consecutively numbered due to the intentional omission of those proposal pages which cover bids that were not awarded.

49 CFR Part 26 provides that each contract the owner signs with a contractor (and each subcontract the prime contractor signs with a subcontractor) shall include the following assurance:

> "The contractor, sub-recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of Department of Transportation (DOT) assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate."

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract,* of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

Section 40 Scope of Work

40-01 Intent of Contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of Work and Quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted Items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra Work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work

covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of Traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (http://mutcd.fhwa.dot.gov/), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

40-06 Removal of Existing Structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or

grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights In and Use of Materials Found In the Work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the RPR; or

c. Use such material for the Contractor's own temporary construction on site; or,

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final Cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

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Section 50 Control of Work

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with Plans and Specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of Contract, Plans, and Specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If

any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions.

See Special Provisions section to the General Provisions.

50-05 Cooperation of Contractor. The Contractor shall be supplied with five hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation Between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction Layout and Stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution

and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): five (5) full size copies of signed and sealed surveys, five (5) copies of the notes as well as pdf copies of both.

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and Duties of Quality Assurance (QA) Inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the Work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of Unacceptable and Unauthorized Work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load Restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

50-12 Maintenance During Construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to Maintain the Work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial Acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final Acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will inspect. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for Adjustment And Disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

END OF SECTION 50

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Section 60 Control of Materials

60-01 Source of Supply and Quality Requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program* and *Addendum*, that is in effect on the date of advertisement.

60-02 Samples, Tests, and Cited Specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP).

60-03 Certification of Compliance/Analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the

work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant Inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.

b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) Field Office. The Engineer/RPR field office, if required, shall be as indicated in C-105, Mobilization.

60-06 Storage of Materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for

the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable Materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner Furnished Materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

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Section 70 Legal Regulations and Responsibility to Public

70-01 Laws to be Observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, Licenses, and Taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented Devices, Materials, and Processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of Surfaces Disturbed by Others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

Utility	Location (Sheet No.)	Person to Contact	Phone No.

"Not Applicable"

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others,

unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, Health, and Safety Provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public Convenience and Safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is described in the Construction Safety and Phasing Plan, Attachment A to Section 70.

During the work of this Contract, the Owner will make such arrangements to coordinate aircraft movements and Airport operations as necessary to conform to the construction procedures outlined in the Construction Safety and Phasing Plan, and as shown on the Contract Drawings. The Contractor shall give adequate notice to the RPR, so as to afford time to coordinate construction with the Owner.

70-09 Use of Explosives. The use of explosives is not permitted on this project.

70-10 Protection and Restoration of Property and Landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of

the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for Damage Claims. The Contractor shall indemnify, defend and hold harmless the Engineer/RPR and the Owner and their respective representatives, directors, officers, agents, and employees from all suits, actions, damages, costs, expenses or claims, of any character, (including attorney's fees), and liability (including statutory liability) brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct or arising out of or related to any negligence of the Contractor or anyone for whom the Contractor is legally liable in performing or safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any and all environmental impairment; or because of any act or omission, neglect, or misconduct of said Contractor or anyone for whom the Contractor is legally liable of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

Owner shall timely notify the Contractor of the receipt of any third-party claim, relating to the contract. Owner shall be entitled to recover its reasonable costs incurred in providing such notification.

70-12 Third Party Beneficiary Clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening Sections of the Work to Traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

Opening sections of work to traffic shall be as described in the CSPP.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent

in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's Responsibility for Work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's Responsibility for Utility Service and Facilities of Others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

Utility Service or Facility	Person to Contract	Telephone No.
Silicon Valley Clean Water		(650) 591-7121
Cal Water – Bayshore District		(650) 558-7800
Pacific Gas and Electric		(800) 743-5000

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-15.1 FAA Facilities and Cable Runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall provide notice to the FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the airport Owner and RPR a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. If execution of the project work requires a facility outage, the Contractor shall contact the FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.

d. Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.

e. If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

70-16 Furnishing Rights-of-Way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal Liability of Public Officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No Waiver of Legal Rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental Protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

The Contractor shall perform all testing, removal of contaminated material, transportation, treatment, remediation, and disposal of contaminated materials which are the result of a spill or release caused by the Contractor, and he shall provide and properly place materials to restore the property to its original condition, all to the Owner's satisfaction and at the Contractor's expense. Refer to the subsection 70-10 titled Protection And Restoration Of Property And Landscape of this section.

A. Air Pollution

1. No burning of combustible waste shall be permitted.

2. Alternatives to Burning Land Cleared Material.
    a. All spoil material from clearing and grubbing operations shall be disposed of in accordance with the Technical Specifications, unless otherwise directed.
    b. Wood may be salvaged for firewood or commercial use or it may be chipped and disposed of for use as mulch.
    c. Logs, brush, etc. may be removed to an authorized disposal area or disposed of to the general public without charge.
3. Dust Control.
    a. Common construction operations which may cause excessive dust include:
        1) Quarry, drilling and rock crushing.
        2) Clearing, grubbing and stripping.
        3) Excavation and placement of embankment.
        4) Cement and aggregate handling.
        5) Cement or lime stabilization.
        6) Blasting.
        7) Use of haul roads.
        8) Sandblasting or grinding.
    b. Other construction operations which may cause air pollution are:
        1) Volatiles escaping from asphalt and cut back materials.
        2) Use of herbicides or fertilizers.
        3) Smoke from asphalt plants or heater/planers.
    c. Control of Dust and Other Air Pollutants shall be the responsibility of the Contractor and may include the following control methods:
        1) Drilling apparatus equipped with water or chemical dust controlling systems.
        2) Exposing the minimum area of land.
        3) Applying temporary mulch with or without seeding.
        4) Use of water sprinkling trucks.
        5) Use of covered haul trucks.
        6) Use of stabilizing agents in solution.
        7) Use of dust palliative and penetration asphalt on temporary roads.
        8) Use of wood chips in traffic or work areas.
        9) Use of vacuum equipped sandblasting systems.
        10) Use of plastic sheet coverings.
        11) Restricting the application rate of herbicides to recommended dosage. Materials should be covered and protected from the elements. Application, equipment and empty containers shall not be rinsed and discharged to a stream, etc. or allowed to enter the groundwater.

12) Use dust control measures at bituminous mixing plants, and quarry operations.

13) Delay operations until climate or wind conditions dissipate or inhibit the potential pollutants in a manner satisfactory to the RPR.

B. Water Pollution

1. The Contractor shall use suitable precautions to minimize water pollution during the progress of the work. Erosion control devices or methods may consist of berms, dikes, dams, drains, sediment basins, fiber mats, woven plastic filter cloths, gravel, mulches, quick growing grasses, sod, bituminous spray or other control devices.

2. The amount of surface area of erodible earth at any one time shall not exceed the area allowed by permit.

3. Pollutants such as fuels, lubricants, bitumens, raw sewage and other harmful materials shall not be discharged into or near rivers, streams, and impoundments or into natural or man-made channels leading thereto. Wash water or waste from concrete mixing and curing operations should not be allowed to enter streams, etc.

In the event of conflict between these requirements and pollution control laws, rules or regulations or other Federal, State or local agencies, the more restrictive laws, rules, or regulations shall apply.

70-20 Archaeological and Historical Findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work,* and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 Insurance Requirements. The Contractor, at his own expense, shall procure and maintain, until final acceptance by the Owner of the work covered by the Contract, comprehensive liability insurance for damages imposed by law of the kinds and in the amounts hereinafter provided, written by a financially solvent insurance company authorized to do such business and write such coverage in the place where the Project is located, covering all operations under the Contract, whether performed by the Contractor or by its Subcontractor(s). Before commencing the work, the Contractor shall furnish to the Owner three (3) certificates of insurance, in satisfactory form to the Owner, showing that the Contractor has complied with the requirements of this Section. The policies and certificates shall provide that the policies shall not be changed or canceled until thirty (30) days after written notice thereof has been given to each of the Additional Insureds listed below. Property damage insurance shall include coverage for explosion, collapse, and underground operations (X C U hazards).

A. The kinds and amounts of insurance are as follows:

1. General Liability insurance policies shall be Commercial General Liability Insurance (including premises operations, independent contractors, products/completed operations, explosion, collapse and underground hazard, broad form property damage, and blanket contractual liability coverages) and shall be written on an Occurrence basis with the following minimum limits:

Each Occurrence	$1,000,000
General Aggregate	$3,000,000

   As an alternative to the above limits for General Aggregate and Each Occurrence, Contractor may elect to provide Excess Liability Insurance. Excess Liability coverage shall likewise be written on an Occurrence basis. If the Contractor so elects, then the sum of the General Liability Each Occurrence limit and the Excess Liability Each Occurrence limit shall total at least $1,000,000. The sum of the General Liability General Aggregate limit and the Excess Liability Aggregate limit shall total at least $3,000,000.

2. Automobile Liability policies shall cover "All Owned", "Scheduled", "Hired" and "Non-Owned" autos. The minimum Combined Single Limit shall be $1,000,000.

   As an alternative to the above limit for Automobile Liability, Contractor may elect to provide Excess Liability Insurance. Excess Liability coverage shall be written on an Occurrence basis. If the Contractor so elects, then the sum of the Combined Single Limit and the Excess Liability Each Occurrence limit shall total at least $1,000,000.

3. Policy or policies covering the obligations of the Contractor in accordance with the provisions of any applicable Worker's Compensation or Disability Benefits Law.

4. If applicable, the Contractor and its Subcontractor(s) engaged in work involving "hazardous substances," as defined in Section 3 of PL 1993, c. 139 (C.13:1K-8), or "hazardous waste," as defined in Section 1 of PL 1976, c. 99 (C.13:1E-38), shall procure and maintain pollution liability insurance, also known as "environmental impairment liability insurance."

B. Contractor's insurance shall be primary over all other collectible insurance.

C. Anti-subrogation applies to General Liability and to Automobile Liability insurance coverages.

D. The Certificate Holder shall be County of San Mateo (555 County Center, 5th Floor, Redwood City, California 94063).

E. The following shall be named as Additional Insureds: County of San Mateo; the Federal Aviation Administration; National Oceanic and Atmospheric Administration.

F. The General Liability policies shall provide coverage for liability for damages imposed by law upon the Contractor and its Subcontractor(s) with respect to all work performed by any of them under the Contract. The insurance company providing General Liability insurance coverage acknowledges that the Contractor has agreed in this Contract to defend, hold harmless, and indemnify the Owner, the Engineer, the RPR, and their respective directors, officers, representatives and employees as set forth in this Section.

G. The Contractor's policies shall provide coverage for contractual liability imposed by contract, including this Contract, and completed operations liability for damages imposed by law arising between the date of the certification of completion of the work and the date of the expiration of the Contractor's guarantee.

H. Contractor's policy shall provide coverage for liability arising out of the acts or omissions of its Subcontractors.

I. Each Subcontractor employed on the Project site by the Contractor shall provide comprehensive liability insurance in accordance with the above-described requirements of the Contractor. Such insurance requirements shall be submitted to the RPR as part of the Subcontractor approval process.

END OF SECTION 70

ATTACHMENT "A"

TO

SECTION 70-08

CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)

FOR THE CONSTRUCTION OF

RUNWAY 12-30 & CONNECTOR TAXIWAYS REHABILITATION

AT

SAN CARLOS AIRPORT

COUNTY PROJECT NO. ASL03
PROJECT FILE NO. E5077

FEDERAL AVIATION ADMINISTRATION (FAA)
AIP PROJECT

JANUARY 2023

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CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)

1.0 PURPOSE.

Aviation safety is the primary consideration at airports, especially during construction. The Airport Owner's Construction Safety and Phasing Plan (CSPP) and the Contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard.

The CSPP sets forth benchmarks and requirements for the project to help ensure the highest levels of safety, security and efficiency at the airport at the time of construction. Requirements for this CSPP were developed from FAA Advisory Circular (AC) 150/5370-2 Operational Safety on Airports During Construction, latest edition.

The CSPP is a standalone document, written to correspond with the safety and security requirements set forth in the AC, the airport safety and security requirements, and local codes and requirements. The CSPP is to be used by all personnel involved in the project. The CSPP covers the actions of not only the construction personnel and equipment, but also the action of inspection personnel and airport staff.

This document has been developed in order to minimize interruptions to airport operations, reduce construction costs, and maximize the performance and safety of construction activity. Strict adherence to the provisions of the CSPP by all personnel assigned to or visiting the construction site is mandatory.

The Contractor shall submit a Safety Plan Compliance Document (SPCD) to the Airport Owner describing how the Contractor will comply with the requirements set forth in this CSPP. The SPCD must be submitted to the Airport Owner prior to issuance of Notice to Proceed.

In the event the Contractor's activities are found in non-compliance with the provisions of the CSPP or the SPCD, the Airport Owner's Representative will direct the Contractor, in writing, to immediately cease those operations in violation. In addition, a safety meeting will be conducted for the purpose of reviewing those provisions in the CSPP/SPCD which were violated. The Contractor will not be allowed to resume any construction operations until conclusion of the safety meeting and all corrective actions have been implemented.

2.0 SCOPE OF PROJECT AND CSPP.

The proposed project generally includes the reconstruction of the outermost 12-ft± of pavement on the runway and taxiway connectors with an appropriate section. The project will also include a 20-ft wide RSA soil stabilization improvement section on all sides of existing infields and drainage improvements as needed to alleviate existing conditions causing damage to the runway and taxiway connectors, along with localize electrical improvements, and a standard liquid crack seal and seal coat. The drainage improvements may include grading design of the infield areas. Prior to the seal coat application, the runway will receive a rubber removal and all areas will be crack sealed. All newly sealed areas and newly constructed areas will be re-striped following adequate cure time of the preservative seal.

Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the Airport Owner must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities and associated costs will be identified. As they are identified, their impact to airport operations must be assessed. Adjustments are made to the proposed construction activities, often by phasing the project and/or to airport operations in order to maintain operational safety. This planning effort will ultimately result in a project CSPP. The development of the CSPP takes place through the following five steps:

a. Identify Affected Areas
b. Describe Current Operations
c. Allow for Temporary Changes to Operations
d. Take Required Measures to Revise Operations
e. Manage Safety Risk

3.0 PLAN REQUIREMENTS.

3.1 COORDINATION. The following items shall be coordinated as required:

a. Pre-construction Meeting. A preconstruction meeting will be conducted to discuss operational safety, testing, quality control, quality acceptance, security, safety, labor requirements, environmental factors, and other issues. All parties affected by the construction will be asked to attend including, but not limited to, the Airport Owner, tenants, contractor, subcontractors and RPR.

At the preconstruction meeting, the Contractor shall submit a plan of operation and schedule of work to the RPR for approval. The Contractor's plan of operation shall indicate, in detail, the amount of construction planned and the number of shifts and/or overtime operations proposed for the project. The schedule of work shall clearly indicate the sequence of work to be performed. The Contractor shall conform, at all times, to the requirements of these provisions and with current safety practices, rules, regulations and security requirements of Airport Owner. The preconstruction meeting will be held prior to issuance of a Notice to Proceed.

b. Contractor Progress Meetings. A minimum of one progress meeting to discuss scheduling and coordination shall be held each week unless otherwise directed by the Airport Owner, throughout the duration of the Contract, between the Airport Owner, Contractor, RPR and any other interested parties at a time and place to be designated by the RPR. These meetings shall include a detailed discussion of construction phasing and safety with regard to the Contractor's compliance with the requirements stipulated in the Contract Documents.

In attendance at these meetings shall be a Contractor's representative with the authority to make decisions concerning the scheduling and coordination of work. Progress meetings shall be facilitated by the RPR. Operational safety shall be a standing agenda item during progress meetings throughout the construction project.

c. Scope or Schedule Changes. Changes in the Scope of Work or Project Schedule shall be governed by Section 40 and Section 80 of the Contract Documents. Any proposed change that results in a deviation from the established CSPP as expressed by the Contract Documents must be submitted to the FAA and Airport Owner for review and approval. FAA review and approval can be expected to take sixty business days.

d. FAA ATO Coordination. Early coordination with Federal Aviation Administration (FAA) Air Traffic Organization (ATO) required for scheduling Technical Operations shutdowns prior to construction. Coordination is critical to restarts of NAVAID services and to the establishment of any special procedures for the movement of aircraft. All relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, should be coordinated with FAA ATO and may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart.

e. Pre-Paving Meeting. If paving is included in this project, a pre-paving meeting will be held to discuss the status of preliminary submittals, the RPR's inspection of the plant and laboratory, test section requirements, paving plan requirements, and production requirements.

f. Payment. The cost of complying with the requirements of this section, including but not limited to scheduling; providing flag people; construction, maintenance and removal of staging areas; providing,

placing, relocating, maintaining and removing temporary barricades; protection of aircraft and vehicular traffic; installation, maintenance and removal of temporary airfield markings; maintenance of airport lighting circuits; installation, maintenance, and removal of temporary wiring and airfield lighting facilities; cleaning of paved surfaces; restoration of surfaces disturbed as a result of the Contractor's operations; providing, maintaining, and removing warning signs, hazard markings, barricade lights; providing, maintaining, and removing temporary access gates; providing padlocks for access gates; providing a guard at access gates; and all security requirements shall be included under Technical Specification Item C-106, Safety, Security and Maintenance of Traffic.

3.2 PHASING.

a. Phase Elements (Work Areas)

1. **Work Area Descriptions:** The work of the project has been divided into three (3) phases in order to coordinate construction in a way that will minimize interference with Airport operations:

   Work Area, Phase 1: The work limits for this phase includes the infield areas and a section of connector taxiways B, D, E, F, and G between the edge of Taxiway K and the westerly limit of the runway safety area. Phase 1 includes removal and replacement of 12-ft +/- of existing pavement along the outer edge of all connector taxiways as shown in the plans. A 20-ft wide RSA soil stabilization section will be constructed along all sides of the infield areas with localized drainage improvements and electrical improvements. This phase will also include obliteration of a portion of the existing markings, surface preparation, crack seal, asphalt emulsion seal coat, and placement of permanent markings on all connector taxiways. Taxiway K and all adjacent connector taxiways but one will be closed at night for Phase 1 work and reopened during the day for normal airport operations. Construction of this phase shall be completed within 15 calendar days.

   Work Area, Phase 2: The work limits for this phase includes the infield areas and a section of connector taxiways B, D, E, and L between the edge of Taxiway L and the easterly limit of the runway safety area. Phase 2 includes removal and replacement of 12-ft +/- of existing pavement along the outer edge of all connector taxiways as shown in the plans. A 20-ft wide RSA soil stabilization section will be constructed along all sides of the infield areas with localized drainage improvements and electrical improvements. This phase will also include obliteration of a portion of the existing markings, surface preparation, crack seal, asphalt emulsion seal coat, and placement of permanent markings on all connector taxiways. Taxiway L and all adjacent connector taxiways but one will be closed at night for all Phase 2 work and reopened during the day for normal airport operations. Construction of this phase shall be completed within 15 calendar days.

   Work Area, Phase 3: The work limits for this phase includes Runway 12-30, a section of connector taxiway C, the infield areas and all connector taxiways up to the runway safety area on both the westerly and easterly limit. Phase 3 includes removal and replacement of 12-ft +/- of existing pavement along the outer edge Runway 12-30 and all connector taxiways as shown in the plans. A 20-ft wide RSA soil stabilization section will be constructed along all sides of the infield areas with localized drainage improvements and electrical improvements. This phase will also include obliteration of a portion of the existing markings, surface preparation, crack seal, asphalt emulsion seal coat, placement of temporary markings on Runway 12-30 and all connector taxiways. Following the placement of the temporary markings, the construction clock will stop for 30 calendar days to let the oil within the newly applied asphalt emulsion seal coat and newly installed pavement dry out. Immediately after the 30 calendar days the construction clock will restart for placement of permanent makings on Runway 12-30 and connector taxiways. Runway 12-30 and all connector taxiways will be closed both day and night for Phase 3 work. Construction of this phase shall be completed within 30 calendar days.

2. **Construction Safety Requirements**
   The Contractor shall obtain approval from the Engineer prior to beginning any work in all areas of the airport. No active runway or taxiway shall be crossed, entered, or obstructed at any time. The Contractor shall plan and coordinate his/her work in such a manner as to insure safety and a minimum of hindrance to airport

operations. All Contractor equipment and material stockpiles shall be stored at locations determined during construction or as shown on the Construction Safety Drawings (Appendix 1). No equipment will be allowed to park within the approach area of an active runway at any time.

During the work under this Contract, the Airport Owner will make such arrangements to coordinate aircraft movements and Airport operations as necessary to conform to the construction procedures as outlined below and as shown on the Contract Drawings. The Contractor shall give adequate notice to the Engineer, so as to afford time to coordinate construction with the Airport Owner. No work shall proceed in any area without prior approval.

The Contractor shall always confine construction operations to the Contractor work area and designated haul routes. Contractor personnel, equipment, stored materials, subcontractors and suppliers will not be allowed on any other area within the Air Operations Area and within the Airport boundaries without prior approval of the Airport Owner or Engineer.

The Engineer will perform a visual site assessment before the Contractor occupies the Contractor work area. The Contractor shall be held responsible for all repairs and cleanup costs incurred as a result of the Contractor's construction operations. Restoration shall be the complete return of all work areas to the original conditions.

Temporary cables in grass areas shall be marked with stakes and flagging. Temporary cables in paved areas shall be marked with barricades.

Prior to the start of construction operations, the Contractor shall perform the following:

- Coordinate issuing Notices to Airmen (NOTAM) with the Airport Owner and Engineer for the construction activities involved at least 48 hours in advance of the work.

At the conclusion of construction operations, the Contractor shall perform the following:

- Test and activate airfield lighting circuits.
- Remove barricades, temporary jumpers and closed runway markings, as indicated on the Construction Safety Drawings.
- Clean all paved surfaces in accordance with Item C-106, Safety, Security and Maintenance of Traffic.
- Coordinate cancellation of the NOTAMs with the Airport Owner and Engineer.

Work Area, Phase 1: Phase 1 shall be started first. During work in this area, Connector Taxiways B/D/E/F/G and Taxiway K will be closed to aircraft traffic at night but will reopen during the day for normal airport operations.

At the start of Phase 1, the Contractor shall perform the following:

- Verify with the Airport Owner that a NOTAM has been issued closing Taxiway K during the night.
- Verify with the Airport Owner that a NOTAM has been issued closing Connector Taxiways B, D, E, F, and G during the night.
- Provide temporary barricades along the centerline of Taxiway K.
- Provide temporary barricades along the westerly edge of the runway safety area at Connector Taxiways B, D, E, F, and G.

Work Area, Phase 2: Phase 2 shall start once the work in Phase 1 is completed. During work in this area, Connector Taxiways B/D/E/L and Taxiway L will be closed to aircraft traffic at night but will reopen during the day for normal airport operations.

At the start of Phase 2, the Contractor shall perform the following:

- Verify with the Airport Owner that a NOTAM has been issued closing Taxiway L during the night.
- Verify with the Airport Owner that a NOTAM has been issued closing Connector Taxiways B, D, E, and L during the night.
- Provide temporary barricades along the centerline of Taxiway L.
- Provide temporary barricades along the easterly edge of the runway safety area at Connector Taxiways B, D, E, and L.

Work Area, Phase 3: Phase 3 shall start once the work in Phase 1 and Phase 2 is completed. During work in this area, Runway 12-30 and all Connector Taxiways be closed to aircraft traffic during both day and night time.

At the start of Phase 3, the Contractor shall perform the following:

- Verify with the Airport Owner that a NOTAM has been issued closing Runway 12-30 during both day and night time.
- Verify with the Airport Owner that a NOTAM has been issued closing all connector taxiways during both day and night time.
- Provide temporary barricades along the easterly and westerly edge of the runway safety area at all connector taxiways.

3.3 AREAS AND OPERATIONS AFFECTED BY THE CONSTRUCTION ACTIVITY.

Contractor, subcontractor, and supplier employees or any other unauthorized persons shall be restricted from entering an active airport operating area without previous permission from the Airport Owner and the Aircraft Control Tower.

In an emergency situation, the Airport Owner or other designated airport representative may order the Contractor to suspend operations; move personnel, equipment, and materials to a safe location; and stand by until aircraft use is completed.

The Contractor shall cooperate with the airport users through the RPR, in coordination with airport operations, in scheduling the operations to provide adequate clearance for safe aircraft parking, fueling, maintenance, loading or unloading, maneuvering, taxing operations, or other aircraft operations.

a. Identification of Affected Areas

The following is a summary of impacts to the Airport Operations Areas resulting from the proposed construction safety and work phasing requirements:

Table 3.3A Construction Effect on Airport Operations		
Project	Runway 12-30 and Connector Taxiways Rehabilitation	
Phase	Work Area, Phase 1. See Section 3.2.a for description	
Operational Requirements	Normal (Existing)	Anticipated (During Construction)
Scope of Work	The proposed phase generally includes removal and replacement of 12-ft +/- of existing pavement along the outer edge of all connector taxiways as shown in the plans. A 20-ft wide RSA soil stabilization improvement section will be constructed along all sides of the infield areas with localized drainage improvements and electrical improvements. This phase will also include obliteration of a portion of the existing markings, surface preparation, crack seal, asphalt emulsion seal coat, and placement of permanent markings on all connector taxiways.	
RW 12-30 Average Aircraft Operations	Carrier: 3/day	OPEN
	GA: 136/Day	OPEN
	Military: 0/Day	OPEN
Runway 12-30 ARC	B-II	OPEN
RW 12 Approach Visibility Minimums	1 Mile	OPEN
RW 30 Approach Visibility Minimums	1 Mile	OPEN
Runway 12 Declared Distances	Not Applicable	OPEN
Runway 30 Declared Distances	Not Applicable	OPEN
Runway 12 Approach Procedures	Visual	OPEN
Runway 30 Approach Procedures	Visual	OPEN
Runway 12 Visual NAVAIDs	VASI/REIL	OPEN
Runway 30 Visual NAVAIDs	VASI/REIL	OPEN
Taxiway(s) J, L and M ADG	TDG-2	OPEN
Taxiway K ADG	TDG-2	CLOSED
Taxiway(s) B, D, E, F and G ADG	TDG-2	CLOSED
Taxiway C ADG	TDG-2	OPEN
ATCT	YES	OPEN

Table 3.3A Construction Effect on Airport Operations		
Project	Runway 12-30 and Connector Taxiways Rehabilitation	
Phase	Work Area, Phase 2. See Section 3.2.a for description	
Operational Requirements	Normal (Existing)	Anticipated (During Construction)
Scope of Work	The proposed phase generally includes removal and replacement of 12-ft +/- of existing pavement along the outer edge of all connector taxiways as shown in the plans. A 20-ft wide RSA soil stabilization improvement section will be constructed along all sides of the infield areas with localized drainage improvements and electrical improvements. This phase will also include obliteration of a portion of the existing markings, surface preparation, crack seal, asphalt emulsion seal coat, and placement of permanent markings on all connector taxiways.	
RW 12-30 Average Aircraft Operations	Carrier: 3/day	OPEN
	GA: 136/Day	OPEN
	Military: 0/Day	OPEN
Runway 12-30 ARC	B-II	OPEN
RW 12 Approach Visibility Minimums	1 Mile	OPEN
RW 30 Approach Visibility Minimums	1 Mile	OPEN
Runway 12 Declared Distances	Not Applicable	OPEN
Runway 30 Declared Distances	Not Applicable	OPEN
Runway 12 Approach Procedures	Visual	OPEN
Runway 30 Approach Procedures	Visual	OPEN
Runway 12 Visual NAVAIDs	VASI/REIL	OPEN
Runway 30 Visual NAVAIDs	VASI/REIL	OPEN
Taxiway(s) J, K and M ADG	TDG-2	OPEN
Taxiway L ADG	TDG-2	CLOSED
Taxiway(s) B, D, E and L ADG	TDG-2	CLOSED
Taxiway C ADG	TDG-2	OPEN
ATCT	YES	OPEN

Table 3.3A Construction Effect on Airport Operations		
Project	Runway 12-30 and Connector Taxiways Rehabilitation	
Phase	Work Area, Phase 3. See Section 3.2.a for description	
Operational Requirements	Normal (Existing)	Anticipated (During Construction)
Scope of Work	The proposed phase generally includes removal and replacement of 12-ft +/- of existing pavement along the outer edge Runway 12-30 and all connector taxiways as shown in the plans. A 20-ft wide RSA soil stabilization improvement section will be constructed along all sides of the infield areas with localized drainage improvements and electrical improvements. This phase will also include obliteration of a portion of the existing markings, surface preparation, crack seal, asphalt emulsion seal coat, placement of temporary markings on Runway 12-30 and all connector taxiways followed by placement of permanent markings on the runway 30 days after the asphalt emulsion seal coat and paving operations were completed.	
RW 12-30 Average Aircraft Operations	Carrier: 3/day	CLOSED
	GA: 136/Day	CLOSED
	Military: 0/Day	CLOSED
Runway 12-30 ARC	B-II	CLOSED
RW 12 Approach Visibility Minimums	1 Mile	CLOSED
RW 30 Approach Visibility Minimums	1 Mile	CLOSED
Runway 12 Declared Distances	Not Applicable	CLOSED
Runway 30 Declared Distances	Not Applicable	CLOSED
Runway 12 Approach Procedures	Visual	CLOSED
Runway 30 Approach Procedures	Visual	CLOSED
Runway 12 Visual NAVAIDs	VASI/REIL	CLOSED
Runway 30 Visual NAVAIDs	VASI/REIL	CLOSED
Taxiway(s) J, K, L and M ADG	TDG-2	CLOSED
Taxiway(s) B, C, D, E, F, G and L ADG	TDG-2	CLOSED
ATCT	YES	CLOSED

b. Mitigation of effects.

This CSPP has established specific requirements and operational procedures necessary to maintain the safety and efficiency of airport operations during the construction of this project.

All coordination pertaining to airport operations during construction will go through the Airport Owner's Representative and the Airport Operations Manager. Any required NOTAM's to be issued will be sent through the Airport Owner's Representative and issued by Airport Operations.

1. **Temporary Changes to runway and/or taxiway operations:** Any affected Airport Operations Areas identified in the previous section for reduced access or identified as being closed entirely to aircraft traffic, will be barricaded by the use of low profile, lighted barricades placed as shown in the exhibits provided in Appendix 1. In addition, required NOTAM's shall be issued on the various temporary changes to aircraft access through the affected areas.

2. **Detours for ARFF and other airport vehicles:** The project work site shall remain open to all ARFF vehicles in emergency situations. The Contractor is required to maintain access in and around the project work area for all ARFF vehicles. Proper routing of this traffic will be effectively communicated to all supervisory personnel involved in the construction project.

3. **Maintenance of essential utilities:** Special attention shall be given to preventing unscheduled interruption of utility services and facilities. Where required due to construction purposes, the Airport Owner and FAA shall locate all of their underground utilities. It is the Contractor's responsibility to have the locations of cabling and other underground utilities marked prior to beginning excavation. Any locations provided by the Airport Owner or FAA are approximate locations and the Contractor shall verify all locations prior to beginning excavations. When an underground cable or utility is damaged due to the Contractor's negligence the Contractor shall immediately repair the affected cable or utility at his/her own expense. Full coordination between airport staff, field inspectors, and construction personnel will be exercised to ensure that all airport power and control cables are fully protected prior to any excavation.

4. **Temporary Changes to air traffic control procedures:** Changes to air traffic control procedures have been coordinated with airport ATO. Any additional requests for changes must be made to the Airport Owner, through the RPR, in writing. These requested changes will be reviewed by the RPR, Airport Owner and ATO. If these changes are acceptable to all the aforementioned parties, the RPR will request a modification to the CSPP previously turned into the FAA. The Contractor shall plan on a minimum 90 days for this process to be completed. No deviation to the original CSPP shall be made without final FAA approval.

3.4 NAVIGATION AID (NAVAID) PROTECTION.

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordination with the appropriate FAA ATO to evaluate the effects of construction activity and the required distances and direction from the NAVAID is required.

3.5 CONTRACTOR ACCESS.

This section of the CSPP details the areas to which the Contractor must have access, and how Contractor personnel will access those project work areas.

a. Location of stockpiled construction materials.

The Contractor shall store material and equipment and schedule his operations for work to be done so that no unauthorized interference to normal Airport operations will result there from. Construction operations shall not be conducted in a manner to cause interference with Airport Operations. Stockpiled materials and equipment storage are not permitted within the Runway Safety Area/ Taxiway Safety Area (RSA/TSA), Obstacle Free Zone (OFZ) or Object Free Area (OFA) of an operational runway or taxiway. Stockpiled construction materials must be located inside the Contractor staging area as shown on the Construction Safety Drawings (Appendix 1) unless otherwise approved by the Engineer.

Stockpiled material shall be constrained in a manner to prevent movement resulting from either aircraft jet blast or wind conditions in excess of ten miles per hour. In addition, stockpiled material shall have silt fence located around the material to prevent Foreign Object Debris (FOD) from moving onto the airfield pavements or polluting watercourses.

Open trenches exceeding 3 inches in depth and 5 inches in width or stockpiled material are not permitted within the limits of safety areas of operational runways or taxiways. Stockpiled material shall not be permitted within the protected areas of the runways, or allowed to penetrate into any of the protected airspace.

Spoil and Disposal Areas: The Contractor shall submit the "Spoils Deposition Release Form" for any spoils which are transported from the project site. A copy of the form can be found in Appendix 4. No direct payment will be made for spoiling and disposal operations. The cost of spoiling material on site, or of spoiling material off-site, shall be considered incidental to this Contract and the costs shall be included in the various pay items involved.

b. Vehicle and pedestrian operations. <u>Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the Air Operations Area (AOA).</u>

The Airport Owner will coordinate requirements for vehicle operations with the affected airport tenants. Specific vehicle and pedestrian requirements for this project are as follows:

All construction vehicles and personnel shall be restricted to the immediate work areas specified by the contract for this project. These areas include the haul routes into the work area, the designated Contractor staging area and the apron area under construction. Use of alternate haul routes or staging areas by the Contractor shall not be permitted without prior notification and approval by the Airport Owner's Representative.

1. Construction Site Parking:

The Contractor's personal vehicle parking area shall be in the Contractor staging area, as shown on the Construction Safety Drawings (Appendix 1).

A staging area, as indicated on the Contract Drawings, will be provided where the Contractor may set up a field office and store equipment and materials. The Contractor shall make his own arrangements for, and bear all costs of required utilities. The Contractor shall use and maintain the site in accordance with requirements of the Airport Owner. Upon completion of work, the Contractor's staging area shall be removed and the area cleaned and restored to original or better condition.

2. Construction Equipment Parking:

The Contractor's equipment storage area shall be in the Contractor staging area as shown on the Construction Safety Drawings (Appendix 1). The Contractor's equipment and construction vehicles shall be restricted to the construction site or storage areas during construction and parked in the equipment storage area during non-working periods. Maximum allowable equipment height in the

staging area shall be 25 feet. Maximum allowable equipment height in the work areas shall be 25 feet. Maximum allowable equipment height at the borrow area shall be 25 feet.

Contractor must service all construction vehicles within the limits of the project work area or the Contractor's Staging Area. Parked construction vehicles must be outside the OFA and never in the safety area of an active runway or taxiway. Inactive equipment must not be parked on closed taxiways or runways. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees shall also park construction vehicles outside the OFA when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT, as applicable, to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids.

3. Access and Haul Roads:

The Contractor shall clear, construct and maintain haul routes as required for the prosecution the work. The haul routes and access points shall only be in the locations approved by the Engineer and the Airport Owner or as shown on the Construction Safety Drawings (Appendix 1).

Access or haul routes used by Contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Construction traffic must remain on the designated haul routes, never straying from the approved paths. Haul and access routes shall be clearly delineated with temporary marking and signage by the Contractor. Signage and marking placement shall be reviewed and approved by the Engineer and Airport Owner prior to being put into service. The Contractor shall fully describe the appropriate access routes to all his/her employees, subcontractors and material delivery personnel.

The Contractor shall be responsible for maintaining existing haul routes. At the completion of the project, these areas shall be returned to their original lines and grades and shall be restored to a condition equal to or better than original. All non-paved areas that are disturbed by Contractor's haul roads, staging area, etc., located outside of the seeding limits shown on the plans shall be re-seeded and restored to their original or better condition by the Contractor at no additional cost to the Airport Owner.

The Contractor shall coordinate haul routes, closures and schedules with other projects which may be underway during the same time period as this contract.

The Contractor shall control and coordinate the material (supplies) that are hauled to and from work area. Delivery of equipment and materials to the area of work shall be by way of the access route shown on the Construction Safety Drawings (Appendix 1) or designated by the Airport Owner or Engineer.

The Contractor shall maintain all haul routes and work areas in a dust free condition at all times. The Contractor shall control dust from the construction operations by vacuum type sweeping, watering or other methods as approved by the Engineer. Contractor shall have equipment (in operating condition) on site, at all times, to control dust. If the Contractor fails to comply with this requirement, construction will be suspended until a plan for controlling the dust is approved by the Engineer. Landside haul routes, boulevards and drives shall be kept clean by use of a vacuum sweeper on a daily basis as required. Application of water on dirt or gravel haul routes must be provided as often as necessary. Haul roads in any airport traffic areas must be especially monitored for dust and debris to prevent any potential Foreign Object Debris (FOD) situations.

The existing perimeter road shall remain open and accessible for airport personnel at all times. Special attention must be given to ensure that if construction traffic is to share or cross any Airport Rescue and Fire Fighting (ARFF) routes that ARFF right of way is not impeded at any time, and that construction traffic on haul roads do not interfere with NAVAIDs or approach surfaces of operational runways.

Portions of the project area(s) shall be bounded by the low profile barricades identifying Contractor personnel and vehicle area operation limits. The locations of any barricaded project limits, haul routes, Contractor Staging Areas, and associated safety and security details are also provided graphically in the attached exhibits.

4. Marking and Lighting of Vehicles:

When any vehicle or piece of equipment, other than one that has prior approval from the Airport Owner, must operate on an airport, it shall be escorted and properly identified.

The Contractor shall limit access within the airport security fence to authorized vehicles. All authorized vehicles shall have a vehicle dash board placard permit issued by the Airport Owner or an identification sign on both sides of the vehicle containing the Contractor's company name. Private vehicles of the Contractor's personnel must be parked outside the airport security fence and will not be allowed within the airport security fence at any time.

All vehicles operating on the airport and in the general vicinity of the safety area or in aircraft movement areas must be marked with flashing yellow/amber beacons or orange and white flags during daylight hours. During hours of darkness or low visibility they shall be marked with at least flashing yellow/amber beacons.

Beacons and flags must be maintained to standards and in good working and operational condition. Beacons must be located on the uppermost part of the vehicle structure, visible from any direction, and flash 75 +/- 15 flashes per minute. Flags shall be 3' by 3' with alternating 1' by 1' international orange and white squares, and shall be replaced by the Contractor if they become faded, discolored, or ragged as determined by Airport Operations or the Airport Owner's Representative.

5. Description of Proper Vehicle Operations:

The Contractor shall be required to follow guidance on the additional identification and control of construction equipment per the Airport's Security Plan. No Contractor's vehicle or pedestrian crossing of active runways or taxiways will be allowed at any time during the work of this Contract, unless otherwise specified. No deviation from the pedestrian and vehicle routes to and from the Project Areas will be allowed unless specific permission has been granted by the Airport Owner.

The ground movement of aircraft shall have the right-of-way at all times, and the Contractor's vehicles and equipment shall yield to aircraft at all times.

6. Required Escorts:

Anyone not in possession of a current airport badge shall be escorted by an appropriately badged person. At no time will vehicles or personnel enter portions of the secure AOA outside the contract area unless permitted and accompanied by an airport approved escort.

All construction-related activity taking place within any airport defined movement area requires the presence of an authorized Airport escort having radio communication with the FAA control tower or UNICOM unless prior approval is obtained from Airport Operations. Spotters and/or flaggers having radio or telephone contact with the Airport may be used with the approval of the on shift Airport Operations Manager.

At no time shall active taxiways or taxilanes be crossed by construction equipment without notification and proper approval/clearance from radio-trained gate guards or Airport Operations.

7. Training Requirements for Vehicle Drivers:

Any employees the Contractor would request to be given permission by Airport Operations to drive on the AOA shall complete airport badging and driver training per the Airport's requirements. These employees then must have an airfield driving experience with Airport Operations and if Airport Operations is satisfied of the employee's competency, that employee may be granted permission from Airport Operations to drive on the AOA. Passing the AOA driver training does not given the Contractor's employees the ability to drive on the AOA.

8. Situational Awareness:

Aircraft traffic will continue to use existing runways, aprons, and taxiways of the Airport during the time that work under a contract is being performed. The Contractor shall, at all times, conduct the work as to create no hindrance, hazard, or obstacle to aircraft using the Airport.

Vehicle drivers must confirm by personnel observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time.

9. Two-way Radio Communication Procedures:

The Contractor shall comply with proper radio usage, including read back requirements and proper phraseology including the International Phonetic Alphabet.

Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard "Pilot's Guide to Airport Signs and Markings." This safety placard may be downloaded through the Runway Safety Program Web site at http://www.faa.gov/airports/runway_safety/publications/ (See "Signs & Markings Vehicle Dashboard Sticker".) or obtained from the FAA Airports Regional Office.

10. Maintenance of the Secured Area of the Airport.

Airport Owner and contractors must also maintain a high level of security during construction when access points are created in the security fencing to permit construction vehicle access. Temporary gates shall be equipped and/or manned by construction personnel to prevent unauthorized access by vehicles, animals or people. Procedures conforming to Airport security protocols should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit "piggybacking" behind another person or vehicle. Access shall be made available at all times to all airport emergency vehicles traveling to operations areas within the proximity of the construction work zone.

c. Security.

The contractor and subcontractors will be issued an identification card by the Airport Owner to permit access to secured area. Cards shall be returned at the end of the project to the airport. In general, security in the construction area is the responsibility of the Contractor.

The Contractor shall be responsible for maintaining security at all access gates used during the project and will be held liable by the Airport Owner for any breach of security. The Contractor shall be required to post a guard at the gate to open and close the gate for personnel and equipment. No gate shall be left open. Guard shall be responsible for ensuring that no unauthorized persons or vehicles enter the secure area. Airport Owner and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel. Temporary gates shall be equipped so they can be securely closed and locked to prevent access by animals and unauthorized people.

Procedures should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit "piggybacking" behind another person or vehicle.

The Contractor shall be required to maintain security and comply with the Airport Security Plan and the Transportation Security Administration Security Rules and Regulations throughout the duration of the project. The Contractor and the Surety shall indemnify and save harmless the Airport Owner, Engineer and third party or political subdivision from any and all breaches of security and shall indemnify the Airport Owner for any fines, expenses and damages which it may be obliged to pay by reason of any breach of security resulting from the Contractor's actions at any time during the prosecution of the work. Such breaches of security are subject to fines by the Transportation Security Administration of up to ten thousand dollars ($10,000) per incident.

3.6 WILDLIFE MANAGEMENT.

Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports.

a. Trash. Food scraps from construction personnel activity must be collected and disposed of at a proper facility.

b. Standing water. Water shall not be allowed to collect and pool for more than any single 24-hour period. Temporary grading may be required to promote drainage during daily operations as well as between work phases.

c. Tall grass and seeds. The use of millet seed in turfing and seeding operations shall not be permitted.

d. Poorly maintained fencing and gates. The Contractor shall maintain a constant secure perimeter to the airfield, including continuous security perimeter fencing and gates (if applicable).

e. Disruption of existing wildlife habitat. Not applicable to this project.

Contractor shall take immediate remedial action to remove wildlife attractants should any occurrence be noted. Contractor shall immediately report to the Engineer and Airport Owner should any wildlife congregation be noted, and in particular if mammals enter the airport through the construction gate.

3.7 FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT.

Special care and measures shall be taken to prevent Foreign Object Debris (FOD) damage when working in an airport environment. Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. The Contractor shall be responsible for implementing an approved FOD Management Plan prior to the start of construction activities. The FOD Management Plan will have procedures for prevention, regular cleanup, and containment of construction material and debris. The Contractor will ensure all vehicles related to the construction project using paved surfaces in the AOA shall be free of any debris that could create a FOD hazard. Special attention will be given to the cleaning of cracks and pavement joints. All taxiways, aprons, and runways must remain clean. Waste containers with attached lids shall be required on construction sites.

Special attention should be given to securing lightweight construction material (concrete insulating blankets, tarps, insulation, etc.). Specific securing procedures and/or chain-link enclosures may be required.

Contractors will provide their own equipment for vehicle and equipment washing and clean up.

Immediate access to a power sweeper is required when construction occurs on any pavement area inside the AOA, unless an appropriate alternative has been approved by the Airport Owner's Representative and Airport Operations Manager.

3.8 HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT.

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel, hydraulic fluid, or other chemical fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. To that end, the Contractor is required to develop a spill prevention plan and response procedures for vehicle operations prior to the start of construction activities. This includes maintenance of appropriate MSDS data and appropriate prevention and response equipment on-site.

Fueling Procedures and Spill Recovery Procedures shall be in accordance with Fire Code, latest edition, and the National Fire Protection Association standard procedures for spill response, latest edition. If fueling is to take place in the staging area, it must be away from catch basins. Contractor must have spill containment kits on site.

In the event of a fuel spill or the spill of other hazardous materials, the Contractor shall immediately notify the Environmental Protection Agency, the Airport Owner and the Engineer.

Contractor shall abide by the specific requirements contained in the Technical Specifications of this contract.

3.9 NOTIFICATION OF CONSTRUCTION ACTIVITY.

The following is information and procedures for immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport.

a. Maintenance of a list of Responsible Representatives/ Point of contact. A list of responsible representatives and points of contact shall be created by the Engineer, the Airport and the Contractor prior to the start of construction. This list shall be compiled as part of the project pre-construction meeting agenda. Procedures will be established to contact all parties, including after regular work hours. Updates will be made to the list throughout the project duration by the Engineer. Contractor points of contact shall be incorporated into the contractor's SPCD.

b. Notices to Airman (NOTAM). Only the Airport Owner may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway or taxiway. The Airport Owner must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The Airport Owner must file and maintain a list of authorized representatives with the FSS. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the Airport Owner. See Section 3.14 regarding issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

Any NOTAMs for planned airfield closures for this project must be coordinated through the airport manager and the airports duly appointed construction management representative. Reference Section 3.2 for planned closures for this project, which require issuance of a NOTAM.

c. Emergency Notification Procedures. In the event of an aircraft emergency, severe weather conditions, or any issue as determined by the Airport that may affect aircraft operations, the Contractor's personnel and/or equipment may be required to immediately vacate the area(s) affected. Points of contact for the various parties

involved with the project shall be identified and shared at the pre-construction meeting among the various parties. Emergency points of contact shall be incorporated into the contractor's SPCD.

d. Accidents. The Contractor shall provide at the site such equipment and medical facilities as are necessary to supply first aid service to anyone who may be injured in connection with the work. The Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance for the work, whether on or adjacent to the site which caused death, personal injury or property damages, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Engineer and the Airport Owner.

If any claim is made by anyone against the Contractor or any Subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer giving full details of the claims.

e. Coordination with ARFF Personnel. The Contractor shall coordinate, through the duly appointed airport representative, with ARFF personnel, mutual aid providers and other emergency services if construction requires the following:

- The deactivation and subsequent reactivation of water lines or fire hydrants, or
- The re-routing, blocking and restoration of emergency access routes, or
- The use of hazardous materials on the airfield.

Procedures and methods for addressing any planned or emergency response actions on the airfield concerning this project shall be established and implemented prior to the start of construction.

f. Notification to the FAA.

1. Part 77. Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e. cranes, graders, other equipment) on airports. FAA Form 7460-1, Notice of Proposed Construction or Alteration, is used for this purpose and submitted to the appropriated FAA Airports Regional or District Office. A 7460-1 form for this project has been completed and submitted by the Airport Owner [Engineer] for using equipment with a maximum height of 25 feet. A new 7460-1 form must be submitted to the FAA for review and comment for any equipment which the Contractor will use which is taller than the equipment used in the above 7460-1 submission. The Engineer will be responsible for submitting the new 7460-1 form to the FAA. To that end, the Contractor shall identify the equipment in his SPCD, including the maximum height it will extended to during construction, the area(s) in which the equipment will be used, and the duration the equipment will be used

2. Part 157.

3. NAVAIDS. For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDs, contact: 866-432-2622.

i. Airport owned/FAA maintained. If construction operations require a shutdown of more than 24 hours, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown.

ii. FAA owned. The Airport Owner must notify the appropriate FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDs. (Impacts to FAA equipment covered by a Reimbursable Agreement (RA) do not have to be reported by the Airport Owner). Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, through the Engineer, including any necessary reimbursable agreements and flight checks. Detail procedures that address

unanticipated utility outages and cable cuts that could impact FAA NAVAIDs. In addition, provide seven days' notice to schedule the actual shutdown.

3.10 INSPECTION REQUIREMENTS.

a. Daily (or more frequent) inspections. Inspections shall be conducted by the Contractor at least daily, but more frequently if necessary, to ensure conformance with the CSPP. A sample checklist is provided in Appendix 2 of this document. In addition to Contractor's required inspections, airport operations will inspect the construction site three (3) times a day to ensure compliance with the CSPP and the SPCD. The Airport Owner's Representative will have full-time inspectors monitoring activity throughout construction. Promptly take all actions necessary to prevent or remedy any unsafe or potentially unsafe conditions as soon as they are discovered.

b. Final inspections. A final inspection with the Airport Owner's Representative, Airport and Contractor will take place prior to allowing airport operations.

3.11 UNDERGROUND UTILITIES.

Special attention shall be given to preventing unscheduled interruption of utility services and facilities. Where required due to construction purposes, the FAA shall locate all of their underground cables. The Contractor shall locate and/or arrange for the location of all the underground cables. When an underground cable is damaged due to the Contractor's negligence the Contractor shall immediately repair the cable affected at his/her own expense. Full coordination between airport staff, field inspectors, and construction personnel will be exercised to ensure that all airport power and control cables are fully protected prior to any excavation. Locations of cabling will be marked prior to beginning excavation.

Prior to opening an excavation, effort shall be made to determine whether underground installation: i.e., sewer, water, fuel, electric lines, etc., will be encountered, and if so, where such underground installations are located. When the excavation approaches the approximate locations of such an installation, the exact locations shall be determined by careful hand probing or hand digging, and/or use of a vacuum truck, and when it is uncovered, adequate protection shall be provided for the existing installation. All known owners of underground facilities in the area concerned shall be advised of proposed work at least 48 hours prior to the start of actual excavation.

The information concerning underground utilities was compiled from information and sketches furnished by or obtained from utility companies and the Airport. The Airport Owner and the RPR do not guarantee their accuracy. The Contractor is advised to determine the exact locations from the available sources of information or provide his own means of detection. The only case in which the RPR will consider redesign or relocation of a proposed facility in the project is when an existing utility is located within the construction limits. In this case, the RPR will work with the Airport Owner to determine the appropriate action to resolve the conflict. If such relocation is impossible, the RPR will consider re-design or relocation of the proposed facilities. In both cases, Contractor shall be responsible for all underground utilities and shall not be separately compensated for delays or extra cost.

Note that most utility location services do not include locating FAA and Airport Owner facilities, and most will not locate services within the AOA.

3.12 PENALTIES.

Failure on the part of the Contractor to adhere to prescribed requirements may have consequences that jeopardize the health, safety or lives of customers and employees at the airport. The Airport may issue

warnings on the first offense based upon the circumstances of the incident. Individuals involved in non-compliance violations may be prohibited from working at the airport, pending an investigation of the matter.

Penalties for violations related to airport safety and security procedures will be established by the Airport.

Note: project shutdown or misdemeanor citations may be issued on a first offense. When construction operations are suspended, activity shall not resume until all deficiencies are rectified.

3.13 SPECIAL CONDITIONS.

In the event of an aircraft emergency, the Contractor's personnel and/or equipment may be required to immediately vacate the area. The Contractor will receive notification from airport operations when special conditions require the construction site to be vacated. In any event, extreme care should be exercised should construction personnel identify any ARFF (Airport Rescue and Fire-Fighting) or other emergency or rescue vehicle moving toward the Runway with emergency lights displayed. This will generally mean that an emergency situation is imminent.

Special conditions that could require suspension of the construction work include the following: aircraft in distress, aircraft accident, security breach, VIP operation, vehicle/pedestrian deviation, severe weather, or failing to abide by this Construction Safety and Phasing Plan and/or the Safety Plan Compliance Document.

3.14 RUNWAY AND TAXIWAY VISUAL AIDS.

This topic includes marking, lighting, signs, and visual NAVAIDs. Those areas where aircraft will be operating shall be clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, the Contractor shall inspect and verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs and visual NAVAIDs remain in place and operational.

a. General. Airport markings, lighting, signs, and visual NAVAIDs must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, or other wind currents and constructed of materials that would minimize damage to an aircraft in the event of inadvertent contact.
Closed runway markings are required. Closed runway markings shall be as shown on the Plans. Barricades, flagging, and flashers are required at the locations and times described in the subsection titled WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS of this Section and shall be supplied by the Contractor. Lighted Closed Runway Markers shall be provided by the Contractor.

b. Markings. Markings must be in compliance with the standards of AC 150/5340-1, Standards for Airport Markings, current edition, and the drawings and technical specifications of this project.

c. Lighting and visual NAVAIDs. All taxiway edge lights in those sections of taxiways closed to aircraft traffic will be either de-energized or blacked out by use of an appropriately cut length of PVC pipe.

d. Signs. Signs must be in conformance with AC 150/5345-44, Specification for Runway and Taxiway Signs and AC 150/5340-18, Standard for Airport Sign Systems, current edition. Airfield signage will be installed and/or replaced along impacted taxiways and taxilanes.

e. Maintenance of Airport Lighting. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the RPR. The

Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The RPR shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the RPR the following:

c. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

d. That all affected circuits (existing and new) are free from unspecified grounds.

e. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than 50 megohms. Verify continuity of all series airfield lighting circuits prior to energization.

f. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 megohms.

g. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

h. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

i. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

All existing airfield lighting circuits shall be maintained in full operation throughout the period of this Contract. Where disconnections are required, such work shall be scheduled at such times and in such a manner as approved by the Airport Owner. The Contractor is required to allow the full use of airfield lighting circuits in open movement areas during night operations and during periods of low visibility.

The Contractor shall provide such temporary lights and cables as required to maintain full use of existing airfield lighting circuits. Temporary above ground lighting cables, if approved, shall be delineated with stakes and flagging at the direction of the Engineer.

All circuits in the vicinity of the work area shall be tested prior to, during and after construction. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits as specified below. The Contractor shall perform all tests in the presence of the Engineer. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the Engineer. All costs for testing are incidental and shall be at the sole expense of the Contractor. For phased projects, the tests must be completed by phase and results meeting the specifications below must be maintained by the Contractor throughout the entire project as well as during the ensuing warranty period.

Earth resistance testing methods shall be submitted to the Engineer for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the Engineer. All such testing shall be at the sole expense of the Contractor.

Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The Engineer shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

The test equipment for insulation resistance shall be an insulation resistance tester (1,000V megger) with a digital readout. The instrument shall provide a 500 volt test for insulation resistance with a meter range of 0 to 500 megohms. The Contractor shall test, demonstrate and record to the satisfaction of the Engineer the following:

1. Test Requirements Prior to Construction.

i. Test all circuits within the work area for continuity and insulation resistance to ground, at the electrical building, in the presence of the Engineer and the Airport Owner.

ii. Provide a copy of the test results to the Engineer and the Airport Owner.

iii. Check that all circuits are properly connected in accordance with applicable wiring diagrams.

2. Test Requirements During Construction. Circuit testing during construction shall be as directed and witnessed by the Engineer when the Contractor is working on existing circuitry or excavating adjacent to or near existing circuitry. Circuit testing during construction will not be required during the times when the Contractor's operations do not effect existing airfield lighting circuitry. It is the intent of this section to ensure that airfield lighting circuitry remains operational throughout the duration of the Contract.

i. Test all circuits within the work area for continuity and insulation resistance to ground at the electrical building, prior to energizing any circuit.

ii. Insure that all circuits within the work area are operational, prior to the Contractor leaving the project at the end of the work day. Specific times for circuit checks will be determined by the Engineer relative to the Contractor's work hours each day.

iii. Segment test new non-grounded series circuits during installation. Length of cable segment tested shall not have more than five (5) splices, light units and/or electrical equipment between the ends being tested. Insulation resistance to ground shall be not less than 500 megohms.

iv. Insure that the insulation resistance to ground of each segment of new non-grounded conductors of multiple conductor circuits is not less than 500 megohms.

v. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes or equipment. The fall-of-potential ground impedance test shall be utilized, as described by ANSI/IEEE Standard 81, to verify this requirement. Ground rods testing higher than 25 ohms shall have a minimum extension of two feet of ground rod added, driven to the proper elevation and re-tested. Extensions shall be attached by exothermic methods and re-testing performed until the tests show 25 ohms resistance or less. Tests shall not be performed within 72 hours after a rain storm has ended or when standing water is present around the ground rod.

vi. Insure that all circuits are properly connected in accordance with applicable wiring diagrams.

vii. The Contractor shall test all circuits within the work area for continuity after backfilling cable trenches. The reading shall be logged and provided to the Engineer prior to payment of cable items.

viii. Provide a copy of all test results to Engineer and Airport Owner on a daily basis.

3. Test Requirements at the Completion of the Project. The Contractor shall test and demonstrate to the satisfaction of the Engineer the following:

i. Test all circuits within the work area for continuity and insulation resistance to ground, at the electrical building, in the presence of the Engineer and the Airport Owner.

ii. That all original lighting power and control circuits are continuous and insulation resistance to ground is not lower than before construction.

iii. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

iv. That all affected circuits (existing and new) are free from unspecified grounds.

v. That the insulation resistance to ground of all new non-grounded series circuits or cable segments is not less than 50 megohms.

vi. That the insulation resistance to ground of all non-grounded conductors of new multiple circuits or circuit segments is not less than 50 megohms.

vii. That all affected circuits (existing and new) are properly connected in accordance with applicable wiring diagrams.

viii. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

The Contractor shall be responsible for maintaining an insulation resistance of 50 megohms minimum, with isolation transformers connected, in new circuits and new segments of existing circuits through the end of the contract warranty period.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the Engineer. Where connecting new cable to existing cable, ground resistance tests shall be performed on the new cable prior to connection to the existing circuit.

3.15 MARKING AND SIGNS FOR ACCESS ROUTES.

Location of haul routes on the airport site shall be as specified in the project drawing set and as provided graphically in the attached exhibits, reference Appendix 1. It shall be the Contractor's responsibility to coordinate off-site haul routes with the appropriate owner who has jurisdiction over the affected route. The haul routes, to the extent possible, shall be marked and signed in accordance with FAA airfield signage requirements, the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or state highway specifications, as applicable.

3.16 HAZARD MARKING, LIGHTING AND SIGNING.

a. Purpose. Hazard marking, lighting, and signing prevent pilots from entering areas closed to aircraft, and prevent construction personnel from entering areas open to aircraft. The CSPP specifies prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles. Hazard marking and lighting is also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. Also included are markings to identify FAA, airport, and National Weather Service facilities cables and power lines; instrument landing system (ILS) critical areas; airport surfaces, such as RSA, OFA, and OFZ; and other sensitive areas to make it easier for contractor personnel to avoid these areas.

b. Equipment.

(1). Barricades. Low profile barricades, including traffic cones, (weighted or sturdily attached to the surface) are acceptable methods used to identify and define the limits of construction and hazardous areas on airports. Careful consideration must be given to selecting equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast. The spacing of barricades must be such that a breach is physically prevented barring a deliberate act. Gaps between barricades must be smaller than the width of the excluded vehicles, generally 4 feet (1.2 meters). Provision must be made for ARFF access if necessary. Barricades intended to exclude pedestrians must be continuously linked.

(2) Lights. Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Batteries powering lights will last longer if lights flash. Lights must be mounted on barricades and spaced at no more than 10 feet (3 meters). Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be operated by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

(3) Supplement Barricades with Signs (for example) As Necessary. Examples are "No Entry" and "No Vehicles."

(4). Air Operations Area – General. Barricades are not permitted in any active safety area or on the runway side of a runway hold line. Within a runway or taxiway object free area, and on aprons, use flashing or steady burning red lights as noted above, highly reflective collapsible barricades marked with diagonal, alternating orange and white stripes; and/or signs to separate all construction/maintenance areas from the movement area. Barricades may be supplemented with alternating orange and white flags at least 20 by 20 inch (50 by 50 cm) square and securely fastened to eliminate FOD. All barricades adjacent to any open runway or taxiway/taxilane safety area, or apron must be no more than 18 inches high, exclusive of supplementary lights and flags. Barricades must be of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, and other surface wind currents. If affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 inch (7.6 cm) above the ground.

(5). Air Operations Area – Runway/Taxiway Intersections. Use highly reflective barricades with lights to close taxiways leading to closed runways. Close all taxiway/runway intersections with barricades. The use of traffic cones is appropriate for short duration closures.

(6). Air Operations Area – Other. Beyond runway and taxiway object free areas and aprons, barricades intended for construction vehicles and personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.

(7). Maintenance. The contractor is required to maintain the hazard markings, lighting and signing and to have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information with the airport operator. Lighting should be checked for proper operation at least once per day, preferably at dusk.

3.17 PROTECTION OF AIRFIELD AREAS.

Safety area encroachments, improper ground vehicle operations and unmarked or uncovered holes and trenches in the vicinity of aircraft operation surfaces and construction areas are the three most recurring threats to safety during construction. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces shall be a standing requirement for the duration of construction operations.

a. Runway Safety Area (RSA). A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway by aircraft.

Runway	Aircraft Design Group	RSA Distance from Centerline		RSA Width	RSA Length from End of Runway
		RSA	Holdline		
12-30	B-II	75 ft.	125 ft.	150 ft.	300 ft.

No construction may occur within the existing RSA while the runway is open. Any construction between RSA and Holdline must be approved with Airport Operations prior to starting work.

The Airport Owner must coordinate any adjustment of RSA dimensions, to meet the above requirement, with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.

Open trenches or excavations are not permitted within the RSA while the runway is open. The Contractor must backfill trenches before the runway is opened. Coverings are not allowed in runway safety areas. There shall be no stockpiled materials or equipment stored within the limits of the RSA.

After the Runway has been closed, Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the Airport Owner, and light them with red lights during hours of restricted visibility or darkness.

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

b. Runway Object Free Area (ROFA). Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

Runway	Aircraft Design Group	ROFA Distance from Centerline	ROFA Width	ROFA Length from End of Runway
12-30	B-II	250 ft.	500 ft.	300 ft.

c. Taxiway Safety Area (TSA). The taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. No construction may occur within the TSA while the taxiway is open for aircraft operations.

Taxiway	Aircraft Design Group	TSA Distance from Centerline	TSA Width
All	B-II	39.5 ft.	79 ft.

Open trenches or excavations are not permitted within the TSA while the taxiway is open. The Contractor must backfill trenches before the taxiway is opened. Coverings are not allowed in taxiway safety areas.

The Airport Owner must coordinate any adjustment of TSA dimensions, to meet the above requirement, with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.

After the Taxiway has been closed, Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the Airport Owner, and light them with red lights during hours of restricted visibility or darkness.

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

d. Taxiway Object Free Area (TOFA). Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway/taxilane object free area during normal operations. Thus the restrictions are more stringent. No construction equipment may be parked within the TOFA while the taxiway/taxilane is open for aircraft operations.

Construction activity may be accomplished without adjusting the width of the taxiway object free area, subject to the following restrictions:

1. Appropriate NOTAMs are issued.

2. Marking and lighting meeting the provisions above are implemented.

3. Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). In these situations, flaggers must be used to direct construction equipment, and wing walkers will be necessary to guide aircraft. Wing walkers should be airline/aviation personnel rather than construction workers. If such clearance can only be maintained if an aircraft does not have full use of the entire taxiway width (with its main landing gear at the edge of the pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.

Taxiway	Aircraft Design Group	TOFA Distance from Centerline	TOFA Width
All	B-II	44.5 ft.	89 ft.

e. Obstacle Free Zone (OFZ). Construction personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. The OFZ is a defined volume of airspace centered about and above the runway centerline.

f. Runway approach/departure surfaces. All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the Airport Owner with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

Runway End	Aircraft Approach Category	Airplane Design Group	Minimum Safety Area Behind Threshold	Minimum Unobstructed Approach Slope
12	B-II VIS/ NONPREC	B-II	300 ft.	20:1 to 200 feet behind threshold
30	B-II VIS/ NONPREC	B-II	300 ft.	20:1 to 200 feet behind threshold

3.18 OTHER LIMITATIONS ON CONSTRUCTION.

a. Prohibitions. The following prohibitions are in effect for the duration of this project:

1. No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.
2. No use of open flame welding or torches unless fire safety precautions are provided and the Airport Owner has approved their use.
3. No use of electrical blasting caps or explosives of any kind on or within 1,000 ft (300 m) of the airport property.
4. No use of flare pots within the AOA.

b. Restrictions.

1. Construction suspension required during specific airport operations – Not Applicable
2. Areas that cannot be worked on simultaneously – Not Applicable
3. Day or night construction restrictions – Equipment for nighttime lighting of construction areas shall be sufficient to adequately illuminate the work area in order to ensure quality construction. The lights shall be positioned to provide the most natural color illumination and contrast with a minimum of shadows. Lighting pavements from both sides is considered preferable as lighting from only one side can result in objectionable shadows. Light towers shall be positioned and adjusted to aim away from ATCT cabs, active runways, and active taxiways to prevent blinding effects. The Contractor shall prepare a plan showing the locations, heights and aiming points of light towers for review by the Airport Owner, Engineer and ATCT personnel. The final location and aiming of light towers shall be determined by trial, therefore, the Contractor must be aware that several attempts at locations and aiming angles may be necessary before the light towers can be operational. Light towers shall be removed from the construction site prior to opening the pavement to aircraft operations.

   It is recommended that all equipment, except haul trucks, be equipped with artificial illumination to safely illuminate the area immediately surrounding their location.

Unless provided for elsewhere, the cost of nighttime lighting of construction areas shall be considered a subsidiary and incidental part of construction and as such, the Contractor shall include all costs associated with nighttime lighting of construction areas in the various pay items of work involved.

Where work on this Contract is not scheduled for night work and the Contractor requests and receives permission to work at night, there will be no additional compensation allowed for the extra costs associated with night work.

4. Seasonal Construction Restrictions – Not Applicable

APPENDIX 1

LOCATION MAP
(Sheet GI001of the Contract Drawings)

GENERAL PLAN
(Sheet GI101 of the Contract Drawings)

CONSTRUCTION SAFETY DRAWINGS & DETAILS
(Sheets GC101 - GC103 of the Contract Drawings)

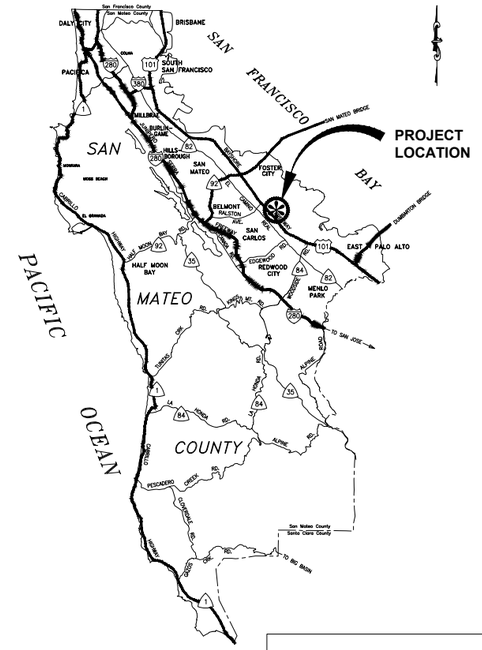
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COUNTY OF SAN MATEO
CALIFORNIA

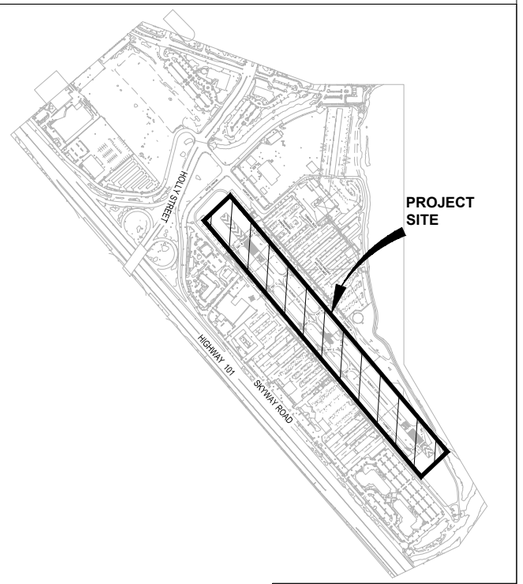
RUNWAY 12-30 AND CONNECTOR TAXIWAYS REHABILITATION
SAN CARLOS AIRPORT

TO BE SUPPLEMENTED BY STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS DATED MAY 2018 AND ADOPTED BY SAN MATEO COUNTY, FEBRUARY 11, 2020, BY RESOLUTION NO. 077277

COUNTY PROJECT NO. ASL03



VICINITY MAP
NO SCALE



LOCATION MAP
NO SCALE

ABBREVIATIONS:

ABAN. - ABANDONED
A.C. - ASPHALT CONCRETE
APPROX. - APPROXIMATE
ASPH. - ASPHALT
AWOS - AUTOMATED WEATHER OBSERVING SYSTEM
BC - BEGIN CURVE
BLDG. - BUILDING
BM - BENCH MARK
CBR - CALIFORNIA BEARING RATIO
CIP - CAST IRON PIPE
CO - CLEANOUT
CONC. - CONCRETE
CMP - CORRUGATED METAL PIPE
CMPA - CORRUGATED ARCHED METAL PIPE
CP - CASING POINT
CMU - CONCRETE MASONRY UNIT
CSP - CORRUGATED STEEL PIPE
DIA, - DIAMETER
EAPL - EXISTING AIRPORT PROPERTY LINE
EC - END OF CURVE
ELEV. - ELEVATION
EOP - EDGE OF PAVEMENT
EX - EXISTING
FAA - FEDERAL AVIATION ADMINISTRATION
FL - FLOW LINE
FG - FINISH GRADE
FND - FOUNDATION
FOD - FOREIGN OBJECT DEBRIS
FS - FINISH SURFACE
GA - GENERAL AVIATION
GB - GRADE BREAK
HP - HIGH POINT
IE - INVERT ELEVATION
INT - INTERSECTION
ILS - INSTRUMENT LANDING SYSTEM
LT - LEFT
LP - LOW POINT
MAX. - MAXIMUM
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MUTCD - MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
NA - NOT APPLICABLE
OFA - OBJECT FREE AREA
O.C. - ON CENTER
PAVT. - PAVEMENT
PC - POINT OF CURVATURE
PCC - PORTLAND CEMENT CONCRETE
PI - POINT OF INTERSECTION
PROP - PROPOSED
PT - POINT OF TANGENCY
PVI - POINT OF VERTICAL INTERSECTION
PVC - POINT OF CURVATURE (VERTICAL CURVE)
PVC - POLYVINYL CHLORIDE PIPE
PVT - POINT OF TANGENCY (VERTICAL CURVE)
R - RADIUS
RCP - REINFORCED CONCRETE PIPE
REIL - RUNWAY END IDENTIFIER LIGHTS
ROFA - RUNWAY OBJECT FREE AREA
RSA - RUNWAY SAFETY AREA
ROW - RIGHT OF WAY
RPZ - RUNWAY PROTECTION ZONE
RT - RIGHT
RW - RUNWAY
SHDR. - SHOULDER
SICPP - SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE
STA. - STATION
ST - STORM DRAINAGE
TBR - TO BE REMOVED
TC - TOP OF CURB
TD - TOP OF DIKE
TF - TOP OF FOOTING
TOFA - TAXIWAY OBJECT FREE AREA
TSA - TAXIWAY SAFETY AREA
TW - TAXIWAY
TYP. - TYPICAL
UD - UNDERDRAIN
VASI - VISUAL APPROACH SLOPE INDICATOR

LEGEND:

KEYED NOTE REFERENCE
EXISTING AIRPORT PROPERTY LINE
EXISTING AVIATION EASEMENT BOUNDARY
EXISTING ROADWAY BOUNDARY
EXISTING RUNWAY OBJECT FREE AREA
EXISTING RUNWAY SAFETY AREA
EXISTING TAXIWAY OBJECT FREE AREA
EXISTING TAXIWAY SAFETY AREA
EXISTING EDGE OF WATER
WORK AREA HAUL ROUTE
WORK AREA LIMIT
LOW PROFILE BARICADES
CONTRACTOR STAGING AREA
EXISTING CONTOUR LINE
EXISTING SWALE CENTERLINE
EXISTING TOP/BOTTOM OF DITCH
EXISTING FENCE LINE
EXISTING SINGLE SWING GATE
EXISTING DOUBLE SWING GATE
EXISTING CANTILEVER GATE
EXISTING GUIDE RAIL
EXISTING DRAINAGE LINE
EXISTING UNDERDRAIN
EXISTING UNDERDRAIN CLEANOUT
EXISTING CATCH BASIN
EXISTING DRAINAGE MANHOLE
EXISTING HEADWALL
EXISTING PIPE END SECTION
EXISTING WATER LINE
EXISTING HYDRANT
EXISTING WATER VALVE
EXISTING WATER MANHOLE
EXISTING SANITARY LINE
EXISTING SANITARY FORCE MAIN
EXISTING SANITARY MANHOLE
EXISTING GAS LINE
EXISTING GAS VALVE
EXISTING GAS LINE MARKER
PROPOSED INLET PROTECTION
PROPOSED FIBER ROLL

OBLITERATE EXISTING PAVEMENT MARKINGS
REMOVE EXISTING RUBBER
PREPARE PAVEMENT SURFACE FOR SEAL COAT
MILL EXISTING PAVEMENT TO REMOVE SURFACE BUMP
CONTRACTOR'S ACCESS ROUTE
EXISTING UNDERGROUND TELEPHONE LINE
EXISTING FIBER OPTIC LINE
EXISTING OVERHEAD TELEPHONE LINE
EXISTING TELEPHONE JUNCTION BOX
EXISTING TELEPHONE MANHOLE
EXISTING UNDERGROUND ELECTRIC LINE
EXISTING OVERHEAD ELECTRIC LINE
EXISTING LIGHT POLE
EXISTING UTILITY POLE
EXISTING GUY WIRE AND ANCHOR
EXISTING POLE SUPPORT
EXISTING CONCRETE MARKER
EXISTING CONCRETE DUCT MARKER
EXISTING CONCRETE CABLE MARKER
EXISTING CONCRETE SPLICE MARKER
EXISTING BOLLARD OR POST
EXISTING TIE-DOWN
EXISTING SINGLE POST TRAFFIC SIGN
EXISTING DOUBLE POST TRAFFIC SIGN
EXISTING MONITORING WELL
EXISTING OBSERVATION WELL
EXISTING HOLDING POSITION LIGHT
EXISTING SURFACE SENSOR
EXISTING RETROREFLECTIVE MARKER
EXISTING RUNWAY OR TAXIWAY EDGE LIGHT
EXISTING IN-PAVEMENT EDGE LIGHT
EXISTING AIRFIELD GUIDANCE SIGN
EXISTING REIL UNIT
EXISTING ELECTRICAL DISCONNECT
EXISTING TRANSFORMER
EXISTING WIND CONE
EXISTING LIGHTED WIND CONE
PROPOSED PAVEMENT SECTION
PROPOSED RSA SOIL STABILIZATION
PROPOSED PAVEMENT SURFACE SEAL COAT

EXISTING ELECTRICAL MANHOLE
EXISTING PULLBOX
EXISTING JUNCTION CAN
EXISTING JUNCTION CAN PLAZA
EXISTING CIRCUIT LABEL
EXISTING AIRFIELD LIGHTING CABLE IN TRENCH
EXISTING AIRFIELD LIGHTING CABLE IN CONDUIT
EXISTING DUCT BANK
EXISTING SURVEY BASELINE
EXISTING SURVEY BASELINE POINT
EXISTING SURVEY CONTROL POINT
EXISTING BENCHMARK LOCATION
IRON ROD FOUND
EXISTING CONIFEROUS TREE TO BE REMOVED
EXISTING DECIDUOUS TREE TO BE REMOVED
EXISTING FENCE LINE TO BE REMOVED
EXISTING DRAINAGE LINE TO BE REMOVED
EXISTING UNDERDRAIN TO BE REMOVED
EXISTING UNDERDRAIN CLEANOUT TO BE REMOVED
EXISTING CATCH BASIN TO BE REMOVED
EXISTING DRAINAGE MANHOLE TO BE REMOVED
EXISTING WATER LINE TO BE REMOVED
EXISTING HYDRANT TO BE REMOVED
EXISTING WATER VALVE TO BE REMOVED
EXISTING SANITARY LINE TO BE REMOVED
EXISTING SANITARY FORCE MAIN TO BE REMOVED
EXISTING SANITARY MANHOLE TO BE REMOVED
EXISTING GAS LINE TO BE REMOVED
EXISTING GAS VALVE TO BE REMOVED
EXISTING UNDERGROUND TELEPHONE LINE TO BE REMOVED
EXISTING FIBER OPTIC LINE TO BE REMOVED
EXISTING OVERHEAD TELEPHONE LINE TO BE REMOVED
EXISTING TELEPHONE JUNCTION BOX TO BE REMOVED
EXISTING TELEPHONE MANHOLE TO BE REMOVED
EXISTING UNDERGROUND ELECTRIC LINE TO BE REMOVED
EXISTING OVERHEAD ELECTRIC LINE TO BE REMOVED
EXISTING LIGHT POLE TO BE REMOVED

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21.	CP501	CONSTRUCTION PAVING DETAILS
22.	CG101	GRADING AND DRAINAGE PLAN
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24.	CG103	GRADING AND DRAINAGE PLAN
25.	CG104	GRADING AND DRAINAGE PLAN
26.	CG501	STORM DRAIN PROFILES & DETAILS
27.	XD101	DEMOLITION PLAN - MARKING
28.	XD102	DEMOLITION PLAN - MARKING
29.	XD103	DEMOLITION PLAN - MARKING
30.	XD104	DEMOLITION PLAN - MARKING
31.	XM101	MARKING PLAN
32.	XM102	MARKING PLAN
33.	XM103	MARKING PLAN
34.	XM104	MARKING PLAN
35.	XM501	MARKING DETAILS
36.	EI001	GENERAL ELECTRICAL NOTES
37.	ED101	ELECTRICAL DEMOLITION PLAN
38.	ED102	ELECTRICAL DEMOLITION PLAN
39.	ED103	ELECTRICAL DEMOLITION PLAN
40.	ED104	ELECTRICAL DEMOLITION PLAN
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42.	EL102	ELECTRICAL PLAN
43.	EL103	ELECTRICAL PLAN
44.	EL104	ELECTRICAL PLAN
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51.	EL505	ELECTRICAL PULL BOX DETAILS
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53.	EL601	AIRFIELD ELECTRICAL VAULT DETAILS

FILENAME: F:\PROJECT\V16 - SAN MATEO COUNTY\V16.003.009 - SQL RWY - TXY CONNECTOR REHAB\DESIGN\CADD\SHEET FILES\V16003009_GI001-SERIES.DWG (GI-001)

APPROVED:

DATE: _____

ANN MADER STILLMAN,
DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER ANN MADER STILLMAN C 47882 EXPIRES 12/31/23 CIVIL STATE OF CALIFORNIA

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C&S COMPANIES

APPROVED DATE: 01-27-2023

TEDDY D. RAMIL
C&S ENGINEERS, INC.
R.C.E. # C 063590 EXPIRES 09-30-2024

REGISTERED PROFESSIONAL ENGINEER TEDDY D. RAMIL No. C 063590 Exp. 09/30/2024 CIVIL STATE OF CALIFORNIA

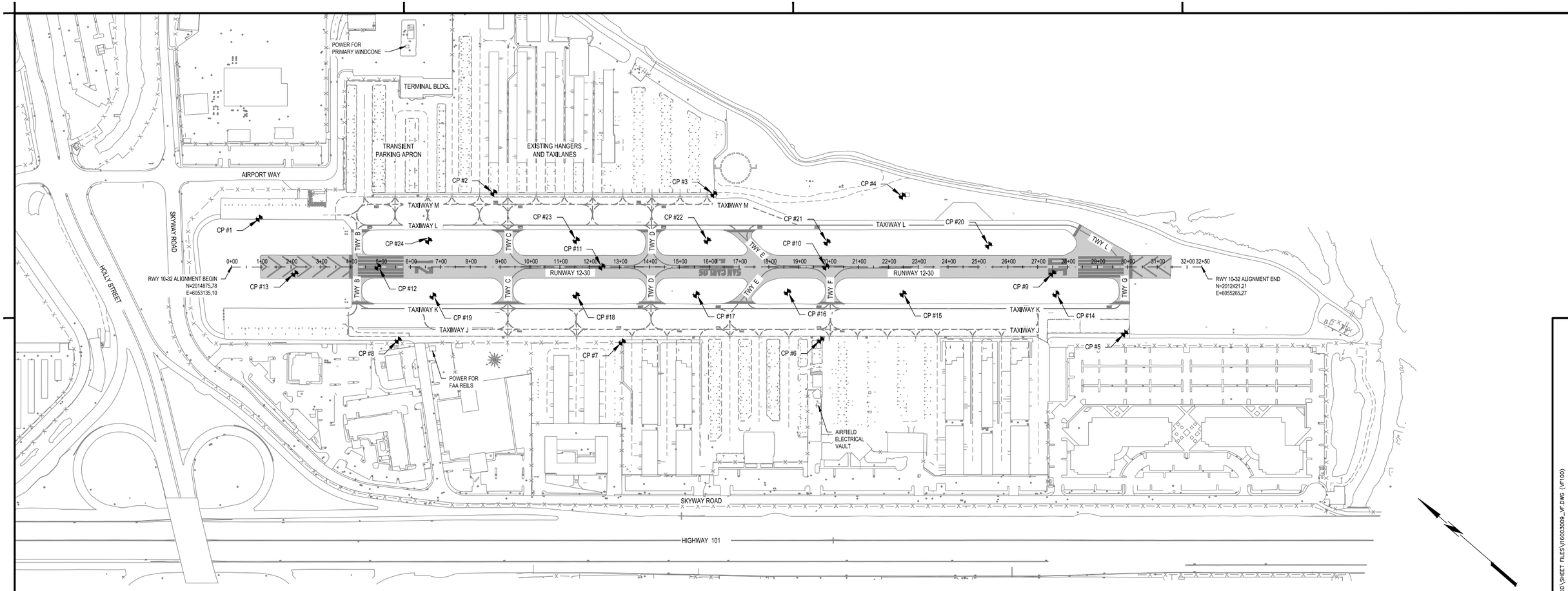
COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: E.A. (C&S)	TITLE SHEET
		CHECKED BY: D.M. (C&S)	RUNWAY 12-30 AND CONNECTOR TAXIWAYS REHABILITATION
		DRAWN BY: E.A. (C&S)	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS
			SAN MATEO COUNTY
			555 COUNTY CENTER, 5th FLOOR
			REDWOOD CITY, CALIFORNIA 94063

SCALE: NOT TO SCALE
DATE: FEBRUARY 2023
FILE NO.: I:15077

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

GI001
SHEET 1 OF 53



B1 GENERAL PLAN & SURVEY CONTROL

SCALE: 1" = 150'

150' 150 0 150 300FT.

CONTROL POINTS / SITE BENCHMARKS

POINT NO.	NORTHING	EASTING	ELEVATION	STATION	DESCRIPTION
CP #1	2014911,95	6053319,25	106,45'	0+93,29	REY 201 MAG
CP #2	2014374,63	6053898,47	103,64'	8+78,76	REY 202 MAG
CP #3	2013815,33	6054377,89	103,25'	16+15,04	REY 203 MAG AT END V-GUTTER
CP #4	2013334,10	6054786,90	103,76'	22+45,76	REY 204 MAG AT SHACK
CP #5	2012470,30	6054927,21	103,56'	29+90,56	REY 205 MAG
CP #6	2013225,10	6054243,58	104,51'	19+72,22	REY 206 MAG
CP #7	2013722,08	6053802,57	102,96'	13+08,71	REY 207 MAG
CP #8	2014292,77	6053315,91	104,76'	5+58,80	REY 208 MAG
CP #9	2012784,51	6054921,00	105,09'	27+50,07	REY 500 MAG
CP #10	2013372,34	6054440,15	104,82'	19+90,56	REY 501 MAG
CP #11	2013939,10	6053948,56	105,14'	12+40,68	REY 502 MAG
CP #12	2014505,24	6053456,76	105,09'	4+90,76	REY 503 MAG
CP #13	2014700,30	6053257,69	104,79'	2+13,10	REY 504 MAG
CP #14	2012735,33	6054874,33	103,82	27+61,35	WP10000 60D NAIL
CP #15	2013121,31	6054539,73	103,05	22+49,00	WP10001 60D
CP #16	2013415,21	6054291,32	102,50	18+62,08	WP10002 60D NAIL
CP #17	2013640,36	6054084,61	103,41	15+56,88	WP10003 60D NAIL

CONTROL POINTS / SITE BENCHMARKS

POINT NO.	NORTHING	EASTING	ELEVATION	STATION	DESCRIPTION
CP #18	2013940,95	6053820,62	102,91	11+54,76	WP10004 60D NAIL
CP #19	2014300,42	6053505,84	103,37	6+75,39	WP10005 60D NAIL
CP #20	2013010,20	6054848,98	102,88	25+35,90	TWP 10006 60D NAIL
CP #21	2013425,02	6054504,19	102,46	19+94,87	TWP 10007 60D NAIL
CP #22	2013728,65	6054245,68	102,59	15+94,22	TWP 10008 60D NAIL
CP #23	2014060,68	6053959,16	102,56	11+55,03	TWP 10009 60D NAIL
CP #24	2014432,94	6053635,83	102,74	6+60,63	TWP10010 60D NAIL

A1 CONTROL POINTS/SITE BENCHMARKS TABLE

SCALE: NOT TO SCALE

A3 NOTES

SCALE: NOT TO SCALE

1. THE TOPOGRAPHIC FEATURES SHOWN HEREON WERE COMPILED FROM FIELD SURVEY PERFORMED BY R.E.Y ENGINEERING DATED JANUARY 28, 2019 AND OCTOBER 17, 2022.
2. CONTRACTOR SHALL PROTECT ALL CONTROL POINTS, IF DISTURBED, THE CONTRACTOR SHALL REESTABLISH AT THEIR COST.

BASIS OF COORDINATES

COORDINATES SHOWN HEREON ARE IN TERMS OF NAD83 (2011), EPOCH 2010,0, CALIFORNIA STATE PLANE COORDINATE ZONE 3, BASED LOCALLY UPON TIES TO STATIONS "CARLPORT" AND "CARLPORT AZ MK" AS PUBLISHED BY NGS.

BASIS OF ELEVATIONS

ELEVATIONS SHOWN HEREON ARE IN TERMS OF NAVD88, BASED LOCALLY UPON REDWOOD CITY BENCHMARK #1, LOCATED AT THE INTERSECTION OF REDWOOD SHORES PARKWAY AND TWIN DOLPHIN DRIVE. PUBLISHED ELEVATION=6.55, PROJECT ELEVATION =106.55.

REGISTERED PROFESSIONAL ENGINEER ANN MADER STILLMAN C 47882 EXPIRES 12/31/23 CIVIL STATE OF CALIFORNIA

APPROVED:

DATE: _____

ANN MADER STILLMAN,
DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

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C&S COMPANIES

APPROVED DATE: 01-27-2023

TEDDY D. RAMIL

C&S ENGINEERS, INC.

R.C.E. # C063590 EXPIRES 09-30-2024

REGISTERED PROFESSIONAL ENGINEER TEDDY D. RAMIL No. C 063590 Exp. 09/30/2024 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE

DESIGNED BY: E.A (C&S)
CHECKED BY: D.M. (C&S)
DRAWN BY: E.A (C&S)

GENERAL PLAN & SURVEY CONTROL
RUNWAY 12-30 AND CONNECTOR TAXIWAYS REHABILITATION

ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS
SAN MATEO COUNTY

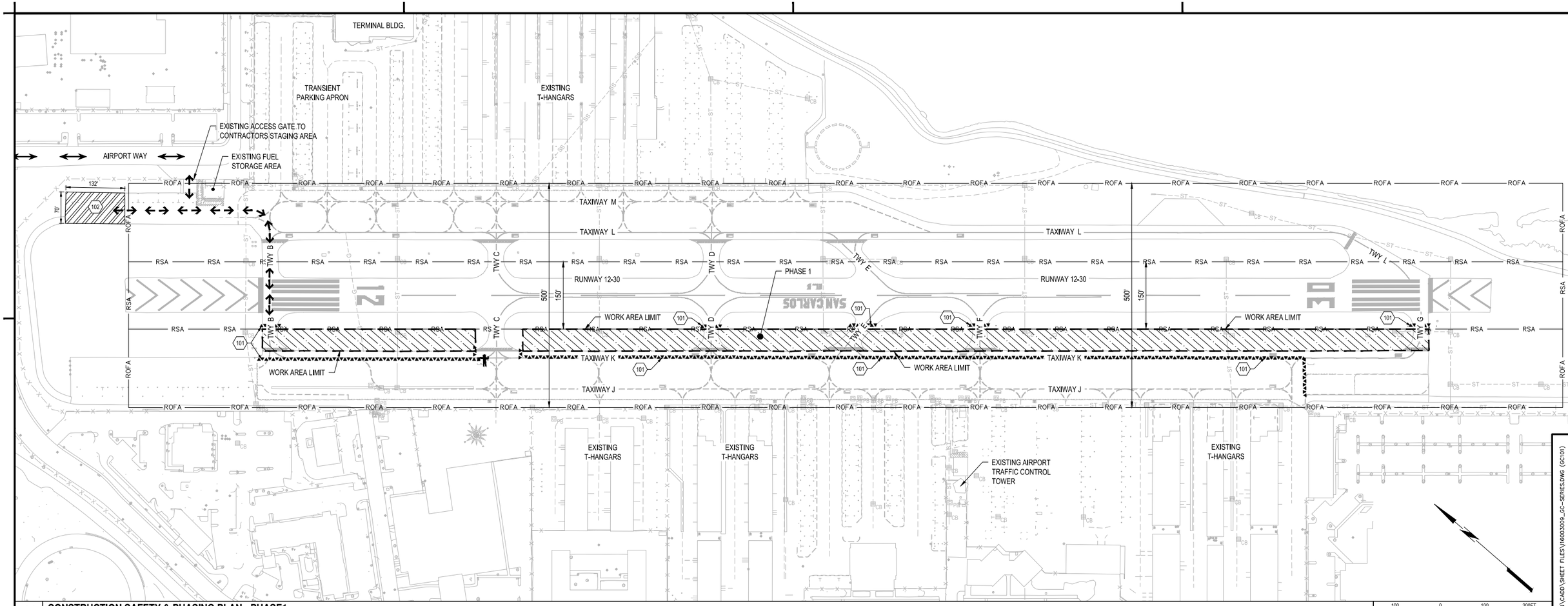
555 COUNTY CENTER, 5th FLOOR
REDWOOD CITY, CALIFORNIA 94063

SCALE: 1" = 150'
DATE: FEBRUARY 2023
FILE NO.: 15077

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

GI101
SHEET 4 OF 53

FILENAME: F:\PROJECT\16 - SAN MATEO COUNTY\16.003.009 - SQL RWY - TXY CONNECTOR REHAB\DESIGN\CADD\SHEET FILES\16003009_VF.DWG (VF100)



B1 CONSTRUCTION SAFETY & PHASING PLAN - PHASE1

SCALE: 1" = 100'

KEYED NOTES:

101. BARRICADE LOCATION (TYP.), SEE DETAIL A4/GC101.

102. CONTRACTORS STAGING AREA.

LEGEND:

- WORK AREA HAUL ROUTE
- WORK AREA LIMIT
- LOW PROFILE BARRICADES
- WORK AREA
- CONTRACTOR STAGING AREA
- CONTRACTOR'S ACCESS ROUTE
- FLAGGER

A1 LEGEND AND KEYED NOTES

SCALE: NOT TO SCALE

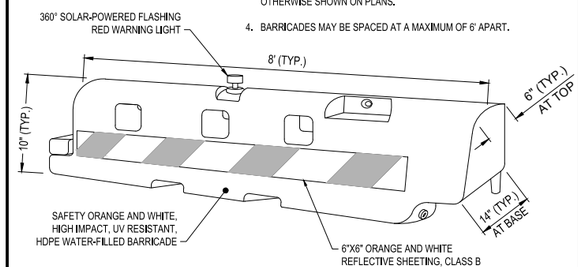
1. ALL PERSONAL VEHICLES SHALL BE PARKED IN THE STAGING AREA.
2. THE STAGING AREA IS NOT FENCED OR SECURED. FENCING & SECURITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. CONTRACTOR SHALL COMPLY WITH THE CONSTRUCTION SAFETY PLAN IN SECTION 70 OF THE CONTRACT DOCUMENTS.
4. AIRPORT CTAF FREQUENCY = 119.0 MHz
5. MAXIMUM EQUIPMENT HEIGHT = 25 FEET
6. CONSTRUCTION OF PHASE 1 MUST BE COMPLETED IN 15 CALENDAR DAYS.
7. CONTRACTOR SHALL PROVIDE AT MINIMUM A THREE WEEK NOTICE BEFORE ANY RUNWAY CLOSURE WORK COMMENCES.
8. CONSTRUCTION OF PHASE 1 TO OCCUR DURING NIGHT CLOSURE OF TAXIWAY K AND CONNECTOR TAXIWAY B, D, E, F & G AT THE WESTERLY LIMIT OF THE RUNWAY SAFETY AREA. WORKING HOURS SHALL BE FROM 6PM-6AM. WORK WITHIN PHASE 1 INCLUDES: MOBILIZATION & SETUP, PAVEMENT DEMOLITION, OVER-EXCAVATION, ELECTRICAL , LOCALIZE STORM DRAIN IMPROVEMENTS, PAVING, STRIPING AND CLEAN UP.
9. CONSTRUCTION VEHICLES SHALL YIELD TO TAXIING AIRCRAFT AT ALL TIMES IN ALL AREAS OF THE AIRPORT. TAXIING AIRCRAFT SHALL ALWAYS HAVE THE RIGHT OF WAY.
10. CONSTRUCTION VEHICLES MUST BE MARKED WITH AMBER BEACONS (DAY/NIGHT) OR ORANGE AND WHITE FLAGS DURING DAYLIGHT HOURS.
11. CONTRACTOR SHALL ELIMINATE FOREIGN OBJECT DEBRIS PER THE CONSTRUCTION SAFETY PLAN PRIOR TO RE-OPENING WORK AREAS TO AIR TRAFFIC.
12. CONTRACTOR SHALL NOTIFY THE AIRPORT IF AIRPORT ACCESS GATE IS TO BE LEFT OPEN DURING CONTRACTOR'S OPERATION. CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL APPROVED BY THE AIRPORT TO ENSURE ONLY AUTHORIZED VEHICLES USE THE ACCESS GATE.
13. CONTRACTOR SHALL PROVIDE FLAGGING PERSONNEL AS REQUIRED IF AIRPORT ACCESS GATE IS TO BE LEFT OPEN DURING HAULING OPERATIONS.
14. ALL ROADS USED TO ACCESS SITE SHALL BE MAINTAINED. AT THE COMPLETION OF ALL CONSTRUCTION ACTIVITY, ROADS SHALL BE OPENED AT SAME OR BETTER CONDITION (TYP.).
15. AT NO TIME SHALL CONTRACTOR PERSONNEL OR EQUIPMENT BE WITHIN 150' OF AN ACTIVE RUNWAY CENTERLINE OR AN ACTIVE TAXIWAY(S) WITHOUT APPROVAL FROM AIRPORT.
16. ALL CONSTRUCTION DEBRIS INCLUDING DIRT TRACKING OUTSIDE THE STAGING AREA(S) SHALL BE CLEANED UP IMMEDIATELY.
17. CONTRACTOR TO PERFORM A FOD INSPECTION BEFORE THE END OF EACH NIGHT SHIFT AND PRIOR TO OPENING THE TAXIWAYS TO AIRCRAFT TRAFFIC.
18. CONTRACTOR TO USE LIGHTED RUNWAY CLOSURE MARKERS AND LOW PROFILE BARRICADES PROVIDED BY THE CONTRACTOR.
19. FAA EQUIPMENT AND INFRASTRUCTURE ARE WITHIN THE PROJECT AREA. ALL SHUTDOWNS MUST BE COORDINATED WITH FAA. FAA REQUIRE A MINIMUM OF TWO WEEK NOTIFICATION. CONTRACTOR SHALL INCLUDE THE FAA COORDINATION IN THE SCHEDULE AND ALLOW AMPLE TIME FOR FAA TO COMPLETE ANY PLANNED SHUTDOWN.

A2 GENERAL CSPP NOTES

SCALE: NOT TO SCALE

BARRICADE NOTES:

1. BARRICADES SHALL BE MANUFACTURED BY MULTI-BARRIER, MODEL AR 10 X 96, SHERWIN INDUSTRIES, INC., 2129 WEST MORGAN AVE., MILWAUKEE, WISCONSIN 53221, PHONE: 1-800-525-8876, OR APPROVED EQUAL.
2. FLAT, BIDIRECTIONAL WARNING LIGHTS WILL NOT BE ACCEPTABLE.
3. EXACT LOCATIONS SHALL BE DETERMINED DURING CONSTRUCTION. ALL BARRICADES SHALL BE PLACED AT WORK AREA LIMITS, OR AS OTHERWISE SHOWN ON PLANS.
4. BARRICADES MAY BE SPACED AT A MAXIMUM OF 6' APART.



A4 BARRICADE DETAIL

SCALE: NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER ANN MADER STILLMAN C 47882 EXPIRES 12/31/23 CIVIL STATE OF CALIFORNIA

APPROVED:

DATE: _____

ANN MADER STILLMAN,
DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

C&S Engineers, Inc.
7801 Folsom Boulevard, Suite 210
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Phone: 916-364-1470
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C&S COMPANIES

APPROVED DATE: 01-27-2023

TEDDY D. RAMIL
C&S ENGINEERS, INC.
R.C.E. # C063590 EXPIRES 09-30-2024

REGISTERED PROFESSIONAL ENGINEER TEDDY D. RAMIL No. C 063590 Exp. 09/30/2024 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: E.A. (C&S)	CONSTRUCTION SAFETY & PHASING PLAN - PHASE1
		CHECKED BY: D.M. (C&S)	RUNWAY 12-30 AND CONNECTOR TAXIWAYS REHABILITATION
		DRAWN BY: E.A. (C&S)	

ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS
SAN MATEO COUNTY

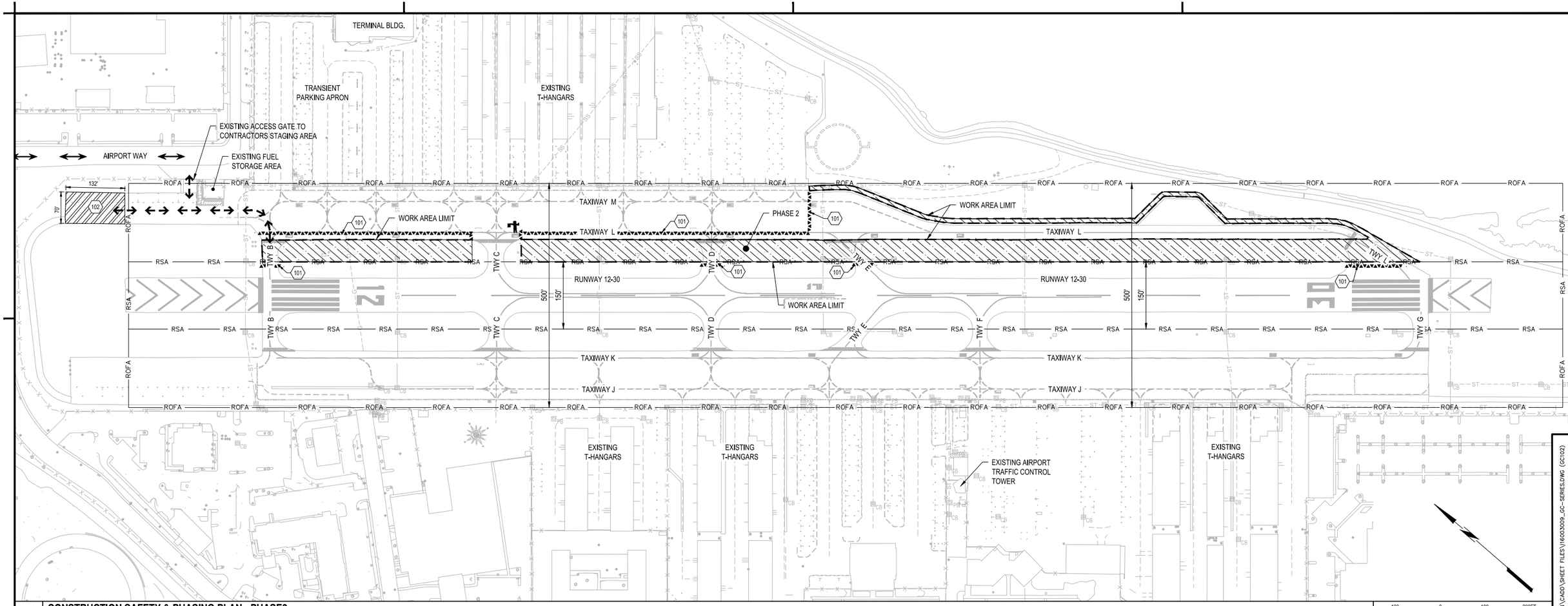
555 COUNTY CENTER, 5th FLOOR
REDWOOD CITY, CALIFORNIA 94063

SCALE: 1" = 100'
DATE: FEBRUARY 2023
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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

GC101
SHEET 5 OF 53

FILENAME: F:\PROJECT\16 - SAN MATEO COUNTY\16.003.009 - SOL RWY - TXY CONNECTOR REHAB\DESIGN\CADD\SHEET FILES\16003009_GC-SERIES.DWG (GC101)



B1 CONSTRUCTION SAFETY & PHASING PLAN - PHASE2

SCALE: 1" = 100'

KEYED NOTES:

101. BARRICADE LOCATION (TYP.). SEE DETAIL A4/GC101.

102. CONTRACTORS STAGING AREA.

LEGEND:

- WORK AREA HAUL ROUTE
- WORK AREA LIMIT
- LOW PROFILE BARRICADES
- WORK AREA
- CONTRACTOR STAGING AREA
- CONTRACTOR'S ACCESS ROUTE
- FLAGGER

A1 LEGEND AND KEYED NOTES

SCALE: NOT TO SCALE

A2 GENERAL CSPP NOTES

SCALE: NOT TO SCALE

1. ALL PERSONAL VEHICLES SHALL BE PARKED IN THE STAGING AREA.
2. THE STAGING AREA IS NOT FENCED OR SECURED. FENCING & SECURITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. CONTRACTOR SHALL COMPLY WITH THE CONSTRUCTION SAFETY PLAN IN SECTION 70 OF THE CONTRACT DOCUMENTS.
4. AIRPORT CTAF FREQUENCY = 119.0 MHz
5. MAXIMUM EQUIPMENT HEIGHT = 25 FEET
6. CONSTRUCTION OF PHASE 2 MUST BE COMPLETED IN 15 CALENDAR DAYS FOLLOWING THE COMPLETION OF WORK IN PHASE 1.
7. CONTRACTOR SHALL PROVIDE AT MINIMUM A THREE WEEK NOTICE BEFORE ANY RUNWAY CLOSURE WORK COMMENCES.
8. CONSTRUCTION OF PHASE 2 TO OCCUR DURING NIGHT CLOSURE OF TAXIWAY L, TAXIWAY M BETWEEN CONNECTOR TAXIWAY E AND THE CONVERGENCE POINT WITH TAXIWAY L, AND CONNECTOR TAXIWAY B, D, E & L AT THE EASTERLY LIMIT OF THE RUNWAY SAFETY AREA. WORKING HOURS SHALL BE FROM 6PM-6AM, WORK WITHIN PHASE 2 INCLUDES: MOBILIZATION & SETUP, PAVEMENT DEMOLITION, OVER-EXCAVATION, ELECTRICAL , LOCALIZE STORM DRAIN IMPROVEMENTS, PAVING, STRIPING AND CLEAN UP.
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A4 NOT USED

SCALE: NOT TO SCALE

FILENAME: F:\PROJECT\16 - SAN MATEO COUNTY\16.003.009 - SOL RWY - TXY CONNECTOR REHAB\DESIGN\CADD\SHEET FILES\16003009_GC-SERIES.DWG (GC102)

REGISTERED PROFESSIONAL ENGINEER ANN MADER STILLMAN C 47882 EXPIRES 12/31/23 CIVIL STATE OF CALIFORNIA

APPROVED:

DATE: _____

ANN MADER STILLMAN,
DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

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REGISTERED PROFESSIONAL ENGINEER TEDDY D. RAMIL No. C 063590 Exp. 09/30/2024 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE

DESIGNED BY: E.A. (C&S)
CHECKED BY: D.M. (C&S)
DRAWN BY: E.A. (C&S)

CONSTRUCTION SAFETY & PHASING PLAN - PHASE2

RUNWAY 12-30 AND CONNECTOR TAXIWAYS REHABILITATION

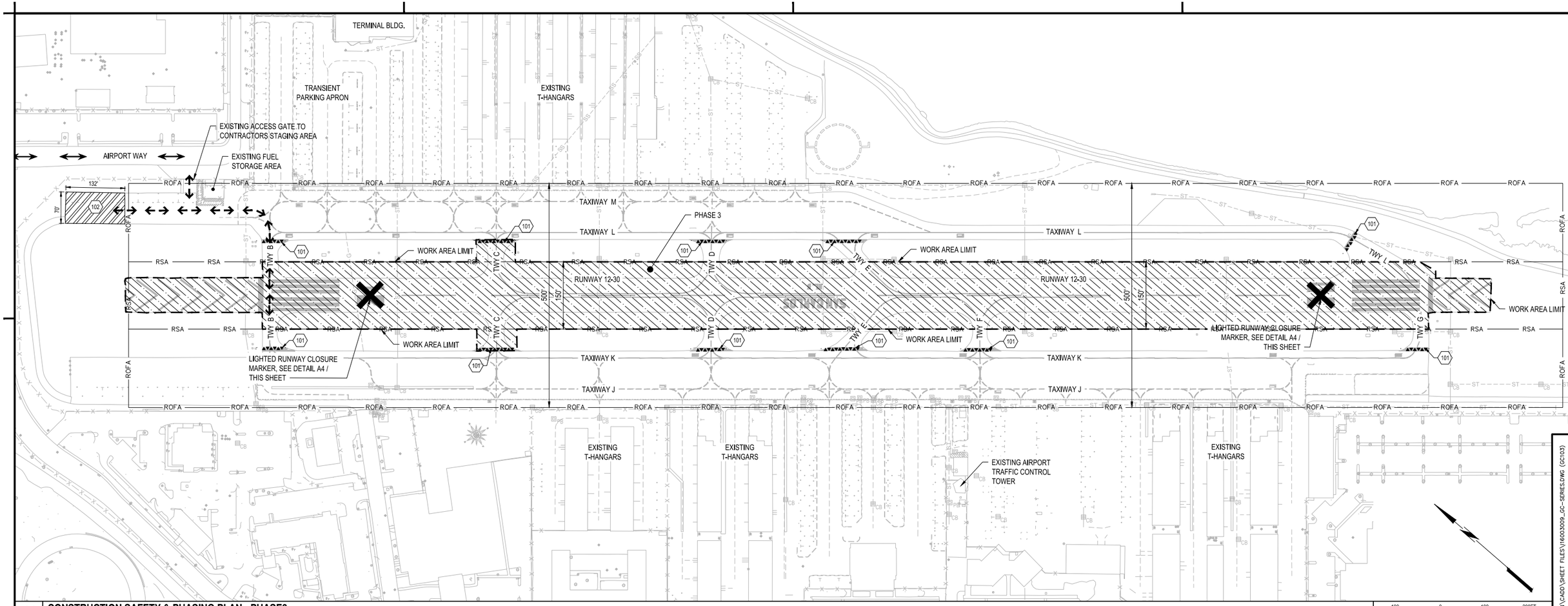
SCALE: 1" = 100'
DATE: FEBRUARY 2023
FILE NO.: I:5077

ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS
SAN MATEO COUNTY

555 COUNTY CENTER, 5th FLOOR
REDWOOD CITY, CALIFORNIA 94063

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

GC102
SHEET 6 OF 53



B1 CONSTRUCTION SAFETY & PHASING PLAN - PHASE3

SCALE: 1" = 100'

KEYED NOTES:

101. BARRICADE LOCATION (TYP.). SEE DETAIL A4/GC101.

102. CONTRACTORS STAGING AREA.

LEGEND:

- WORK AREA HAUL ROUTE
- WORK AREA LIMIT
- LOW PROFILE BARRICADES
- WORK AREA
- CONTRACTOR STAGING AREA
- CONTRACTOR'S ACCESS ROUTE
- LIGHTED RUNWAY CLOSURE MARKER

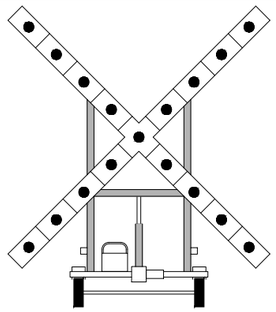
A1 LEGEND AND KEYED NOTES

SCALE: NOT TO SCALE

1. ALL PERSONAL VEHICLES SHALL BE PARKED IN THE STAGING AREA.
2. THE STAGING AREA IS NOT FENCED OR SECURED. FENCING & SECURITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. CONTRACTOR SHALL COMPLY WITH THE CONSTRUCTION SAFETY PLAN IN SECTION 70 OF THE CONTRACT DOCUMENTS.
4. AIRPORT CTAF FREQUENCY = 119.0 MHz
5. MAXIMUM EQUIPMENT HEIGHT = 25 FEET
6. CONSTRUCTION OF PHASE 3 MUST BE COMPLETED IN 30 CALENDAR DAYS FOLLOWING THE COMPLETION OF WORK IN PHASE 1 AND PHASE 2.
7. CONTRACTOR SHALL PROVIDE AT MINIMUM A THREE WEEK NOTICE BEFORE ANY RUNWAY CLOSURE WORK COMMENCES.
8. RUNWAY CLOSURE SCHEDULE: WORK WITHIN PHASE 3 TO BE CONSTRUCTED DURING CLOSURE OF RUNWAY 12-30.
   - 8.1. 28 CALENDAR DAYS: MOBILIZATION & SETUP, PAVEMENT DEMOLITION, OVER-EXCAVATION, ELECTRICAL, STORM DRAIN , PAVING, STRIPING AND CLEANUP.
   - 8.2. CONSTRUCTION CLOCK WILL STOP FOR A 30 CALENDAR DAYS PERIOD AFTER ALL WORK EXCEPT FINAL STRIPING IS COMPLETED.
   - 8.3. 2 CALENDAR DAYS: CONSTRUCTION CLOCK WILL RESUME AFTER 30 CALENDAR DAYS TO COMPLETE FINAL STRIPING AND CLEANUP.
9. CONSTRUCTION VEHICLES SHALL YIELD TO TAXIING AIRCRAFT AT ALL TIMES IN ALL AREAS OF THE AIRPORT. TAXIING AIRCRAFT SHALL ALWAYS HAVE THE RIGHT OF WAY.
10. CONSTRUCTION VEHICLES MUST BE MARKED WITH AMBER BEACONS (DAY /NIGHT) OR ORANGE AND WHITE FLAGS DURING DAYLIGHT HOURS.
11. CONTRACTOR SHALL ELIMINATE FOREIGN OBJECT DEBRIS PER THE CONSTRUCTION SAFETY PLAN PRIOR TO RE-OPENING WORK AREAS TO AIR TRAFFIC.
12. CONTRACTOR SHALL NOTIFY THE AIRPORT IF AIRPORT ACCESS GATE IS TO BE LEFT OPEN DURING CONTRACTOR'S OPERATION. CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL APPROVED BY THE AIRPORT TO ENSURE ONLY AUTHORIZED VEHICLES USE THE ACCESS GATE.
13. CONTRACTOR SHALL PROVIDE FLAGGING PERSONNEL AS REQUIRED IF AIRPORT ACCESS GATE IS TO BE LEFT OPEN DURING HAULING OPERATIONS.
14. ALL ROADS USED TO ACCESS SITE SHALL BE MAINTAINED. AT THE COMPLETION OF ALL CONSTRUCTION ACTIVITY, ROADS SHALL BE OPENED AT SAME OR BETTER CONDITION (TYP.).
15. AT NO TIME SHALL CONTRACTOR PERSONNEL OR EQUIPMENT BE WITHIN 150' OF AN ACTIVE RUNWAY CENTERLINE OR AN ACTIVE TAXIWAY(S) WITHOUT APPROVAL FROM AIRPORT.
16. ALL CONSTRUCTION DEBRIS INCLUDING DIRT TRACKING OUTSIDE THE STAGING AREA(S) SHALL BE CLEANED UP IMMEDIATELY.
17. CONTRACTOR TO USE LIGHTED RUNWAY CLOSURE MARKERS AND LOW PROFILE BARRICADES PROVIDED BY THE CONTRACTOR.
18. FAA EQUIPMENT AND INFRASTRUCTURE ARE WITHIN THE PROJECT AREA. ALL SHUTDOWNS MUST BE COORDINATED WITH FAA. FAA REQUIRE A MINIMUM OF TWO WEEK NOTIFICATION. CONTRACTOR SHALL INCLUDE THE FAA COORDINATION IN THE SCHEDULE AND ALLOW AMPLE TIME FOR FAA TO COMPLETE ANY PLANNED SHUTDOWN.

A2 GENERAL CSPP NOTES

SCALE: NOT TO SCALE



NOTE:

LIGHTED RUNWAY CLOSURE MARKERS SHALL BE PROVIDED FOR AND MAINTAINED BY THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR FUELING AND ALL MAINTENANCE REQUIRED DURING CONSTRUCTION. COST SHALL BE INCLUDED IN ITEM C-106.

A4 LIGHTED RUNWAY CLOSURE MARKER

SCALE: NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER ANN MADER STILLMAN C 47882 EXPIRES 12/31/23 CIVIL STATE OF CALIFORNIA

APPROVED:

DATE: _____

ANN MADER STILLMAN,
DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

C&S Engineers, Inc.
7801 Folsom Boulevard, Suite 210
Sacramento, California 95826
Phone: 916-364-1470
www.cscos.com

C&S COMPANIES

APPROVED DATE: 01-27-2023

TEDDY D. RAMIL
C&S ENGINEERS, INC.
R.C.E. # C063590 EXPIRES 09-30-2024

REGISTERED PROFESSIONAL ENGINEER TEDDY D. RAMIL No. C 063590 Exp. 09/30/2024 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: E.A. (C&S)	CONSTRUCTION SAFETY & PHASING PLAN - PHASE3
		CHECKED BY: D.M. (C&S)	RUNWAY 12-30 AND CONNECTOR TAXIWAYS REHABILITATION
		DRAWN BY: E.A. (C&S)	

ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS
SAN MATEO COUNTY

555 COUNTY CENTER, 5th FLOOR
REDWOOD CITY, CALIFORNIA 94063

SCALE: 1" = 100'
DATE: FEBRUARY 2023
FILE NO.: I:\5077

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

GC103
SHEET 7 OF 53

FILENAME: F:\PROJECT\16 - SAN MATEO COUNTY\16.003.009 - SOL RWY - TXY CONNECTOR REHAB\DESIGN\CADD\SHEET FILES\16003009_GC-SERIES.DWG (GC103)

APPENDIX 2

CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

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Construction Project Daily Safety Inspection Checklist

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety Area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovers holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the Contractor may use to aid in identifying and correcting potentially hazardous conditions.

Potentially Hazardous Conditions

Item	Action Required	or	None
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.			☐
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.			☐
Runway resurfacing projects resulting in lips exceeding 3 inches from pavement edges and ends.			☐
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.			☐
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.			☐
Tall and especially relatively low visibility units (that is, equipment with slim profiles) –cranes, drills, and similar objects—located in critical areas, such as OFZ and approach zones.			☐
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on an apron, open taxiway, or open taxi lane or in related safety, approach, or departure area.			☐
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.			☐

Item	Action Required	or	None
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.			☐
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.			☐
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.			
Obliterated or faded temporary markings on active operational areas.			☐
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.			☐
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.			☐
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.			☐
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.			
Lack of radio communications with construction vehicles in airport movement areas.			☐
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.			☐
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.			☐

Item	Action Required	or	None
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.			☐
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).			
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.			☐
Failure to control dust. Consider limiting the amount of area from which the Contractor is allowed to strip turf.			☐
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.			☐
Site burning, which can cause possible obscuration.			☐
Construction work taking place outside of designated work areas and out of phase.			☐

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APPENDIX 3

CONTRACTORS SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

(The SPCD Certification is located in the Proposal Section)

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SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

Project Location: County of San Mateo, California

Project Name: Runway 12-30 and Connector Taxiways Rehabilitation

General Statement:

The Construction Safety and Phasing Plan (CSPP), identified as Attachment "A" to Section 70-08, has been prepared in accordance with FAA Advisory Circular 150/5370-2G, *Operational Safety on Airports During Construction and the requirements of the Airport Owner*. The CSPP has been submitted to the FAA for review and comment. Any comments from the FAA which were received prior to bid opening have been incorporated into the CSPP.

In the event that the FAA transmits comments which require that the CSPP be revised after bid opening, I understand that I am obligated to abide by the conditions and statements contained in the revised CSPP. I further understand that I will be given the opportunity to evaluate the revised CSPP as it relates to my contract and request appropriate compensation in accordance with the provisions of the contract.

Supplemental Information:

Where the CSPP covers a subject and no additional information is needed, the statement below reads, "No supplemental information required". Where additional information is required by the Contractor, the information shall be provided in the spaces below.

The section numbers below correspond with the section numbers in the CSPP.

3.1 Coordination

Statement: [Explain how you will distribute information and details of meetings to employees and subcontractors.]

_____

_____

_____

_____

3.2 Phasing

Statement: [List the number of days each Work Area will take. State the time day work will start and finish for each work area.]

_____

_____

_____

_____

3.3 Areas and operations affected by the construction activity

Statement: Information is provided in the CSPP. No supplemental information is required.

3.4 Protection of NAVAIDs

Statement: Information is provided in the CSPP. No supplemental information is required.

3.5 Contractor Access

Security Statement: [Explain how you will maintain integrity of the airport security fence at the access gate, e.g.: Gate guards, closed and locked gates, temporary fencing, etc.]

Training Statement: [List individuals who will receive driver training (for certificated airports and as requested.]

Communication Statement: [Identify types of radios, if any, you will use to communicate with drivers and personnel. Identify who will be monitoring radios. Identify a contact person and phone number if ATCT cannot reach the contractor's designated person by radio.]

Escort Statement: [Identify who will escort material delivery vehicles.]

3.6 Wildlife Management

Statement: [Identify who will be monitoring wildlife in the construction area. Identify who will be monitoring wildlife at the construction gate.]

3.7 Foreign Object Debris (FOD) Management

Statement: [Identify who will be preparing a FOD Management Plan. (Plan must be approved prior to the start of construction activities.)]

3.8 Hazardous material (HAZMAT) management

Statement: [Identify who will be preparing a Spill Prevention Plan. (Plan must be approved prior to the start of construction activities.)]

3.9 Notification of construction activities. Provide the following:

Key Personnel Statement: [Identify your key personnel points of contact with phone numbers.]

Emergency Contacts Statement: [Identify your emergency contacts with 24 hour phone numbers.]

Equipment Statement: [Part 77: Identify equipment you will be using that is taller than feet, including on-site batch plants. Identify the maximum height it will be extended to during construction for each Work Area and the expected duration. Identify when during the day it will be used.]

3.10 Inspection requirements.

Statement: [Identify the person who will be responsible for daily inspections to ensure conformance with the CSPP. Describe additional inspections you will employ, if any, to ensure conformance.]

3.11 Underground utilities.

Statement: [Discuss proposed methods of identifying and protecting underground utilities.]

3.12 Penalties

Statement: Information is provided in the CSPP. No supplemental information is required.

3.13 Special conditions.

Statement: [Identify who will be responsible for moving equipment and personnel from the work area and vacating the area in the event of a special condition listed in the CSPP.]

3.14 Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs.

Statement: Information is provided in the CSPP. No supplemental information is required.

3.15 Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.

Statement: Information is provided in the CSPP. No supplemental information is required.

3.16 Hazard marking and lighting.

Statement: [Identify who will be responsible for maintaining hazard marking and lighting. Include a 24 hour phone number.]

3.17 Protection of taxiway and runway safety areas. Include object free areas, obstacle free zones, approach/departure surfaces and safety areas as required. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:

Equipment and methods for maintaining Taxiway/Taxilane Safety Area standards.

Statement: Information is provided in the CSPP. No supplemental information is required.

Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.

Statement: Information is provided in the CSPP. No supplemental information is required.

3.18 Other limitations on construction.

Other limitations are identified in the CSPP and do not require an entry in this document.

APPENDIX 4

SPOIL DEPOSITION RELEASE FORM

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SPOILS DEPOSITION RELEASE FORM

To: County of san Mateo, California (AIRPORT OWNER), and

C&S Engineers, Inc., (RPR).

Project: Runway 12-30 and Connector Taxiways Rehabilitation

This SPOILS DEPOSITION RELEASE FORM is being forwarded to the above referenced AIRPORT OWNER and RPR to satisfy the Contract Documents governing the above referenced project. Pursuant to the Contract Documents, LANDOWNER has granted permission to CONTRACTOR to deposit spoils at LANDOWNER'S property located at _____ (give specific location). Further, CONTRACTOR hereby agrees to the greatest extent of the law, to release, indemnify, hold harmless, and defend the AIRPORT OWNER and RPR from any and all damage, liability, or cost (including reasonable attorney's fees and cost of defense) to the extent caused by or arising out of the deposition of the spoils on LANDOWNER'S property.

CONTRACTOR:	**LANDOWNER:**
_____	_____
Signature	Signature
_____	_____
Written Name & Title	Written Name & Title
_____	_____
Company Name	Company Name
_____	_____
Mailing Address (Street Name and Number)	Mailing Address (Street Name and Number)
_____	_____
City, State, Zip Code	City, State, Zip Code
_____	_____
Daytime Phone Number (Include Area Code)	Daytime Phone Number (Include Area Code)
_____	_____
Date	Date

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Section 80 Execution and Progress

80-01 Subletting of Contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least 25 percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to Proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within ten (10) days of the NTP date. The Contractor shall notify the RPR at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and Progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of Operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

See Attachment "A" to Section 70-08 - Construction Safety and Phasing Plan (CSPP) at the end of Section 70.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational Safety on Airport during Construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of Workers, Methods, and Equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary Suspension of the Work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the

effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and Extension of Contract Time. The number of calendar days shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract Time Based on Calendar Days. Contract time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 Failure to Complete On Time. For contract time based on calendar days or completion date, each calendar day that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
Phase 1	$2,000	15 Calendar Days
Phase 2	$2,000	15 Calendar Days
Phase 3	$2,000	30 Calendar Days

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

80-09 Default and Termination of Contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or

b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the execution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or

h. Makes an assignment for the benefit of creditors, or

i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for National Emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work Area, Storage Area and Sequence of Operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

Section 90 Measurement and Payment

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 kg) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles

Term	Description
	shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted. In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them.

Term	Description
	Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 *Payment for Extra Work*.
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities*, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items*, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

a. From the total of the amount determined to be payable on a partial payment, five (5) percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-03. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such

a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

No partial payments will be made for work items lacking approved submittals, or lacking acceptable manufacturer's material certifications.

Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Airport Sponsor. This clause applies to both DBE and non-DBE subcontractors.

Contractors shall include in their subcontracts language providing that Contractors and subcontractors will use appropriate alternative dispute resolution mechanisms to resolve payment disputes.

The Contractor will not be reimbursed for work performed by subcontractors unless and until the Contractor ensures that the subcontractors are promptly paid for the work they have performed.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes,* or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

i. The Owner and Engineer will perform a warranty inspection with the Contractor approximately three (3) months before the end of the one year warranty period.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.

b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.

d. Complete all punch list items identified during the Final Inspection.

e. Provide complete release of all claims for labor and material arising out of the Contract.

f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual(s). The Contractor shall prepare a project O&M Manual for the Owner. The O&M Manual shall consist of approved certification submittals, approved shop and setting drawing submittals, approved catalogue data submittals, circuit test results in accordance with Item L-108, and O&M Manuals for equipment installed that have operating procedures and/or maintenance requirements associated with them. The O&M manual shall be neatly bound in a properly sized 3-ring binder and tabbed by specification section. The O&M Manual shall be submitted to the Engineer prior to final payment to facilitate project closeout.

k. Security for Construction Warranty.

l. Equipment commissioning documentation submitted, if required.

m. Contractor's Affidavit of Payment of Debts and Claims (AIA Document G706) from the Prime Contractor.

n. Contractor's Affidavit of Release of Liens (AIA Document G706A) from the Prime Contractor.

o. Contractor's Affidavit of Payment of Debts and Claims (AIA Document G706) from each subcontractor.

p. Contractor's Affidavit of Release of Liens (AIA Document G706A) from each subcontractor.

q. Consent of Surety to Final Payment (AIA Document G707) from the Prime Contractor.

END OF SECTION 90

Special Provisions to the General Provisions

SP 20-16 Addenda and interpretation. No interpretation of the meaning of the Contract Documents, Contract Drawings or other portions of the Contract will be made orally. Every request for such interpretation must be in writing via email to Alex Zhang (azhang@smcgov.org) or Wency Ng (wng@smcgov.org) with County of San Mateo Department of Public Works, and to be given consideration must be received at the above address at least seven (7) days prior to the date fixed for opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda, which, when issued, will be sent by email with return receipt requested to all holders of Contract Documents at the respective addresses furnished for such purposes, not later than twenty-four (24) hours prior to the date fixed for the opening of bids. Failure of any Bidder to receive or retrieve any such addenda or interpretation shall not relieve said Bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract.

SP 30-09 Conformed Contract Documents. Not Used.

SP 30-10 Issued for Construction Contract Documents. Issued for Construction (IFC) Contact Documents will be distributed prior to the start of construction. The IFC contract documents consist of the Conformed Contract Documents and the Contract Drawings. The IFC Contract Documents will include a copy of the executed Form of Contract. The original filled out and signed Form of Contract will be kept on file with the Owner or Engineer. The IFC Construction Drawings will incorporate any changes made by addendum during the bidding process.

The cover of the Contract Documents will be labeled "Conformed Contract" and "Issued for Construction". The title sheet of the Contract Drawings will be labeled "Issued for Construction".

SP 50-17 Additional Survey Requirements.

A. This work shall consist of providing all necessary survey work to establish, spatially position, and verify the locations of existing and proposed features and measure quantities of items in accordance with the contract documents or as directed by the RPR. This work includes but is not limited to the establishment, reestablishment or localization of primary and secondary control, the stakeout or layout of proposed features, the initialization, calibration and navigation of automated equipment operations, the location or verification of existing or of constructed features, the verification of geospatial data for proposed construction work and the coordination and sharing of survey data with the RPR.

The Contractor shall be responsible for trimming trees, brush and other objects from survey lines in advance of all survey work to permit accurate and unimpeded work by the survey crews.

B. Survey Reference Points.

1. Existing horizontal and vertical control points for the Project are those designated on drawings or as determined from investigation of the existing conditions.
2. Locate and protect control points prior to starting Site Work and preserve permanent reference points during construction.
    a. Make no changes or relocations without prior approval of the RPR.
    b. Report to RPR when reference point is lost, destroyed or requires relocation because of necessary changes in grades or locations.

c. Replace Project control points, which may be lost or destroyed. Airport control points shall be replaced in accordance with their requirements.

d. Existing property corners, markers, stakes, iron pins, and survey monuments defining property lines which have a high probability of being disturbed during construction shall be properly tied into fixed reference points before being disturbed. If disturbed, they shall be accurately reset in their proper position upon completion of the work.

C. Project Layout Requirements.

1. Establish a sufficient number of permanent bench marks on Site, as may be required, referenced to data established by survey control points. Record locations of benchmarks with horizontal and vertical data on Project Record Documents.
2. From established control points, layout all Work by establishing all lines and grades at Site necessary to control Work. Contractor shall be responsible for all measurements that may be required for execution of Work to location and limit marks prescribed in appropriate Specification Sections or on Contract Drawings.
3. Furnish, at contractor expense, all such stakes, steel pins, equipment, tools and material and labor that may be required in laying out Work control points.
4. Establish lines and levels. Locate and layout by instrumentation and similar appropriate means:
    a. Verify property, grades, lines, levels and dimensions indicated.
    b. Site Improvements
        1) Provide stakes for grading, fill and topsoil placement.
        2) Layout utility slopes and invert elevations.
        3) Layout limits of pavement demolition and proposed pavement.
4. Verify and coordinate in field all existing and proposed underground components including civil, structural, utilities and other components prior to initiation of the Work. Advise RPR and/or FAA of any conflicts or discrepancies.

D. Documents.

1. Submit name, address and contact information of Surveyor to RPR.
2. On request of the RPR, submit documentation to certify accuracy of construction survey and stakeout work and compliance with Contract Documents.
3. Submit certificate signed by licensed surveyor certifying that elevations and locations of improvements are in conformance with Contract Documents. Should any work be in non-conformance with Contract Documents, Contractor shall identify all such non-conformance in the certificate.
4. Standards and Availability: Data and other measurements shall be recorded in accordance with standard and approved methods. All field notes, sketches, recordings, and computations in establishing above horizontal and vertical control points shall be available at all times during progress of Work for ready examination by RPR.
5. Maintain complete and accurate record data on underground utilities and obstructions, new and existing, encountered in execution of Work. Record data on Project Record Documents.
6. On completion of major site improvements, prepare certified survey showing dimensions, locations, angles, and elevations of construction.

E. GPS Inspection Unit. Section not used.

F. Computer Aided Drafting & Design (CADD) and 3D Surface files. This project was developed using three-dimensional design software. After award and upon request, the successful bidder will be provided CADD files developed from AutoCAD, and 3D surface files for use. The surface files will be provided for the existing grade, finished grade, and other applicable design surface models. In addition, survey control for the project will be provided in electronic format and the alignments will be provided in XML format. The files may be used for survey and stakeout of the project, but may not be manipulated. A single CADD file will be provided as well, including 2D and 3D information.

The following 3D surfaces will be provided:

SURFACE	DESCRIPTION
Overall Project Site Existing Grade	3D surface of project site overall existing grade elevations per topographic survey prior to construction.
Stripping Surface	3D surface representation of grade after stripping of existing topsoil on-site.
Pavement Removal Surface	3D surface representation of grade after removal of existing pavement.
Milling Surface	3D surface representation of the existing grade after proposed cold and variable milling.
True & Level Course	3D surface representation of the surface after placement of proposed true and leveling course.
Proposed Finished Grade	3D surface representation of the project site overall proposed finished grade elevations per project design. This surface includes pavement and turf grades.
Proposed Subgrade	3D surface representation of the subgrade surface prior to constructing the pavement section and placing topsoil.

The following 2D CADD files will be provided:

FILE	DESCRIPTION
Existing Base Map	Existing topographic features, limits of pavement, physical features, existing contours, equipment, structures, lights, signs, known utilities, fence, pipes, and conduits, buildings, etc.
Proposed	Proposed work including alignments, survey data, work phasing limits, limits of demolition, limits of pavement, physical features, proposed contours, equipment, structures, pavement marking, lights, signs, utilities, fence, pipes, and conduits, and buildings.

Unless otherwise shown on the Plans, the Contractor shall assume that the origin of proposed CAD symbols is at the center of the location of the feature. CAD symbols which are not at the center of origin include the following:

Symbol	Origin
Guidance Signs	Longitudinal center at end of sign closest to pavement edge.
PAPI System	Face of PAPI unit at center of PAPI box.
Approach Lights	Front face of lamp at center of light or light group.

The files were developed for the design and depiction of various 2D features (existing and proposed) and 3D features of existing, proposed, and subgrade surfaces. The surface files are depicted on the Contract Drawings in the form of contours, profiles, typical sections, spot elevations, tables, and other details. The surface file of the existing surface is the database of points from the design topographic survey. The surface files of the other surfaces are the database of points for the surfaces used to design the project.

The Owner allows use of the CADD and surface files in the performance of its work and services on the project with the following terms and conditions:

1. That the Owner does not warrant or guarantee the information and data in the CADD and surface files and any accompanying documentation as a substitute for the sound judgment of the Contractor.
2. That the Contractor desires to make use of the CADD and surface files in conjunction with the Work to be provided to the Owner for the subject project.
3. That the Contractor has no rights to the information and data contained in the CADD and surface files or any translated or converted form of these files. The transfer shall not be considered to convey any proprietary interest in the information and data in the CADD and surface files or any translated or converted form of these files or subsequent version thereof.
4. That the information and data contained in the CADD and surface files or in any translated or converted form of these files shall not be used by the Contractor on any other project.
5. That the Contractor may not copy, distribute, sell, rent, sublicense or lease the CADD and surface files or any translated or converted form of these files or any accompanying documentation.
6. That no information or data contained in the CADD and surface files or any translated or converted form of these files shall be transferred in any electronic form without written permission of the Owner.
7. That after completion of the Work by the Contractor as part of this project, the Contractor shall remove the information and data contained in the CADD and surface files, or any translated or converted form of these files, from all of its electronic data processing systems. No electronic copies of the information and data contained in the CADD and surface files or any translated or converted form of these files shall be retained by the Contractor.
8. That the Contractor shall take all steps reasonably necessary to protect the CADD and surface files, or any translated or converted form of these files, from theft or use in a manner inconsistent with these terms and conditions.
9. That the Owner may terminate these terms and conditions at any time and the Contractor shall immediately remove the CADD and surface files, or any translated or converted form of these files, from their electronic data processing systems upon demand of the Owner.
10. That the Owner retains all rights not expressly granted. Nothing in these terms and conditions constitutes a waiver of the Owner's rights under any federal or state law.
11. That the Owner excludes any and all implied warranties, including warranties of merchantability and fitness for a particular purpose, and limits the Contractor's remedy to return of the CADD and surface files and documentation to the Owner for replacement.
12. That the Owner makes no warranty or representation, either express or implied, with respect to the CADD and surface files or accompanying documentation, including their quality, performance, merchantability, or fitness for a particular purpose. The CADD and surface

files and documentation are provided "as is" and the Contractor assumes the entire risk as to their quality and performance.

13. That the Owner shall not be liable for any direct, indirect, special, incidental, or consequential damages arising out of the use of, inability to use, or any defect in the CADD and surface files or any translated or converted form of these files or any accompanying documentation.
14. That the Contractor shall indemnify and hold harmless the Owner, its officials and employees, and the RPR for any injury to the person or property of third parties arising out of the use of or any defect in the CADD and surface files or any translated or converted form of these files or any accompanying documentation.
15. That the Contractor shall indemnify and hold harmless the Owner, its officials and employees, and the RPR for any injury arising out of any infringement of the copyright law.
16. That the warranty and remedies set forth in these terms and conditions are exclusive and in lieu of all others, oral or written, express or implied.
17. That nothing contained in these terms and conditions shall be construed to represent or warrant that the Contractor has the right to reproduce or copy any or converted form of these files and the Contractor acknowledges that it has no right to reproduce and include copyright or trade secret notices, or patent rights on any copies, in whole or in part, in any form. All copies of each CADD and surface file remain the property of the Owner and any rights involving the copyright law as modified in 17 U.S.C. §101 et. seq. remain with the Owner.

G. Equipment.

1. Surveying Equipment. Upon request, the Contractor shall make available to the RPR, a rod, level, and tripod. The rod shall be telescoping rod, 15 feet in length with hundredth of a foot graduations. The level shall be self-leveling and have documentation demonstrating it has been calibrated within twelve months of the project's commencement.
2. Materials. Stakes used for construction layout shall be sound hardwood stakes having minimum dimensions of 1 inch by 1 inch by 4 feet in length.
3. GPS Inspection Units.
    a. GPS units provided for a single contract shall be of the same model and manufacturer; and shall include, and be licensed to operate, the same versions of GPS planning software, data collection software, navigation software, stakeout software and post processing software. All software provided (including firmware) shall be the most current available from the manufacturer at the time of delivery of the GPS units. GPS inspection units should be of the same manufacturer as those used by the Contractor. GPS units shall not be more than 2 years old from the date of manufacturing to the time of delivery. To verify the age of the GPS units, the Contractor shall provide a dated copy of the manufacturer's receipt(s) for the purchase, lease or rental of the units.
    b. GPS units shall include both standard USB cable and Bluetooth wireless technology for data transfer.
    c. Data shall be capable of being copied onto or from a removable industry standard data storage card (e.g.: secure digital SD Card). Each GPS Unit shall include 2 data storage cards, each with a minimum capacity of 4 GB each.
    d. GPS units shall include the ability to import/export and display point and alignment data which is in XML format, and also import graphics files which are in DGN or DXF format.

e. GPS units shall have an internal, or modular, rechargeable battery system capable of operating a minimum of 8 hours (may include interchangeable batteries), and shall include a battery charger.

f. GPS units shall include a hard or soft shell carry case, and all appropriate operation manuals.

4. Survey Grade GPS Inspection Units.

a. The Contractor shall provide the RPR with one GPS Inspection Unit for use during the course of the project. GPS units shall be equipped to receive Global Positioning System (GPS), GLONASS and GNSS position data.

b. GPS units shall be equipped to receive, and be capable of utilizing, Real Time Kinematics (RTK) correctional data (current version of RTCM format) through internet protocol as provided from the Continuously Operating Reference System (CORS) Network. This shall include all necessary communication devices, repeaters and systems, data service plans and communications to meet the minimum required accuracy and not exceed a 2 second latency at the rover. Whichever communication method is utilized by the Contractor to broadcast the CORS RTK correctional data, the Contractor shall ensure that the RTK data shall be available at all locations across the entire contract site during all hours of construction and inspection operations.

c. GPS units shall include the capability to "localize" both the horizontal and vertical control to local project monumentation (also known as calibrate), while utilizing RTK corrections from a reference network.

d. GPS units shall include either an integrated or modular communication device capable of receiving RTK correctional data to satisfy the requirement of using CORS RTK corrections.

e. GPS units shall have the ability to display the number of satellites tracked at any one time, and indicate the accuracy quality of each measurement relative to the strength of signals, and the GDOP (Geometric Dilution of Precision).

f. GPS Unit shall include dual frequency receivers.

g. Minimum Required Kinematic Accuracy relative to primary project control (CORS): Horizontal: 0.033 ft. + 1.0 ppm; Vertical: 0.065 ft. + 1.0 ppm

h. All necessary hardware and software shall be included (including communication drivers) to connect the GPS unit to a Tablet PC and communicate/exchange positional data with CADD software.

i. The data controller shall permit the user to program and store multiple configurations (also known as user preferences) prior to the actual field measurements. Configurations shall be capable of being stored and recalled in the field.

j. GPS units shall include one fixed height rover rod of 6.56 feet in length, one attachable bipod which is compatible with the rover rod, and one topo shoe.

k. A GPS unit set up to operate as a base station shall include all necessary additional cables, hardware, fasteners or accessories necessary to install it in a fixed semi-permanent location, will not be considered as a rover unit, and therefore will not require a rover rod, a bi-pod, or a topo shoe.

H. Verification of Existing Grades. Section not used.

J. Traditional Survey Stakeout. The Contractor shall field locate all features to be constructed from survey control points which are identified on the Plans. Any error, apparent discrepancy or absence in the data shown or required to appropriately accomplish the stakeout survey shall be referred to the RPR immediately for interpretation when such is observed or required.

The Contractor shall place two offset stakes or references points along the center line at maximum intervals of 50 feet and at such intermediate locations as required to determine location and direction. From computations and measurements made by the Contractor, these stakes shall be clearly and legibly marked with the center line station number, offset and cut or fill from which the establishment of the centerline location and elevation can be determined. If markings become illegible for any reason the markings shall be restored by the Contractor. The Contractor shall locate and place all cut, fill, slope, fine grade, or other stakes and points for the proper progress of the work with a maximum station spacing of 50 feet. All control points shall be properly protected and flagged for easy identification.

The Contractor shall be responsible for the accuracy of the work and shall maintain all applicable reference points, stakes, etc. Damaged or destroyed reference points or bench marks made inaccessible by the progress of the construction shall be replaced or transferred by the Contractor. All control points shall be referenced by ties (4 minimum) to specific points on acceptable objects and recorded. Any alterations or revisions in the ties shall be so noted and the information furnished to the RPR. All stakeout survey work related to control shall be referenced to the control line shown in the contract documents. Computations and survey notes necessary to establish the position of the work from control points, shall be made and maintained in a neat, legible and acceptable format by the Contractor. Computations, survey notes and other survey information shall be made available to the RPR within 3 work days from the request. The RPR may check all or any portion of the stakeout survey work or notes made by the Contractor. Such checking by the RPR shall not relieve the Contractor of any responsibilities for the accuracy or completeness of the work.

K. Automated Stakeout and Automated Machine Guidance Operations. Section not used.

L. GPS Inspection Unit. Section not used.

M. GPS Training Provisions. Section not used.

SP 50-18 Removal of water. The Contractor shall at all times during construction, provide and maintain proper and satisfactory means and devices for the removal of all water entering the excavations, and shall remove all such water as fast as it may collect, in such manner as shall not interfere with the prosecution of the work or the proper placing of materials or other work.

Removal of water includes the construction and removal of cofferdams, sheeting and bracing, the furnishing of materials and labor necessary therefore, the excavation and maintenance of ditches and sluiceways and the furnishing and operation of pumps, wellpoints and appliances needed to maintain thorough drainage of the work in a satisfactory manner.

Water shall not be allowed to rise over or come in contact with any masonry, concrete or mortar, until at least twenty-four (24) hours after placement and no stream of water shall be allowed to flow over such work until such time as the RPR may permit.

Unless otherwise specified, all excavations which extend down to or below the static groundwater elevations at the sites of structures shall be dewatered by lowering and maintaining the groundwater beneath such excavations at an elevation not less than that specified herein at all times when work thereon is in progress, during subgrade preparation and the placing of the structure or other materials thereon.

Where the presence of fine granular subsurface materials and a high groundwater table may cause the upward flow of water into the excavation with a resulting quick condition, the Contractor shall install and operate a suitable dewatering system to prevent the upward flow of water during construction.

When the water table is within the capillary rise of silt/clay subsurface material, the Contractor shall select and operate his equipment in a manner to prevent the deterioration of the working surface due to the upward flow of water during construction.

The effluent pumped from the dewatering system shall be examined periodically by qualified personnel to determine if the system is operating satisfactorily without the removal of fines.

Unless otherwise directed by the RPR or shown on the Contract Documents, the water level shall not be permitted to rise until construction in the immediate area is completed and the excavation backfilled to the original grade or proposed grade.

Where well points are used, the groundwater shall be lowered and maintained continuously (day and night) at a level not less than two (2) feet below the bottom of the excavation. Excavation will not be permitted at a level lower than two (2) feet above the water level as indicated by the observation wells.

The wellpoint system shall be designed or installed by or under the supervision of an organization whose principal business is wellpointing and has at least five (5) consecutive years of similar experience and can furnish a representative list of satisfactory similar operations. Wellpoint headers, points and other pertinent equipment shall not be placed within the limits of the excavation in such a manner or location as to interfere with the laying of pipe or trenching operations or with the excavation for and/or construction of other structures. Standby gasoline or diesel powered equipment shall be provided so that in the event of failure of the operating equipment, the standby equipment can be readily connected to the dewatering system. The standby equipment shall be maintained in good order and actuated regularly not less than twice a week when directed.

Wellpoints shall be installed in the center of a sand wick drain which shall be placed by means of a sanding shell or other approved means to provide a sand core not less than ten (10) inches in diameter.

Detached observation wells of similar construction to the wellpoints shall be installed at intervals of not less than fifty (50) feet along the opposite side of the trench from the header pipe and line of wellpoints, or around the excavation for a structure or as shown on the Contract Drawings, to a depth of at least five (5) feet below the proposed excavation. In addition, one wellpoint in every fifty (50) feet shall be fitted with a tee, plug and valve so that the wellpoint can be converted for use as an observation well. Observation wells shall be not less than one and one-half (12) inch in diameter.

Water pumped or drained from excavations, or any sewers, drains, or water courses encountered in the work, shall be disposed of in a suitable manner without injury to adjacent property, the work under construction, or to pavements, roads and drives. No water shall be discharged to sanitary sewers. Sanitary sewage shall be pumped to sanitary sewers or shall be disposed of by an approved method.

Any damage caused by improper handling of water shall be repaired by the Contractor at his/her own expense.

SP 50-19 Sheeting and bracing. The Contractor shall furnish, place and maintain such sheeting, bracing and shoring as required to support the sides and ends of excavations in such a manner as to prevent any movement which would in any way damage the pipe, sewers, masonry or other work, diminish the width

necessary, otherwise damage or delay the work, or endanger existing structures, pipes or pavements, or to occasion a hazard to persons engaged on the project or to the general public.

Sheeting and bracing or other trench protection shall be utilized as required for the safety of employees exposed to the hazard of falling or sliding material from any trench or excavation in conformance with the provisions of Industrial Code Rule 23 as amended, and OSHA. Sheeting and bracing must be designed by, signed and stamped by a Professional Engineer licensed to practice in the State in which the project is located.

The Contractor shall be responsible for the adequacy of all trench support systems used and for all damage to persons or property resulting from improper quality, strength, placing, maintenance and removal.

All material used for sheeting and bracing shall be sound and free from defects which might impair its strength or effectiveness.

All timber sheeting and bracing shall be sound and straight, free from cracks, shakes and large or loose knots.

All steel sheeting and bracing shall be sound and straight, free from bends, twists or splits, having square and undamaged ends.

Sheeting shall be driven vertically from the original ground surface as the excavation progresses. Sufficient toe support shall be sustained so as to maintain pressure against the original ground at all times.

Timber sheeting shall be driven so that edges are tight together and steel sheeting driven with the individual members interlocking. All bracing shall be of such design and strength as to maintain the sheeting in its proper position.

The Contractor shall be solely responsible for the adequacy of all sheeting and bracing.

In general, all sheeting and bracing, whether of steel, timber or other material, used to support the sides of trenches or other open excavations, shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a pipe, sewer or structure shall be withdrawn, unless otherwise directed, before more than 6 inches of earth is placed above the top of the pipe, sewer or structure and before any bracing is removed. The voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The Contractor shall be responsible for the adequate shoring and/or bracing of any existing utilities encountered during the excavation. Such utilities shall be braced or shored in a manner acceptable to the local jurisdictional agency having authority over the utility encountered. It shall be the responsibility of the Contractor to prevent damage to or displacement of utilities, and to work with and request the concurrence of the utility's company representative in this matter.

SP 60-09 Shop and setting drawings and catalogue data. All materials and equipment used in the work shall be submitted to the RPR, unless otherwise directed. The RPR will forward the submittals to Engineer for their review and approval prior to ordering the equipment. All information required for the Engineer’s review of each particular pay item shall be sent as one submittal. In addition, if the pay item interfaces with other pay items (as in the case of electrical equipment), then the submittals covering the interfacing pay items shall be sent at the same time. Submittals consisting of marked catalog sheets or

shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Drawings and data shall be submitted sufficiently in advance of the work to permit proper review, including time for necessary revisions and re-submittals. The Contractor is solely responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

Shop and setting drawings shall present complete and accurate information relative to all working dimensions, equipment weight assembly and sectional view, all the necessary details, pertaining to coordinating the work of the Contract, lists of materials and finishes, parts lists and the description thereof, lists of spare parts and tools where such parts or tools are required, no-scale control diagrams for control wiring and control piping, and any other items of information that are required to demonstrate detail compliance with the Plans and Specifications. Each drawing shall be dated and shall show the name of the Project, Contract Number and the name of the manufacturer of the equipment covered by the drawing or drawings. The Engineer will not review any drawings that are not properly identified or that do not contain complete data on the work or that have not been checked, stamped and signed by the Contractor for compliance with the Contract Documents.

The Engineer's review of the Contractor's Shop Drawings signifies only that such drawings appear to be in substantial conformity with the Contract Drawings and Contract Documents. Such review does not indicate approval of every detail of the drawings nor of the work methods of the Contractor which are indicated thereon. Regardless of the corrections made in or made of such drawings by the Engineer, the Contractor will nevertheless be responsible for the accuracy of such drawings, for their conformity to the Plans and Specifications and for the proper fitting and construction of the work.

No work covered by shop and setting drawings shall be done until the drawings have been reviewed and found acceptable by the Engineer. No payment shall be made on any item for which submittals are not received and found acceptable by the Engineer.

SP 60-10 Electrical shop drawings. Drawings for electrical equipment shall show physical dimensions and installation details and shall include elementary and connection diagrams for each control assembly and the interconnection diagrams for all equipment. The drawings shall show clearly the coordination of control work, shall identify the components external to electrical equipment and shall define the contact arrangement and control action of the primary and final control elements.

Where standard electrical control equipment having complex internal wiring is required, such as control panels, generator transfer panels, electric or electronic instruments and similar items, the detail shop wiring diagrams for such equipment will not be required, and, if submitted, will in general not be reviewed. The submittal for each such item of equipment shall, however, include an elementary diagram of the input and output elements which require connections to external equipment, and/or a complete step by step description of the control action of the equipment being submitted. In the event that any questions arise as to the type of information to be presented on the submittal, the supplier shall direct inquiries to the RPR through the Prime Contractor in advance of the preparation of his/her submittal.

SP 60-11 Substitute items. If in the Engineer’s sole judgment an item of material or equipment proposed by the Contractor does not qualify as an “or-equal” item, it will be considered a substitute item. The Contractor shall submit sufficient information as provided below to allow the Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable

substitute therefore. The procedure for review by the Engineer will include the following and as the Engineer may decide is appropriate under the circumstances. Requests for review of substitute items of material or equipment will not be accepted by the Engineer from anyone other than the Contractor. If the Contractor wishes to furnish or use a substitute item of material or equipment, the Contractor shall first make a written application through the RPR to the Engineer for acceptance thereof, certifying that the substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the substitute will prejudice the Contractor's achievement of completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents or Contract Drawings (or in the provisions of any other direct contract with the Owner for work on the Project) to adapt the design to the substitute and whether or not incorporation or use of the substitute in connection with the work is subject to payment of any license fee or royalty. If the substitute item requires modifications to any existing features or to any proposed work, the application shall also include details of proposed modifications necessary to accommodate the substitute item. Such details shall include scaled layouts, dimensions and other pertinent information to enable the Engineer to accurately assess the entire application. If the substitute item and proposed modifications are approved, the Contractor, at no additional cost to the Owner, shall do all work necessary to make such modifications and absorb all costs of any related changes imposed on other Contractor's. All variations of the substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by the Engineer in evaluating the substitute. The Engineer may require the Contractor to furnish additional data about the substitute.

A. Engineer's Evaluation. The Engineer will be the sole judge of acceptability. No substitute will be ordered, installed or utilized without the Engineer's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. The Engineer will record time required by the Engineer and the Engineer's Consultants in evaluating substitutes proposed or submitted by the Contractor and in making changes in the Contract Documents or Contract Drawings (or in the provisions of any other direct contract with Owner for work on the Project) occasioned thereby. The Engineer’s charges shall be at the same rates the Engineer charges for such services to the Owner.

B. Contractor's Expense. All data to be provided by the Contractor in support of any substitute item will be at the Contractor's expense. In order to aid the Engineer in determining the equality of an or substitute item (when compared to the item actually specified), the Contractor shall arrange for the performance of any tests requested by the Engineer. The Engineer shall determine the nature, extent, tester and degree of supervision of such tests. Certified test results shall be mailed directly to the Engineer for all tests requested. All costs of such tests, including engineering costs, shall be borne by the Contractor. The Owner may require the Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitute. Whether or not the Engineer accepts a substitute item so proposed or submitted by the Contractor, the Contractor shall reimburse the Owner for the charges of the Engineer and the Engineer's Consultants for evaluating each such substitute item. The costs for evaluating substitute items shall be deducted from the Owner's payment to the Contractor.

SP 60-12 Submittal procedure. The following procedure has been established for the submittal and processing of shop and setting drawings, working drawings, and catalogue data. Departures from this procedure may result in delay and misunderstandings.

A. All information required for the Engineer's review of each particular pay item shall be sent as one submittal to the RPR with an attached submittal cover sheet. In addition, if the pay item interfaces with other pay items (as in the case of electrical equipment), then the submittals covering the interfacing pay items shall be sent at the same time.

B. In submitting certifications, drawings, catalog data, and similar items for review, one (1) electronic copy shall be submitted via e-mail. One (1) electronic copy will be returned to the Contractor via e-mail and bearing the review stamp. The Contractor shall provide one (1) hard copy of each submittal for inclusion in the O&M Manual prior to contract closeout.

The RPR shall be responsible for printing sufficient copies of each submittal for their own records. The Contractor shall be responsible for printing sufficient copies of each submittal for their own records and distributing to each of the other prime or subcontractors whose work is to be correlated with such submittals.

C. Submittals will be stamped by the Engineer as follows:

1. "Approved", if no change or rejection is made.

2. "Approved as Noted", if minor changes or additions are made, but re-submittal is not considered necessary. All copies will bear the corrective marks.

3. "Revise and Resubmit", if the changes requested are extensive. In this case, re-submittal after correction is necessary and the same number of copies shall be included in the re-submittal as in the first submittal.

4. "Rejected", if it is considered that the data submitted cannot with reasonable revision meet the requirements of the Plans and Specifications.

5. "Submit Specified Item", if the data submitted is not clear, complete, or for other reasons cannot be examined by the Engineer to establish compliance with the Plans and Specifications.

D. Unless otherwise approved in specific cases, all submittals must be transmitted by the Prime Contractor, not by the Subcontractors or vendors.

Any changes in re-submittals, other than those indicated as requested, must be specifically brought to the attention of the RPR. Changes or additions shall not be made in, or to, any fabricated item, part or material without having a re-review.

SP 70-22 Additional sanitary, health, and safety provisions.

The Contractor shall promptly, and before the following conditions are disturbed, notify the Owner, in writing, of any:

1. Material that the contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

2. Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.

3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

The Owner shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work, shall issue a change order under the procedures described in the contract.

In the event that a dispute arises between the Owner and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

SP 70-23 Federal Contract Provisions for procurement and contracting under AIP.

The Contractor is required to insert these contract provision in each lower tier contract (e.g. subcontract or sub-agreement).

The Contractor is required (including all subcontractors) to incorporate these contract provisions by reference for work done under any purchase orders, rental agreements and other agreements for supplies or services.

The Contractor shall be responsible for compliance with these contract provisions by any subcontractor, lower-tier subcontractor or service provider.

A1 ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A2 AFFIRMATIVE ACTION REQUIREMENT

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

1. The Offeror’s or Bidder’s attention is called to the “Equal Opportunity Clause” and the “Standard Federal Equal Employment Opportunity Construction Contract Specifications” set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor’s aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for minority participation for each trade: 25.6%

Goals for female participation in each trade: 6.9%

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is San Carlos, San Mateo County, California.

A3 BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the Contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide Contractor written notice that describes the nature of the breach and corrective actions the Contractor must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the Contractor must correct the breach. Owner may proceed with termination of the contract if the Contractor fails to correct the breach by the deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A4 BUY AMERICAN PREFERENCE

The Contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

A bidder or offeror must complete and submit the Buy America certification included herein with their bid or offer. The Owner will reject as nonresponsive any bid or offer that does not include a completed Certificate of Buy American Compliance.

Certificate of Buy American Compliance –Manufactured Product

NOTE: Certification is included in the PROPOSAL.

A5 CIVIL RIGHTS – GENERAL

GENERAL CIVIL RIGHTS PROVISIONS

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

A6 CIVIL RIGHTS – TITLE VI ASSURANCE

Title VI Solicitation Notice:

The Sponsor, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that any contract entered into pursuant to this advertisement, select disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor"), agrees as follows:

1. Compliance with Regulations: The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Nondiscrimination: The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3. Solicitations for Subcontracts, including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.

4. Information and Reports: The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

    a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
    b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the sponsor to enter into any litigation to protect the

interests of the sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d et seq., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 et seq.), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 et seq.) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 USC §§ 12131 – 12189) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC 1681 et seq).

A7 CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC § 740-7671q) and the Federal Water Pollution Control Act as amended (33 USC § 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds $150,000.

A8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.
No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; Liability for Unpaid Wages; Liquidated Damages.
In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.
The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this clause.

4. Subcontractors.
The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

A9 COPELAND "ANTI-KICKBACK" ACT

Contractor must comply with the requirements of the Copeland "Anti-Kickback" Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A10 DAVIS-BACON REQUIREMENTS

1. Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii)

(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
(2) The classification is utilized in the area by the construction industry; and
(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers, or mechanics to be employed in the classification, or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program: Provided that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be

withheld from the Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the Contractor, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and that show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)

(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at www.dol.gov/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social

security number and current address of each covered worker and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit them to the applicant, sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) The payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;

(2) Each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;

(3) Each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, Sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of

funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable

wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 USC 1001.

A11 DEBARMENT AND SUSPENSION

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: http://www.sam.gov.

2. Collecting a certification statement similar to the Certification of Offeror/Bidder Regarding Debarment, above.

3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A12 DISADVANTAGED BUSINESS ENTERPRISE

Solicitation Language (Solicitations that include a Project Goal)

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR §26.53.

As a condition of bid responsiveness, the Bidder or Offeror must submit the following information with its proposal on the forms provided herein and must provide written confirmation of participation from each of the DBE firms the Bidder or Offeror lists in its commitment. **SEE THE CONTRACTORS DBE PLAN FORM AND DBE LETTER OF INTENT FORM IN THE PROPOSAL SECTION.**

1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
2) A description of the work that each DBE firm will perform;
3) The dollar amount of the participation of each DBE firm listed under (1)
4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal
5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26.

Solicitation Language (Race/Gender Neutral Means)

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the Owner to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

Prime Contracts (Projects Covered by a DBE Program)

DISADVANTAGED BUSINESS ENTERPRISES

Contract Assurance (§ 26.13) –

The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

1) Withholding monthly progress payments;
2) Assessing sanctions;
3) Liquidated damages; and/or
4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (§26.29) – The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 7 days from the receipt of each payment the prime contractor receives from the Owner. The prime contractor agrees further to return retainage payments to each subcontractor within 7 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Owner. This clause applies to both DBE and non-DBE subcontractors.

The Monthly Payment Report, found later in this section, is required to be submitted on a monthly basis throughout the entirety of the project. A progress payment will not be processed until the reports are submitted. This report monitors the payments by providing a running tally of actual DBE attainments and compares this to the commitments.

The prime contractor is responsible for issuing the Subcontractor's Prompt Payment Certification to all subcontractors under this contract, and is required to ensure that all subcontractors issue the certificate to each of their subcontractors. Each contractor/subcontractor shall require each of their subcontractors to fill out and submit a copy of the certification to the Sponsor's representative and the prime contractor prior to each payment application until the subcontractor's work is complete. Not receiving the certification from the subcontractor will be cause for the Sponsor's representative to delay processing the payment application.

Each subcontractor, DBE and non-DBE firms, are required to complete the Subcontractor's Prompt Payment Certification, found later in this section. A completed copy of this form shall be submitted to the Sponsor's representative, the Prime Contractor and the Contractor you are working for at least 7 days prior to an application for payment. This form is to be submitted with each payment application. Any delay in the submitting the required certification will cause a delay in payments being processed.

<u>The following language in this section was taken from various sections of 49 CFR Part 26 titled Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs. They are not intended to be all encompassing, nor a comprehensive reiteration of the regulation.</u>

A. The Sponsor has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26. The Sponsor has received, or will receive, Federal financial assistance from the Department of Transportation, and as a condition of receiving this assistance, the Sponsor has signed an assurance that it will comply with 49 CFR Part 26.

   It is the policy of the Sponsor to ensure that DBEs as defined in part 26, have an equal opportunity to receive and participate in DOT–assisted contracts. It is also the policy of the Sponsor:

   1. To ensure nondiscrimination in the award and administration of DOT – assisted contracts;
   2. To create a level playing field on which DBEs can compete fairly for DOT-assisted contracts;

3. To ensure that the DBE Program is narrowly tailored in accordance with applicable law;
4. To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are permitted to participate as DBEs;
5. To help remove barriers to the participation of DBEs in DOT assisted contracts;
6. To assist the development of firms that can compete successfully in the market place outside the DBE Program.

B. The obligation of the bidder is to make good faith efforts. The bidder can demonstrate that it has done so either by meeting the contract goal or documenting good faith efforts. Examples of good faith efforts are found in Appendix A to Part 26. Determination whether the bidder has made a good faith effort will be made by the Sponsor's DBE Liaison Officer. The Contractor's DBE Plan must be acceptable to the Sponsor before entering into a contract with the bidder.

Guidance pertaining to good faith efforts is provided in Appendix A to 49 CFR Part 26. In general, the bidder must demonstrate that they have taken all necessary and reasonable steps to achieve the identified DBE goal. The bidder should adequately document all such efforts, including contacts of DBE firms that are not interested.

Good Faith Efforts:

Bidder must demonstrate that they made good faith efforts to achieve participation with DBE firms. This requires that the bidder show that it took all necessary and reasonable steps to secure participation by certified DBE firms. Mere pro forma efforts will not be considered as a good faith effort.

Such actions constituting evidence of good faith efforts include but are not limited to:

- Soliciting DBE participation through all reasonable and available means. This may include public advertisements and phone calls/faxes to known certified DBE firms.
- Consult State Department of Transportation office to obtain a list of certified DBE firms.
- Selecting portions of work that increases the likelihood that DBE firms will be available to participate.
- Providing DBE firms with sufficient information and time to review the project pans and specifications.
- Documenting all contacts with DBE firms. This includes name, address, phone number, date of contact and record of conversation/negotiation.

C. Within 7 days of being informed by the Airport that it is not responsive because it has not documented sufficient good faith efforts, a bidder may request administrative reconsideration. Bidder/offerors should make this request in writing to the Sponsor's reconsideration official. The reconsideration official will not have played any role in the original determination that the bidder did not document sufficient good faith efforts.

As part of this reconsideration, the bidder/offeror will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. The bidder/offeror will have the opportunity to

meet in person with the reconsideration official to discuss the issue of whether it met the goal or made adequate good faith efforts to do. We will send the bidder/offeror a written decision on reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. The result of the reconsideration process is not administratively appealable to the Department of Transportation.

D. Before transmitting to us its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to us, of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise us and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why we should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), we may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to pre-award deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

The Airport will require a contractor to make good faith efforts to replace a DBE that is terminated or has otherwise failed to complete its work on a contract with another certified DBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract goal that we established for the procurement. The good faith efforts shall be documented by the contractor. If we request documentation from the contractor under this provision, the contractor shall submit the documentation to us within 7 days, which may be extended for an additional 7 days if necessary at the request of the contractor, and the recipient shall provide a written determination to the contractor stating whether or not good faith efforts have been demonstrated.

As stated in Contract Assurance § 26.13, failure by the contractor to carry out the requirements of this part is a material breach of the contract and may result in the termination of the contract or such other remedies set forth in that section that we deem appropriate if the prime contractor fails to comply with the requirements of this section.

If the contractor fails or refuses to comply in the time specified, our contracting office will issue an order stopping all or part of payment/work until satisfactory action has been taken. If the contractor still fails to comply, the contracting officer may issue a termination for default proceeding.

E. The sponsor will require the contractor to maintain records and documents of payments to DBEs for three years following the performance of the contract. These records will be made available for inspection upon request by any authorized representative of the Sponsor or DOT. This reporting requirement also extends to any certified DBE subcontractor.

The Sponsor will perform interim audits of contract payments to DBEs. The audit will review payments to DBE subcontractors to ensure that the actual amount paid to DBE subcontractors equals or exceeds the dollar amounts stated in The Contractors DBE Plan.

The Disadvantaged Business Enterprise (DBE) Participation Summary Form, found later in this section, must be completed and signed by the DBE firm upon completion of the project. A final payment will not be processed without the required form. The intent of this form is to confirm total payments made to DBE firms.

F. Fostering Small Business Participation (49 CFR Part 26, §26.39).

The Sponsor has determined that an SBE program is not feasible for this Contract.

A13 DISTRACTED DRIVING

TEXTING WHEN DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving", (10/1/2009) and DOT Order 3902.10, "Text Messaging While Driving", (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding $3,500 that involve driving a motor vehicle in performance of work activities associated with the project.

A14 ENERGY CONSERVATION REQUIREMENTS

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 USC 6201et seq).

A15 DRUG FREE WORKPLACE REQUIREMENTS

The Drug-Free Workplace Act of 1988 requires some Federal contractors and all Federal grantees to agree that they will provide drug-free workplaces as a condition of receiving a contract or grant from a Federal agency. The Act does not apply to contractors, subcontractors, or subgrantees, although the Federal grantee's workplace may be where the contractors, subcontractors, or subgrantees are working.

A16 EQUAL EMPLOYEMENT OPPORTUNITY (EEO)

EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identify, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff, or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

(3) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:
   a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

   b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;

   c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

   d. "Minority" includes:

      (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

      (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);

      (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

      (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation

from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the Contractor during the training period and the Contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

    a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

    b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

    c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or female sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items, with onsite supervisory personnel such superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally), the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A17 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

SOLICITATION CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

A18 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

NOTE: Certification is included in the PROPOSAL.

A19 PROHIBITION of SEGREGATED FACILITIES

PROHIBITION OF SEGREGATED FACILITIES

(a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.

(b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Employment Opportunity clause of this contract.

A20 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

CONTRACT CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A21 PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

1) The contract requires procurement of $10,000 or more of a designated item during the fiscal year; or

2) The contractor has procured $10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;

b) Fails to meet reasonable contract performance requirements; or

c) Is only available at an unreasonable price.

A22 RIGHT TO INVENTIONS

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within 37 CFR §401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental, or research work.

A23 SEISMIC SAFETY (Section not applicable.)

A24 TAX DELINQUENCY AND FELONY CONVICTIONS

NOTE: Certification is included in the PROPOSAL.

A25 TERMINATION OF CONTRACT

TERMINATION FOR CONVENIENCE
(CONSTRUCTION & EQUIPMENT CONTRACTS)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the Owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work, and as directed in the written notice.

5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the Owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

1) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
2) documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;
3) reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
4) reasonable and substantiated expenses to the Contractor directly attributable to Owner's termination action.

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

TERMINATION FOR DEFAULT (CONSTRUCTION)

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes conditions, rights, and remedies associated with Owner termination of this contract due to default of the Contractor.

TERMINATION FOR DEFAULT (EQUIPMENT)

The Owner may, by written notice of default to the Contractor, terminate all or part of this Contract if the Contractor:

1. Fails to commence the Work under the Contract within the time specified in the Notice- to-Proceed;
2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;
3. Fails to make delivery of the equipment within the time specified in the Contract, including any Owner approved extensions;
4. Fails to comply with material provisions of the Contract;
5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements; or
6. Becomes insolvent or declares bankruptcy.

If one or more of the stated events occur, the Owner will give notice in writing to the Contractor and Surety of its intent to terminate the contract for cause. At the Owner's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within 10 days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the Owner, the Owner has authority to acquire equipment by

other procurement action. The Contractor will be liable to the Owner for any excess costs the Owner incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the Owner shall be at the Contract price. The Owner may withhold from amounts otherwise due the Contractor for such completed equipment, such sum as the Owner determines to be necessary to protect the Owner against loss because of Contractor default.

Owner will not terminate the Contractor's right to proceed with the Work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the Owner determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the Owner issued the termination for the convenience the Owner.

The rights and remedies of the Owner in this clause are in addition to any other rights and remedies provided by law or under this contract.

A26 TRADE RESTRICTION CERTIFICATION

NOTE: Certification is included in the PROPOSAL.

A27 VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

SP 70-24 CALTRANS standard specifications (section 7 selections) for California state contracts

NOTE: As used in this Section, the term "Engineer" may refer to RPR. See FAA Section 10 for definitions of Engineer and RPR.

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State, whether a contractor, licenser, licensee, lessor, lessee or any other party):

In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Appendix A, the terms of this Appendix A shall control.

This contract shall be governed by the laws of the State of California except where the Federal supremacy clause requires otherwise.

7-1.01 GENERAL
Section 7 includes specifications related to your:

1. Compliance with laws
2. Responsibilities for public safety and convenience
3. Responsibilities for indemnification, insurance, and liability

7-1.02 LAWS
7-1.02A General
Comply with laws, regulations, orders, and decrees applicable to the project. Indemnify and defend the State against any claim or liability arising from the violation of a law, regulation, order, or decree by you or your employees. Immediately report to the Engineer a discrepancy or inconsistency between the Contract and a law, regulation, order, or decree.

If the Department incurs any fines or penalties because of your failure to comply with a law, regulation, order, or decree, the Department deducts the amount of the fine or penalty.

Immediately notify the Engineer if a regulatory agency requests access to the job site or to records. Submit a list of documents provided to the agency and issued enforcement actions.

7-1.02B US Fair Labor Standards Act
Comply with 29 USC § 201 et seq.

7-1.02C Emissions Reduction
Submit to the Department the following certification before performing the work:

> I am aware of the emissions reduction regulations being mandated by the California Air Resources Board. I will comply with such regulations before commencing the performance of the work and maintain compliance throughout the duration of this Contract.

Contract signing constitutes submittal of this certification.

7-1.02D Unmanned Aircraft Systems
Comply with 14 CFR 107 when operating UAS in the proximity of the highway.

Submit the following to the Engineer and https://app.smartsheet.com/b/form/7ad42b76ef9e4f37ba2978520f1b1a5f as an informational submittal at least 7 days before initial operation of UAS:

1. UAS remote pilot information
   - 1.1. Pilot's full name
   - 1.2. Pilot's contact information
     - 1.2.1. Phone number
     - 1.2.2. Email address
   - 1.3. Pilot's certification information
     - 1.3.1. Certificate issuance date

1.3.2. Certificate expiration date

2. UAS information
   2.1. UAS manufacturer
   2.2. UAS model
   2.3. Registration number
   2.4. Registration issuance date
   2.5. Registration expiration date

Maintain records of UAS flights. Submit a post-flight record as an informational submittal to the Engineer and https://app.smartsheet.com/b/form/5e34deda3bd24f8f8397d895275ecbec within 1 business day of each flight. The post-flight record must include the following:

1. Flight date
2. Flight duration
3. Visual observer name and contact information
4. Purpose of flight
5. UAS Hazard Analysis Contractor/Consultant form, as an attachment
6. Description of any accidents or incidents, if applicable

Do not operate UAS over the traveled way unless preauthorized in writing by the Engineer. Launch and land UAS at least 50 feet from the edge of live traffic.

7-1.02E–7-1.02H Reserved
7-1.02I Government Code
7-1.02I(1) General
Reserved

7-1.02I(2) Nondiscrimination
Under 2 CA Code of Regs § 11105:

1. During the performance of this contract, the recipient, contractor, and its subcontractors shall not deny the contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.
2. Contractor shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code, §12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., tit. 2, § 11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code, §§11135-11139.5), and the regulations or standards adopted by the awarding state agency to implement such article.
3. Contractor or recipient shall permit access by representatives of the Department of Fair Employment and Housing and the awarding state agency upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or Agency shall require to ascertain compliance with this clause.

4. Recipient, contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
5. The contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.

Under 2 CA Code of Regs § 11122:

STANDARD CALIFORNIA NONDISCRIMINATION CONSTRUCTION CONTRACT SPECIFICATIONS (GOV. CODE SECTION 12990)

These specifications are applicable to all state contractors and subcontractors having a construction contract or subcontract of $5,000 or more.

1. As used in the specifications:
   a. "Act" means the Fair Employment and Housing Act.
   b. "Administrator" means Administrator, Office of Compliance Programs, California Department of Fair Employment and Housing, or any person to whom the Administrator delegates authority;
2. Whenever the contractor or any subcontractor subcontracts a portion of the work, it shall include in each subcontract of $5,000 or more the nondiscrimination clause in this contract directly or through incorporation by reference. Any subcontract for work involving a construction trade shall also include the Standard California Construction Contract Specifications, either directly or through incorporation by reference.
3. The contractor shall implement the specific nondiscrimination standards provided in paragraphs 6(a) through (e) of these specifications.
4. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement, to refer members of any group protected by the Act shall excuse the contractor's obligations under these specifications, Government Code section 12990, or the regulations promulgated pursuant thereto.5. In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
5. In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
6. The contractor shall take specific actions to implement its nondiscrimination program. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor must be able to demonstrate fully its efforts under steps a. through e. below:
   a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and at all facilities at which the contractor's employees are assigned to work. The contractor shall specifically ensure that all foremen,

superintendents, and other on-site supervisory personnel are aware of and carry out the contractor's obligations to maintain such a working environment.

b. Provide written notification within seven days to the director of the DFEH when the referral process of the union or unions with which the contractor has a collective bargaining agreement has impeded the contractor's efforts to meet its obligations.

c. Disseminate the contractor's equal employment opportunity policy by providing notice of the policy to unions and training, recruitment and outreach programs and requesting their cooperation in assisting the contractor to meet its obligations; and by posting the company policy on bulletin boards accessible to all employees at each location where construction work is performed.

d. Ensure all personnel making management and employment decisions regarding hiring, assignment, layoff, termination, conditions of work, training, rates of pay or other employment decisions, including all supervisory personnel, superintendents, general foremen, on-site foremen, etc., are aware of the contractor's equal employment opportunity policy and obligations, and discharge their responsibilities accordingly.

e. Ensure that seniority practices, job classifications, work assignments, and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the equal employment opportunity policy and the contractor's obligations under these specifications are being carried out.

7. Contractors are encouraged to participate in voluntary associations that assist in fulfilling their equal employment opportunity obligations. The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on equal employment opportunity in the industry, ensures that the concrete benefits of the program are reflected in the contractor's workforce participation, and can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's.
8. The contractor is required to provide equal employment opportunity for all persons. Consequently, the contractor may be in violation of the Fair Employment and Housing Act (Government Code section 12990 et seq.) if a particular group is employed in a substantially disparate manner.
9. The contractor shall not use the nondiscrimination standards to discriminate against any person because race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status.
10. The contractor shall not enter into any subcontract with any person or firm decertified from state contracts pursuant to Government Code section 12990.
11. The contractor shall carry out such sanctions and penalties for violation of these specifications and the nondiscrimination clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Government Code section 12990 and its implementing regulations by the awarding agency. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Government Code section 12990.
12. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company equal employment opportunity policy is being carried out, to submit reports relating to the provisions hereof as may be required by OCP and to keep records. Records shall at least include for each employee the name, address,

telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, status, (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in any easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

7-1.02J Reserved

7-1.02K Labor Code

7-1.02K(1) General

Work on the job site must comply with Labor Code §1720 et seq. and 8 CA Code of Regs § 16000 et seq. Work includes roadside production and processing of materials, and hauling and delivery of ready-mixed concrete.

Payroll records include time cards, canceled checks, cash receipts, trust fund forms, books, documents, schedules, forms, reports, receipts or other information which reflect job assignments, work schedules by days and hours, and the disbursement of payment to workers (8 CA Code of Regs § 16000).

7-1.02K(2) Wages

The Department obtains the general prevailing rate of wages applicable to the work to be done. The rate includes:

1. Basic hourly rate
2. Employer payments for health and welfare, pension, vacation, apprenticeship training fees, travel time, and subsistence pay as provided for in Labor Code § 1773.1
3. Similar purposes

The general prevailing wage rates and any applicable changes to these wage rates are available:

1. At the Department's Labor Compliance Office of the district in which the work is located
2. From the Department of Industrial Relations' website

Post the general prevailing wage rates at a prominent place at the job site (Labor Code § 1773.2).

The wage determinations refer to expiration dates. The determinations with a single asterisk after the expiration date, and in effect on the date of advertisement for bids, are good for the life of the Contract. The determinations with double asterisks after the expiration date indicate the wage rate to be paid for work performed after this date has been determined. If work is to extend past this date, pay the new rate and incorporate it into the Contract. Changes in general prevailing wage determinations apply to the Contract when the Director of Industrial Relations has issued them at least 10 days before advertisement. (Labor Code § 1773.6 and 8 CA Code of Regs 16204)

The Department does not recognize any claim for additional payment because of a payment by the Contractor of any wage rate in excess of the prevailing wage rate specified in the Contract.

The Contractor and any subcontractor must forfeit to the Department not more than $200 per day or part of a day for each worker paid less than the prevailing wage rate and pay the

worker the difference between the prevailing wage rate and the rate paid (Labor Code § 1775). The Labor Commissioner determines the amount of this penalty and bases the amount on:

1. Whether the failure to pay the correct prevailing wage rate was a good-faith mistake that the Contractor or subcontractor promptly and voluntarily corrected upon notice
2. Prior record of the Contractor or subcontractor in meeting its prevailing wage obligations
3. Contractor or subcontractor's willful failure to pay the correct rate of prevailing wages

If a worker employed by a subcontractor on a public works project is not paid the general prevailing per diem wages by the subcontractor, the Contractor is not liable for the penalties described in section 7-1.02K(2) unless the Contractor had knowledge of the failure to pay the correct general prevailing per diem wages or unless the Contractor fails to comply with the following requirements (Labor Code § 1775):

1. The contract executed between the Contractor and the subcontractor for the performance of work on the public works project must include a copy of the requirements in Labor Code §§ 1771, 1775, 1776, 1777.5, 1813, and 1815.
2. The Contractor must monitor the payment of the specified general prevailing rate of per diem wages by periodic review of the certified payroll records of the subcontractor.
3. Upon becoming aware of the subcontractor's failure to pay the specified prevailing rate of wages to the subcontractor's workers, the Contractor must diligently take corrective action to stop or rectify the failure, including withholding sufficient funds due the subcontractor for work performed on the public works project.
4. Before making final payment to the subcontractor for work performed on the public works project, the Contractor must obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages to its employees on the public works project and any amounts due under Labor Code § 1813.

Under Labor Code § 1775, the Department must notify the contractor on a public works project within 15 days of receipt by the Department of a complaint of the failure of a subcontractor on that public works project to pay workers the general prevailing rate of per diem wages.

7-1.02K(3) Certified Payroll Records (Labor Code § 1776)

Keep accurate payroll records.

Submit a copy of your certified payroll records, weekly, including those of subcontractors. Include:

1. Each employee's:
    - 1.1. Full name
    - 1.2. Address
    - 1.3. Last four digits of social security number pursuant to Labor Code § 226(a)
    - 1.4. Work classification
    - 1.5. Straight time and overtime hours worked each day and week
    - 1.6. Actual wages paid for each day to each:
        - 1.6.1. Journeyman
        - 1.6.2. Apprentice
        - 1.6.3. Worker
        - 1.6.4. Other employee you employ for the work

1.7. Pay rate
1.8. Itemized deductions made
1.9. Check number issued
2. Apprentices and the apprentice-to-journeyman ratio

Each certified payroll record must include a Statement of Compliance form signed under penalty of perjury that declares:

1. Information contained in the payroll record is true, correct, and complete
2. Employer has complied with the requirements of sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project
3. Wage rates paid are at least those required by the Contract

The Department allows the use of a form with identical wording as the Statement of Compliance form provided by the Department.

Submitted certified payrolls for hauling and delivering ready-mixed concrete must be accompanied by a written time record. The time record must include:

1. Truck driver's full name and address
2. Name and address of the factory or batching plant
3. Time the concrete was loaded at the factory or batching plant
4. Time the truck returned to the factory or batching plant
5. Truck driver's signature certifying under penalty of perjury that the information contained in this written time record is true and correct

Submit certified payroll records electronically using the Department's contracted certified payroll internet system LCPtracker Pro. For information on submittal of certified payroll records using LCPtracker Pro, go to the LCPtracker website:

https://www.lcptracker.com/solutions/lcptracker

Request user account for your designated representative by submitting LCPtracker Vendor Access Request form.

The Department responds with an e-mail containing a Caltrans Internet Certificate to be used for the electronic submission of payroll records. When you accept the certificate and reply to the e-mail, the Department is ready to accept your electronic submissions.

Each electronic submission must:
1. Include certified payroll records in a nonmodifiable PDF file. No spreadsheets, Microsoft Word documents, or password-protected documents are accepted.
2. Include a signed Statement of Compliance form with each weekly record.
3. Be received by the Department by close of business on the 15th day of the month for the prior month's work.
4. Be encrypted before submission.
5. Contain the following information in the subject line:
   5.1. Contract number.
   5.2. Week ending date as W/E mm/dd/yy.
6. Contain 1 contract number and week ending date per submission.

For additional information on electronic submission of certified payroll records, go to the Department's Labor Compliance website.

Make certified payroll records available for inspection at all reasonable hours at your main office on the following basis:

1. Upon the employee's request or upon request of the employee's authorized representative, make available for inspection a certified copy of the employee's payroll record.
2. Refer the public's requests for certified payroll records to the Department. Upon the public's request, the Department makes available for inspection or furnishes copies of your certified payroll records. Do not give the public access to the records at your main office.

Make all payroll records, including employee's complete social security number, available for inspection and copying or furnish a copy upon request of a representative of the:

1. Department
2. Division of Labor Standards Enforcement of the Department of Industrial Relations
3. Division of Apprenticeship Standards of the Department of Industrial Relations

Furnish the Department the location of the records. Include the street address, city, and county. Furnish the Department a notification of a location and address change within 5 business days of the change.

Comply with a request for the records within 10 days after you receive a written request. If you do not comply within this period, the Department withholds from progress payments a $100 penalty for each day or part of a day for each worker until you comply. You are not assessed this penalty for a subcontractor's failure to comply with Labor Code § 1776.

The Department withholds from progress payments for delinquent or inadequate records (Labor Code § 1771.5). If you have not submitted an adequate record by the month's 15th day for the period ending on or before the 1st of that month, the Department withholds up to 10 percent of the monthly progress estimate, exclusive of mobilization. The Department does not withhold more than $10,000 or less than $1,000.

7-1.02K(4) Apprentices

Comply with the apprentice to journeyman ratio requirements (Labor Code § 1777.5(g)).

Comply with the training contribution requirements (Labor Code § 1777.5(m)(1)).

For answers to questions, contact the Division of Apprenticeship Standards before starting work.

The Department deducts from progress payments civil penalties assessed by the Chief of the Division of Apprenticeship Standards for violating Labor Code § 1777.5 (Labor Code § 1777.7).

7-1.02K(5) Working Hours

Eight hours is a legal day's work (Labor Code § 1810).

The time of service of any worker employed on public work is limited and restricted to 8 hours in 1 day and 40 hours in 1 calendar week, except as provided by Labor Code § 1815 (Labor Code § 1811).

A Contractor's employee may work more than 8 hours per day and 40 hours per week if the Contractor pays the employee 1-1/2 times the basic pay rate for the hours worked in excess of 8 hours per day and 40 hours per week (Labor Code § 1815).

For each worker employed in the work for each day the worker works more than 8 hours in 1 day and 40 hours in 1 calendar week without overtime pay, the Department deducts $25 as a penalty for violating Labor Code § 1815 (Labor Code § 1813).

7-1.02K(6) Occupational Safety and Health Standards

7-1.02K(6)(a) General

Comply with applicable occupational safety and health standards, rules, regulations, and orders. The Occupational Safety and Health Standards Board is the only agency authorized in the State to adopt and enforce occupational safety and health standards (Labor Code § 142 et seq.).

You must contact the local public health service department for information concerning public health conditions within the area of the project.

You are the controlling employer and must ensure hazardous conditions are corrected (Labor Code § 6400).

The Engineer may notify Cal/OSHA if you fail to establish or maintain a safe and healthful workplace.

Submit copies of your Injury and Illness Prevention Program, Code of Safe Practices, and permits required by Cal/OSHA as informational submittals. The program must address the use of personal and company-issued electronic devices during work. Do not allow the use of entertainment and personal communication devices in the work zone. Workers may use a communication device for business purposes in the work area, at a location where their safety and the safety of other workers and the traveling public is not compromised.

The Department is not responsible for the health and safety of:

1. Contractor's personnel
2. Subcontractor's personnel
3. Supplier's personnel
4. Any other persons present at the job site at the request of you or your subcontractors.

7-1.02K(6)(b) Excavation Safety

Comply with Labor Code § 6705 while excavating. For an excavation 5 feet or more in depth, submit shop drawings for a protective system.

The drawings must show the design and details for providing worker protection from caving ground during excavation.

Shop drawings of protective systems for which the Construction Safety Orders require design by a registered professional engineer must be sealed and signed by an engineer who is registered as a civil engineer in the State.

The submittal must allow review time and include the contents shown in the following table except the review time is 65 days for an excavation on or affecting railroad property:

Drawing Review Time and Contents

Topic	Plan not requiring a signature	Plan requiring a signature
Review time	5 business days before excavating	20 days before excavating
Contents	Drawings Calculations Material information Proprietary system information	Drawings Calculations Material information Proprietary system information Soil classification Soil properties Soil design calculations

7-1.02K(6)(c) Tunnel Safety

Cal/OSHA classifies tunnels into one of the following classifications:

1. Nongassy
2. Potentially gassy
3. Gassy
4. Extrahazardous

If a tunnel location is described in the Contract, the classification is included in the Information Handout and you must:

1. Designate an on-site Safety Representative under 8 CA Code of Regs § 8406
2. Submit the name of your on-site Safety Representative at least 7 days before starting work at each tunnel
3. Prominently post a notice at the job site of:
   3.1. Tunnel classifications
   3.2. Any special orders, rules, special conditions, or regulations related to tunnel work
4. Ensure your workers are informed of these classifications

Notify the Engineer at least 20 days before a worker enters a tunnel not described in the Contract. The Department obtains the classification of the tunnel. The Engineer may suspend the work because of a change directly resulting from the Contractor's planned activities that causes activities to fall under the Tunnel Safety Orders of 8 CA Code of Regs § 8422.

7-1.02K(6)(d) Confined Space Safety

Comply with 8 CA Code of Regs § 5158 while working in a confined space.

7-1.02K(6)(e) Scaffolding

Reserved

7-1.02K(6)(f) – 7.102K(6)(i) Reserved

7-1.02K(6)(j) Lead Safety

7-1.02K(6)(j)(i) General
Reserved

7-1.02K(6)(j)(ii) Lead Compliance Plan
Section 7-1.02K(6)(j)(ii) applies if a bid item for a lead compliance plan is shown on the Bid Item List.

Regulations containing specific Cal/OSHA requirements when working with lead include 8 CA Code of Regs § 1532.1.

Submit a plan:
1. That documents your compliance program to prevent or minimize worker exposure to lead
2. Including the items listed in 8 CA Code of Regs § 1532.1(e)(2)(B)
3. Sealed and signed by a CIH with knowledge of and experience complying with 8 CA Code of Regs

Allow 7 days for review. Obtain authorization for the plan before starting any activity that presents the potential for lead exposure.

Before starting any activity that presents the potential for lead exposure to employees who have no prior training, including State employees, provide a safety training program to these employees that complies with 8 CA Code of Regs § 1532.1 and your lead compliance plan.

Submit copies of air monitoring or job site inspection reports made by or under the direction of the CIH under 8 CA Code of Regs § 1532.1 within 10 days after the date of monitoring or inspection.

Supply personal protective equipment, training, and washing facilities required by your lead compliance plan for 5 State employees.

7-1.02K(6)(j)(iii) Unregulated Earth Material Containing Lead
Reserved

7-1.02K(6)(j)(iv-viii) Reserved
7-1.02K(6)(k) – 7.102K(6)(t) Reserved
7-1.02L Public Contract Code
7-1.02L(1) General
Reserved

7-1.02L(2) Antitrust Claims
In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties. [Pub Cont Code § 7103.5 (b)]

7-1.02M Public Resources Code
7-1.02M(1) General
Reserved

7-1.02M(2) Fire Protection
Submit the names and emergency telephone numbers of the nearest fire suppression agencies before the start of job site activities as an informational submittal. Post the names and phone numbers at a prominent place at the job site.

Submit a copy of your fire prevention plan required by Cal/OSHA as an informational submittal before the start of job site activities

Cooperate with fire prevention authorities in performance of the work.

Immediately report fires occurring within and near the project limits by dialing 911 and to the nearest fire suppression agency by using the emergency phone numbers retained at the job site.

Prevent project personnel from setting open fires that are not part of the work.

Prevent the escape of and extinguish fires caused directly or indirectly by job site activities.

7-1.02M(3) Surface Mining and Reclamation Act
Imported borrow or aggregate material must come from a surface mine permitted under the Surface Mining and Reclamation Act of 1975, Pub Res Code § 2710 et seq., or from a source not subject to this act.

For the list of permitted sites, go to the Department of Conservation, Division of Mine Reclamation website.

If you import borrow or aggregate material from a surface mine not on this list, submit proof that the source is not subject to this act.

7-1.02M(4) – 7-1.02M(7) Reserved
7-1.02N Reserved
7-1.02O Vehicle Code
Under Veh Code § 591, the Department determines areas within the project limits are open to public traffic. For those areas, comply with the requirements set forth in Divisions 11, 12, 13, 14 and 15 of the Veh Code.

Veh Code § 591 does not relieve you or any other person from the duty of exercising due care.

7-1.02P – 7-1.02Z Reserved

7-1.03 PUBLIC CONVENIENCE
Compliance with section 7-1.03 does not relieve you of your responsibility for public safety.

Construction activities must not inconvenience the public or abutting property owners. Schedule and conduct work to avoid unnecessary inconvenience to the public and abutting

property owners. Avoid undue delay in construction activities to reduce the public's exposure to construction.

Where possible, route traffic on new or existing paved surfaces.

Maintain convenient access to driveways, houses, and buildings. When an abutting property owner's access across the right-of-way line is to be eliminated or replaced under the Contract, the existing access must not be closed until the replacement access facility is usable. Construct temporary approaches to a crossing and an intersecting highway.

Provide a reasonably smooth and even surface for use by traffic at all time during the excavation of a roadway and construction of an embankment. Before other grading activities, place fill at culverts and bridges to allow traffic to cross. If ordered, excavate a roadway cut in layers and construct an embankment in partial widths at a time alternating construction from one side to the other and routing traffic over the side opposite the one under construction. Install or construct culverts on only 1/2 the width of the traveled way at a time; keep the traveled way portion being used by traffic open and unobstructed until the opposite side of the traveled way is ready for use by traffic.

Upon completion of rough grading or placing any subsequent layer, bring the surface of the roadbed to a smooth and even condition, free of humps and depressions, and satisfactory for the use of the public.

After subgrade preparation for a specified layer of material has been completed, repair any damage to the roadbed or completed subgrade, including damage caused by public use.

While subgrade and paving activities are underway, allow the public to use the shoulders. If half-width paving methods are used, allow the public to use the side of the roadbed opposite the one under construction. If enough width is available, keep open a passageway wide enough to accommodate at least 2 lanes of traffic at locations where subgrade and paving activities are underway. Shape shoulders or reshape subgrade as necessary to accommodate traffic during subgrade preparation and paving activities.

Apply a dust palliative for the prevention or alleviation of dust nuisance.

If a height differential of more than 0.04 foot is created by construction activities at a joint transverse to the direction of traffic on the traveled way or a shoulder subject to public traffic, construct a temporary taper at the joint with a slope complying with the requirements shown in the following table:

Temporary Tapers

Height differential (foot)	Slope (horizontal:vertical)	
	Taper use of 14 days or less	Taper use of more than 14 days
Greater than 0.08	100:1 or flatter	200:1 or flatter
0.04–0.08	70:1 or flatter	70:1 or flatter

For a taper on existing asphalt concrete or concrete pavement, construct the taper with minor HMA under section 39-2.07.

Grind existing surfaces to accommodate a minimum taper thickness of 0.10 foot under either of the following conditions:

1. HMA material such as rubberized HMA, polymer-modified bonded wearing course, or open-graded friction course is unsuitable for raking to a maximum 0.02 foot thickness at the edge
2. Taper will be in place for more than 14 days

For a taper on a bridge deck or approach slab, construct the taper with rapid setting concrete under section 60-3.02B(2) or polyester concrete under section 60-3.04B(2). Prepare the surface to receive the taper under section 60-3.02C(7). For tapers with aggregate fillers, rake conform edges to ensure smooth transitions. Cure the taper for at least 3 hours or the minimum time recommended by the manufacturer before opening to traffic.

The completed surface of the taper must be uniform and must not vary more than 0.02 foot from the lower edge of a 12-foot straightedge when placed on its surface parallel and perpendicular to traffic.

If authorized, you may use alternative materials or methods to construct the required taper.

Install signs, lights, flares, Type K temporary railing, barricades and other facilities to direct traffic. Provide flaggers whenever necessary to direct the movement of the public through or around the work. Flagging must comply with section 12-1. When not described and if ordered, providing flaggers is change order work.

You are required to pay for the cost of replacing or repairing all facilities installed under change order work for the convenience, direction, or warning of the public that are lost while in your custody or are damaged by your operations to such an extent as to require replacement or repair.

The Engineer may order or consent to your request to open a completed section of surfacing, pavement, or structure roadway surface for public use. You will not be compensated for any delay to your construction activities caused by the public. This does not relieve you from any other contractual responsibility.

7-1.04 PUBLIC SAFETY

You are responsible to provide for public safety.

Do not construct a temporary facility that interferes with the safe passage of traffic.

Control dust resulting from the work, inside and outside the right-of-way.

Move workers, equipment, and materials without endangering traffic.

Whenever your activities create a condition hazardous to the public, furnish, erect and maintain those fences, temporary railing, barricades, lights, signs, and other devices and take any other necessary protective measures to prevent damage or injury to the public.

Any fences, temporary railing, barricades, lights, signs, or other devices furnished, erected and maintained by you are in addition to those for which payment is provided elsewhere in the specifications.

Provide flaggers whenever necessary to ensure that the public is given safe guidance through the work zone. Flagging must comply with section 12-1. The Department pays you for this work under section 12-1.04.

At locations where traffic is being routed through construction under one-way controls, move your equipment in compliance with the one-way controls unless otherwise ordered.

Use of signs, lights, flags, or other protective devices must comply with the *California MUTCD* and any directions of the Engineer. Signs, lights, flags or other protective devices must not obscure the visibility of, nor conflict in intent, meaning, and function of either existing signs, lights and traffic control devices, or any construction area signs.

Keep existing traffic signals and highway lighting in operation. Other forces within the Department will perform routine maintenance of these facilities during the work.

Cover signs that direct traffic to a closed area. Except for work specified in section 12, maintaining, and removing the covers on construction area signs is change order work.

Install temporary illumination such that the illumination and the illumination equipment do not interfere with public safety. The installation of general roadway illumination does not relieve you from furnishing and maintaining any protective devices.

Equipment must enter and leave the highway via existing ramps and crossovers and must move in the direction of traffic. All movements of workers and construction equipment on or across lanes open to traffic must be performed in a manner that do not endanger the public. Your vehicles or other mobile equipment leaving an open traffic lane to enter the construction area must slow down gradually in advance of the location of the turnoff to give the traffic following an opportunity to slow down. When leaving a work area and entering a roadway carrying traffic, your vehicles and equipment must yield to traffic. Compensation for flaggers, used for all movement of workers and construction vehicles and equipment on or across lanes open to traffic, is included in the bid items of work involved.

Immediately remove hauling spillage from a roadway lane or shoulder open to traffic. When hauling on roadways, trim loads and remove material from shelf areas to minimize spillage.

Notify the Engineer not less than 25 days and not more than 125 days before the anticipated start of an activity that will change the vertical or horizontal clearance available to traffic, including shoulders.

If vertical clearance is temporarily reduced to 15.5 feet or less, place low clearance warning signs in compliance with the *California MUTCD* and any directions of the Engineer. Signs must comply with the dimensions, color, and legend requirements of the *California MUTCD* and section 12-3.11 except that the signs must have black letters and numbers on an orange retroreflective background. W12-2P signs must be illuminated so that the signs are clearly visible.

Pave or provide full width continuous and cleared wood walks for pedestrian openings through falsework. Protect pedestrians from falling objects and concrete-curing water. Extend overhead protection for pedestrians at least 4 feet beyond the edge of the bridge deck.

Illuminate all pedestrian openings through falsework. Temporary pedestrian facilities must comply with the California MUTCD, Part 6, Chapter 6D, "Pedestrian and Worker Safety."

Do not store vehicles, material, or equipment in a way that:

1. Creates a hazard to the public
2. Obstructs traffic control devices

Do not install or place temporary facilities used to perform the work which interfere with the free and safe passage of traffic.

Temporary facilities that could be a hazard to public safety if improperly designed must comply with design requirements described in the Contract for those facilities or, if none are described, with standard design criteria or codes appropriate for the facility involved. Submit shop drawings and design calculations for the temporary facilities and show the standard design criteria or codes used. Shop drawings and supplemental calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

If you appear to be neglectful or negligent in furnishing warning devices and taking protective measures, the Engineer may direct your attention to the existence of a hazard. You must furnish and install the necessary warning devices. If the Engineer points out the inadequacy of warning devices and protective measures, that action on the part of the Engineer does not relieve you from your responsibility for public safety or abrogate your obligation to furnish and pay for these devices and measures.

Install Type K temporary railing or other authorized protective systems under any of the following conditions:

1. Excavations: Where the near edge of the excavation is within 15 feet from the edge of an open traffic lane
2. Temporarily unprotected permanent obstacles: When the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and you elect to install the obstacle before installing the protective system; or you, for your convenience and as authorized, remove a portion of an existing protective railing at an obstacle and do not replace such railing completely the same day
3. Storage areas: When material or equipment is stored within 15 feet of the edge of an open traffic lane and the storage is not otherwise prohibited by the Contract
4. Height differentials: When construction operations create a height differential greater than 0.15 feet within 15 feet of the edge of traffic lane

Installation of Type K temporary railing is not required if an excavation within 15 feet from the edge of an open traffic lane is protected by any of the following:

1. Steel plate or concrete covers of adequate thickness to prevent accidental entry by traffic or the public
2. Side slope where the downhill slope is 4:1 (horizontal:vertical) or less unless a naturally occurring condition
3. Barrier or railing

Offset the approach end of Type K temporary railing a minimum of 15 feet from the edge of an open traffic lane. Install the temporary railing on a skew toward the edge of the traffic lane of not more than 1 foot transversely to 10 feet longitudinally with respect to the edge of the traffic lane. If the 15-foot minimum offset cannot be achieved, the temporary railing must be

installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules must be installed at the approach end of the temporary railing.

Secure Type K temporary railing in place before starting work for which the temporary railing is required.

If a traffic lane is closed with channelizers for excavation work, move the devices to the adjacent edge of the traveled way when not excavating. Space the devices as specified for the closure.

Do not move or temporarily suspend anything over a traffic lane open to the public unless the public is protected.

7-1.06 INSURANCE

7-1.06A General

Nothing in the Contract is intended to establish a standard of care owed to any member of the public or to extend to the public the status of a third-party beneficiary for any of these insurance specifications.

7-1.06B Casualty Insurance

Obtain and maintain insurance on all of your operations with companies acceptable to the State as follows:

1. Keep all insurance in full force and effect from the start of the work through Contract acceptance.
2. Maintain completed operations coverage with a carrier acceptable to the State through the expiration of the patent deficiency in construction statute of repose set forth in Civ Pro Code § 337.1.
3. All insurance must be with an insurance company with a rating from A.M. Best Financial Strength Rating of A- or better and a Financial Size Category of VII or better.

7-1.06C Workers' Compensation and Employer's Liability Insurance

Under Labor Code § 1860, secure the payment of worker's compensation under Labor Code § 3700.

Submit to the Department the following certification before performing the work (Labor Code § 1861):

> I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

Contract signing constitutes your submittal of this certification.

Provide Employer's Liability Insurance in amounts not less than:

1. $1,000,000 for each accident for bodily injury by accident
2. $1,000,000 policy limit for bodily injury by disease
3. $1,000,000 for each employee for bodily injury by disease

Coverage shall contain a waiver of subrogation in favor of the State, including its officers, directors, agents, and employees.

If there is an exposure of injury to your employees under the US Longshoremen's and Harbor Workers' Compensation Act, the Jones Act, or under laws, regulations, or statutes applicable to maritime employees, coverage must be included for such injuries or claims.

7-1.06D Liability Insurance

7-1.06D(1) General

Evidence General Liability and Umbrella or Excess Liability Insurance covering all operations by or on behalf of you providing insurance for bodily injury liability, property damage liability, and personal and advertising injury for the limits outlined in 7-1.06D(2). Coverage must extend to premises, operations and mobile equipment, personal and advertising injury, products and completed operations, and contractual liability. Coverage shall not contain a cross-suits exclusion barring coverage for a suit brought by or between Caltrans and another Insured in the policy. Coverage shall also not contain an exclusion for explosion, collapse and underground hazards. Such policies must contain an annual reinstatement of limits during construction operations.

7-1.06D(2) Liability Limits/Additional Insureds

The limits of liability must be at least the values shown in the following table:

Liability Limits

Total bid	For each occurrence[a]	Aggregate for products/completed operation	General aggregate[b]	Umbrella or excess liability[c]
≤ $1,000,000	$1,000,000	$2,000,000	$2,000,000	$5,000,000
> $1,000,000 ≤ $10,000,000	$1,000,000	$2,000,000	$2,000,000	$10,000,000
> $10,000,000 ≤ $25,000,000	$2,000,000	$2,000,000	$4,000,000	$15,000,000
> $1,000,000	$2,000,000	$2,000,000	$4,000,000	$25,000,000

[a] Combined single limit for bodily injury and property damage.

[b] This limit must apply separately to your work under this Contract.

[c] The umbrella or excess policy must contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted. The required umbrella liability limits are separate from and in addition to the required general liability limits. The umbrella or excess policies shall not contain exclusions barring follow-form coverage for required coverages in this specification.

Do not require a small business subcontractor to carry liability insurance that exceeds the limits shown in the preceding table. For a small business subcontractor, interpret Total Bid in the table as the dollar amount of subcontracted work.

As used in section 7-1.06D(2), a small business:

1. For a non-federal-aid contract is defined in 2 CA Code of Regs § 1896 and is incorporated by this reference

2. For a federal-aid contract is defined in 13 CFR 121.201 and is incorporated by this reference

The State, including its officers, directors, agents (excluding agents who are design professionals), and employees, must be named as additional insureds under the General Liability and Umbrella Liability Policies with respect to liability arising out of or connected with work or operations performed by or on behalf of you under this Contract. Coverage for such additional insureds does not extend to liability:

1. Arising from any defective or substandard condition of the roadway which existed at or before the time you started work, unless such condition has been changed by the work or the scope of the work requires you to maintain existing roadway facilities and the claim arises from your failure to maintain;
2. For claims occurring after the work is completed and accepted unless these claims are directly related to alleged acts or omissions of you that occurred during the course of the work; or
3. To the extent prohibited by Ins Code § 11580.04.

Additional insured coverage must be provided by a policy provision or by an endorsement providing coverage at least as broad as Additional Insured endorsement form CG 2010 and CG 2037 (for completed operations), as published by the Insurance Services Office (ISO), or equivalent form as approved by the Department.

7-1.06D(3) Contractor's Insurance Policies are Primary
The policy must stipulate that the insurance afforded the additional insureds applies as primary insurance. Any other insurance or self-insurance maintained by the State is excess only and must not be called upon to contribute with this insurance.

7-1.06D(4) Contractor's Insurance - Waiver of Subrogation
The policy must stipulate that coverage contains a waiver of subrogation in favor of the State, including its officers, directors, agents (excluding agents who are design professionals), and employees.

7-1.06D(5) Contractor's Insurance - Separation of Insureds
The policy must stipulate that coverage shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

7-1.06E Automobile Liability Insurance
7-1.06E(1) General
Evidence automobile liability insurance, including coverage for all owned, hired, and non-owned automobiles. The primary limits of liability must be not less than $1,000,000 combined single limit for each accident for bodily injury and property damage liability.

7-1.06E(2) Automobile Liability Insurance Scheduled on Excess Liability Policies
The umbrella or excess liability coverage required under section 7-1.06D(2) also applies to automobile liability. The required limits of liability can be achieved by any combination of primary and excess policies. Automobile liability coverage must be scheduled on excess liability policies in order to meet the required automobile liability limits.

7-1.06F Policy Forms, Endorsements, and Certificates

Provide your General Liability Insurance under Commercial General Liability policy form no. CG0001 as published by the Insurance Services Office (ISO) or under a policy form at least as broad as policy form no. CG0001.

7-1.06G Deductibles

The State may expressly allow deductible clauses, which it does not consider excessive, overly broad, or harmful to the interests of the State. Regardless of the allowance of exclusions or deductions by the State, you are responsible for any deductible amount and must warrant that the coverage provided to the State complies with section 7-1.06.

7-1.06H Enforcement

The Department may assure your compliance with your insurance obligations. Ten days before an insurance policy lapses, expires, or is canceled during the Contract period you must submit to the Department evidence of renewal through a binder or specimen copies of such policies or complete replacement of the policy.

If you fail to maintain any required insurance coverage, the Department may maintain this coverage and withhold or charge the expense to you or terminate your control of the work.

Any failure to comply with the reporting provisions of your policy shall not affect coverage provided to the State, including its officers, directors, agents (excluding agents who are design professionals), and employees.

You are not relieved of your duties and responsibilities to indemnify, defend, and hold harmless the State, its officers, agents, and employees by the Department's acceptance of insurance policies and certificates.

The minimum insurance coverage amounts do not relieve you for liability in excess of such coverage, nor do they preclude the State from taking other actions available to it, including the withholding of funds under this Contract.

7-1.06I Self-Insurance

Self-insurance programs and self-insured retentions in insurance policies are subject to separate annual review and approval by the State.

If you use a self-insurance program or self-insured retention, you must provide the State with the same protection from liability and defense of suits as would be afforded by first-dollar insurance. Execution of the Contract is your acknowledgment that you will be bound by all laws as if you were an insurer as defined under Ins Code § 23 and that the self-insurance program or self-insured retention shall operate as insurance as defined under Ins Code § 22.

7-1.07 LEGAL ACTIONS AGAINST THE DEPARTMENT

7-1.07A General

If legal action is brought against the Department over compliance with a State or federal law, rule, or regulation applicable to highway work, then:

1. If the Department in complying with a court order prohibits you from performing work, the resulting delay is a suspension related to your performance, unless the Department terminates the Contract.

2. If a court order other than an order to show cause or the final judgment in the action prohibits the Department from requiring you to perform work, the Department may delete the prohibited work or terminate the Contract.

7-1.07B Seal Coat Claims

Pay for claims for personal property damage caused by screening and bituminous binder. Seal coat claims are limited to:

1. 10 percent of the total bid
2. Damage occurring between the 1st day of screening spreading and 4 days after the last day of screening spreading for each seal coat location

Within 30 days of the last screening spreading, do the following:

1. Process and resolve all claims reported or submitted to you by the public as follows:
   1.1. Within 3 business days of receipt of a claim, submit to the Department a copy of the claim, a written analysis of the claim, and a statement indicating whether or not you will pay the claim. If you reject a claim, provide the reasons for rejection in writing.
   1.2. If the claimant becomes dissatisfied with your handling of the claim, immediately refer the claimant to the local district claims office for assistance in resolving the claim.
2. Submit to the Department evidence of your paid claims.

All claims presented to the Department, any district claims office, or the State Board of Control (Govt Code § 900 et seq.) are processed and resolved by the Department as follows:

1. The claims are processed as formal government claims subject to all laws and policies and are resolved as the Department determines including referring the claim to you for handling.
2. If the Department or the State Board of Control approves settlement of a claim or is ordered to pay pursuant to a court order, the claim is paid from funds withheld from you.
3. Within 3 business days of the Department's determination that you are responsible for resolving the claim, the Department sends a copy of the claim to you for resolution or notifies you of the Department's decision to resolve the claim.

The Department withholds an amount not to exceed 5 percent of the total bid to resolve all claims. The amount is held no longer than 60 days following the last spreading of screenings so that the Department has ample time to resolve any pending claims. After 60 days, any remaining amount withheld is returned to you.

If no withheld funds remain or have been returned, the Department may pay any claims and seek reimbursement from you through an offset or any other legal means. Any reimbursement or offset to be recovered from you, including all other paid claims, is limited to 10 percent of the total bid.

Section 7-1.07B does not limit your obligation to defend and indemnify the Department.

7-1.08 PERSONAL LIABILITY

Neither the Director, the Engineer nor any other officer or authorized employee of the State of California, nor any officer or employee of any county, city or district shall be personally responsible for any liability arising under or by virtue of the Contract.

7-1.09 UNSHELTERED INDIVIDUALS ENCAMPMENTS

Notify the Engineer at least 10 days prior to needing access to areas in the right of way with encampments that affect performance of the work. The Department will remove encampments including encampment debris.

7-1.10 RESERVED

7-1.011 FEDERAL LAWS FOR FEDERAL-AID CONTRACTS

7-1.011A General

Section 7-1.11 includes specifications required in a federal-aid construction contract and applies to a federal-aid contract.

Comply with 46 CFR 381.7(a)–(b).

A copy of form FHWA-1273 is included in section 7-1.11B. The training and promotion section of section II refers to training provisions as if they were included in the special provisions. The Department specifies the provisions in section 7-1.11D of the Standard Specifications. If a number of trainees or apprentices is required, the Department shows the number on the Notice to Bidders. Interpret each FHWA-1273 clause shown in the following table as having the same meaning as the corresponding Department clause:

FHWA-1273 Nondiscrimination Clauses

FHWA-1273 section	FHWA-1273 clause	Department clause
Training and Promotion	In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.	If section 7-1.11D applies, section 7-1.11D supersedes this subparagraph.
Records and Reports	If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.	If the Contract requires on-the-job training, collect and report training data.

7-1.011B FHWA-1273

FHWA-1273 -- Revised July 5, 2022

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding (29 CFR 5.5)

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records (29 CFR 5.5)

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or

subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees (29 CFR 5.5)

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the

corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility (29 CFR 5.5)

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1 of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 of this section. 29 CFR 5.5.

* $27 as of January 23, 2019 (See 84 FR 213-01, 218) as may be adjusted annually by the Department of Labor; pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990).

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this section. 29 CFR 5.5.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section. 29 CFR 5.5.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance

with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.326.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.326.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant

who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is

submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(a) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(b) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(c) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier

subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

7-1.011C Female and Minority Goals

To comply with section II, "Nondiscrimination," of "Required Contract Provisions Federal-Aid Construction Contracts," the Department is including in section 7-1.11C female and minority utilization goals for federal-aid construction contracts and subcontracts that exceed $10,000.

The nationwide goal for female utilization is 6.9 percent.

The goals for minority utilization [45 Fed Reg 65984 (10/3/1980)] are as shown in the following table:

Minority Utilization Goals

Economic area		Goal (%)
174	Redding CA: Non-SMSA Counties: CA Lassen; CA Modoc; CA Plumas; CA Shasta; CA Siskiyou; CA Tehama	6.8
175	Eureka, CA Non-SMSA Counties: CA Del Norte; CA Humboldt; CA Trinity	6.6
176	San Francisco-Oakland-San Jose, CA: SMSA Counties: 7120 Salinas-Seaside-Monterey, CA CA Monterey 7360 San Francisco-Oakland, CA CA Alameda; CA Contra Costa; CA Marin; CA San Francisco; CA San Mateo 7400 San Jose, CA CA Santa Clara, CA 7485 Santa Cruz, CA CA Santa Cruz 7500 Santa Rosa, CA CA Sonoma 8720 Vallejo-Fairfield-Napa, CA CA Napa; CA Solano Non-SMSA Counties: CA Lake; CA Mendocino; CA San Benito	 28.9 25.6 19.6 14.9 9.1 17.1 23.2
177	Sacramento, CA: SMSA Counties: 6920 Sacramento, CA CA Placer; CA Sacramento; CA Yolo Non-SMSA Counties: CA Butte; CA Colusa; CA El Dorado; CA Glenn; CA Nevada; CA Sierra; CA Sutter; CA Yuba	 16.1 14.3

Economic area		Goal (%)
178	Stockton-Modesto, CA: SMSA Counties: 5170 Modesto, CA CA Stanislaus 12.3 8120 Stockton, CA CA San Joaquin Non-SMSA Counties: CA Alpine; CA Amador; CA Calaveras; CA Mariposa; CA Merced; CA Tuolumne	 12.3 24.3 19.8
179	Fresno-Bakersfield, CA SMSA Counties: 0680 Bakersfield, CA CA Kern 2840 Fresno, CA CA Fresno Non-SMSA Counties: CA Kings; CA Madera; CA Tulare	 19.1 26.1 23.6
180	Los Angeles, CA: SMSA Counties: 0360 Anaheim-Santa Ana-Garden Grove, CA CA Orange 4480 Los Angeles-Long Beach, CA CA Los Angeles 6000 Oxnard-Simi Valley-Ventura, CA CA Ventura 6780 Riverside-San Bernardino-Ontario, CA CA Riverside; CA San Bernardino 7480 Santa Barbara-Santa Maria-Lompoc, CA CA Santa Barbara Non-SMSA Counties: CA Inyo; CA Mono; CA San Luis Obispo	 11.9 28.3 21.5 19.0 19.7 24.6
181	San Diego, CA: SMSA Counties: 7320 San Diego, CA CA San Diego Non-SMSA Counties: CA Imperial	 16.9 18.2

For each July during which work is performed under the Contract, you and each non-material-supplier subcontractor with a subcontract of $10,000 or more must complete Form FHWA PR-1391 (Appendix C to 23 CFR 230). Submit the forms by August 15.

7-1.011D Training

Section 7-1.11D applies if a number of trainees or apprentices is shown on the Notice to Bidders.

As part of your equal opportunity affirmative action program, provide on-the-job training to develop full journeymen in the types of trades or job classifications involved.

You have primary responsibility for meeting this training requirement.

If you subcontract a Contract part, determine how many trainees or apprentices are to be trained by the subcontractor.

Where feasible, 25 percent of apprentices or trainees in each occupation must be in their 1st year of apprenticeship or training.

Distribute the number of apprentices or trainees among the work classifications on the basis of your needs and the availability of journeymen in the various classifications within a reasonable recruitment area.

Before starting work, submit:

1. Number of apprentices or trainees to be trained for each classification
2. Training program to be used
3. Training starting date for each classification

Obtain the Department's approval for this submitted information before you start work. The Department credits you for each apprentice or trainee you employ on the work who is currently enrolled or becomes enrolled in an approved program.

The primary objective of section 7-1.11D is to train and upgrade minorities and women toward journeymen status. Make every effort to enroll minority and women apprentices or trainees, such as conducting systematic and direct recruitment through public and private sources likely to yield minority and women apprentices or trainees, to the extent they are available within a reasonable recruitment area. Show that you have made the efforts. In making these efforts, do not discriminate against any applicant for training.

Do not employ as an apprentice or trainee an employee:

1. In any classification in which the employee has successfully completed a training course leading to journeyman status or in which the employee has been employed as a journeyman
2. Who is not registered in a program approved by the US Department of Labor, Bureau of Apprenticeship and Training

Ask the employee if the employee has successfully completed a training course leading to journeyman status or has been employed as a journeyman. Your records must show the employee's answers to the questions.

In your training program, establish the minimum length and training type for each classification. The Department and FHWA approves a program if one of the following conditions is met:

1. Program is calculated to:
    1.1. Meet your equal employment opportunity responsibilities.
    1.2. Qualify the average apprentice or trainee for journeyman status in the classification involved by the end of the training period.

2. Program is registered with the US Department of Labor, Bureau of Apprenticeship and Training and it is administered in a way consistent with the equal employment responsibilities of federal-aid highway construction contracts.

Obtain Department approval for your training program before you start work involving the classification covered by the program.

Provide training in the construction crafts, not in clerk-typist or secretarial-type positions. Training is allowed in lower-level management positions such as office engineers, estimators, and timekeepers if the training is oriented toward construction applications. Training is allowed in the laborer classification if significant and meaningful training is provided and approved by the FHWA division office. Off-site training is allowed if the training is an integral part of an approved training program and does not make up a significant part of the overall training.

The Department reimburses you 80 cents per hour of training given an employee on this Contract under an approved training program:

1. For on-site training
2. For off-site training if the apprentice or trainee is currently employed under a federal-aid contract and you do at least one of the following:
   2.1. Contribute to the cost of the training
   2.2. Provide the instruction to the apprentice or trainee
   2.3. Pay the apprentice's or trainee's wages during the off-site training period
3. If you comply with section 7-1.11D

Each apprentice or trainee must:

1. Start training on the project as soon as feasible after the start of work involving the apprentice's or trainee's craft
2. Remain on the project as long as training opportunities exist in the apprentice's or trainee's work classification or until the apprentice or trainee has completed the training program

Furnish the apprentice or trainee:

1. Copy of the program you will comply with in providing the training
2. Certification showing the type and length of training satisfactorily completed

Maintain records and submit reports documenting your performance under section 7-1.11D.

SP 70-25 California State Department of Industrial Relations (DIR) requirements:

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

SP 70-26 Required workplace posters. Contractor shall provide and post on the project site any and all notification posters for public works projects, as required by the State of California and Federal Government. All penalties or fines shall be the responsibility of the Contractor.

SP 90-12 Security for construction warranty. The Contractor shall upon final acceptance of the work, furnish a bond to the Owner in a penal sum equal to five percent (5%) of the amount of the Contract price, executed by a surety company authorized by the Department of Insurance of the State of California to execute such a bond in this State, and which bond shall be approved as to form and manner of execution by the Owner's attorney. This bond shall be conditioned for the faithful performance by the said Contractor of the conditions and stipulations of the subsection titled ACCEPTANCE AND FINAL PAYMENT of this section, thereof relating to maintenance and repair, for a period of one (1) year from the date of the final acceptance of the work. In default of the filing of such bond, a sum of money equal to said five percent (5%) may be retained out of any monies due to the Contractor and be held for one (1) year, or until the bond above described is filed.

For Contractors who have elected to set up an escrow account, they may elect to maintain the escrow account for a period of one (1) year from the date of final acceptance of the work in lieu of providing a bond for security of guarantee as described above.

MONTHLY PAYMENT REPORT

Name of Contractor's Firm: _____

Project Name/Location: _____

FAA AIP Project No.: _____

Subcontractor/DBE Supplier Name*	DBE Y/N	Subcontractor Contract Amount	Pay App #	Payment Period Date (From-To)	Amount Invoiced To Date	Amount Paid To Date	Current Retainage Amount	Total Retainage	Previous Payment Amount	Previous Payment Date	Total Payment Amount to Date

***ALL Subcontractors Must Be Listed – ONLY DBE Suppliers Must Be Listed**

_____ _____ _____

Signature of Contractor's Representative | Print Contractor's Representative | Date

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SUBCONTRACTOR'S PROMPT PAYMENT CERTIFICATION

NOTE: Each Contractor shall provide a copy of this form to each of their Subcontractors (DBE and non-DBE) that are working on or has worked on this project. This certification applies to all tier Subcontractors. A completed copy of this form shall be submitted to the Sponsor's representative, the Prime Contractor and the Contractor you are working for at least 7 days prior to an application for payment. Any Subcontractor failing to submit a copy of this form shall be cause for the Sponsor's representative to delay the payment application. Reference Section 70-21, Item 12 for information on 49 CFR §26.29 with regard to Prompt Payment.

Should a Subcontractor indicate that they have not received payment for work they performed in which their Contractor has received payment, the Sponsor shall withhold the delinquent amount indicated unless the Contractor received written approval from the Sponsor of the Contractor's written request justifying withholding payment from the Subcontractor.

==========

Project Title:_____

Airport Name:_____

AIP No.:_____

Company Name: _____

Company Address: _____

_____ Contact Phone No.:_____

Contractor's Name you subcontract to: _____

==========

1. Have you performed work on this project within the last 30 days? Yes ___ No ___

2. Has the work you performed within the last 30 days been completed and accepted by the RPR? Yes ___ No ___ Not sure ____

3. Have you been paid by the contractor you subcontracted with for the work you performed? Yes ___ No ___

4. Estimated value of work performed in which you did not receive payment: $ _____

5. Have you completed all work that you are required to perform on this contact? Yes ___ No ___

Written Name of Subcontractor's Rep. _____

Signature:_____ Date:_____

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DISADVANTAGED BUSINESS ENTERPRISE
DBE PARTICIPATION SUMMARY
(Submit one form for each DBE Firm.)

Airport Name _____

Contractor Name: _____

Address: _____

City: _____ State: _____ Zip: _____

DBE Firm DBE Firm: _____

Address: _____

City: _____ State: _____ Zip: _____

DBE Contact Person Name: _____ Phone: _____

DBE Certification Agency: _____ Expiration Date: _____

Each DBE Firm shall submit evidence (such as a photocopy) of their certification status.

DBE Commitments/Awards -Breakdown By Ethnicity & Gender

- ☐ Black American
- ☐ Hispanic American
- ☐ Native American
- ☐ Subcontinent Asian American
- ☐ Asian-Pacific American
- ☐ Non-Minority Women
- ☐ Other (i.e. not of any group listed here)

Classification:

- ☐ Prime Contractor
- ☐ Manufacturer
- ☐ Subcontractor
- ☐ Supplier
- ☐ Broker

Work items performed by DBE	Description	NAICS	Quantity	Amount Paid to DBE

The Contractor utilized the above-named DBE Firm for the work items described above.
The actual participation is as follows:

Total amount paid to DBE Firm: $ _____

Percent of Contractor's total contract: _____ %

Affirmation:
The above-named DBE Firm affirms that it has performed the work items described above and has been paid the amount stated above.

By: _____
(Signature) *(Title)*

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SMALL BUSINESS PARTICIPATION PLAN	
Sponsor's Name:	
Airport Name:	
City, State:	
AIP Number:	
Federal Fiscal Year:	

In accordance with 49 CFR Part 26, §26.39, the following detailed list shall be completed by the Contractor for construction work items and professional services work items to be performed by all subcontractors and suppliers which will be involved in the work that qualify as a Small Business, whether registered as such, or not. The firms listed do not have to be certified DBE firms. This form shall be filled out and submitted to the Sponsor prior to the start of construction.

Small Business Firms to be Utilized (Name, Address, Phone)		Work to be Performed	Total Estimated Cost of Work
Name			
Address			
City, State, Zip			
Telephone			
Is the Firm DBE?	☐ Yes ☐ No		
Name			
Address			
City, State, Zip			
Telephone			
Is the Firm DBE?	☐ Yes ☐ No		
Name			
Address			
City, State, Zip			
Telephone			
Is the Firm DBE?	☐ Yes ☐ No		

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SMALL BUSINESS PARTICIPATION PLAN
(cont'd)

Name			
Address			
City, State, Zip			
Telephone			
Is the Firm DBE?	☐ Yes ☐ No		
Name			
Address			
City, State, Zip			
Telephone			
Is the Firm DBE?	☐ Yes ☐ No		
Name			
Address			
City, State, Zip			
Telephone			
Is the Firm DBE?	☐ Yes ☐ No		
Name			
Address			
City, State, Zip			
Telephone			
Is the Firm DBE?	☐ Yes ☐ No		

(The Contractor may duplicate this form as necessary if additional space is required.)

The undersigned hereby assures that the information included herein is true and correct to the best of his/her knowledge, and that it is your intent to utilize these small business firm(s) listed for the work items noted.

By: _____ _____
(Contractor's Signature) (Title)

_____ _____
(Contractor's Printed Name) (Date)

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Equal Employment Opportunity is
THE LAW

Private Employers, State and Local Governments, Educational Institutions, Employment Agencies and Labor Organizations

Applicants to and employees of most private employers, state and local governments, educational institutions, Employment agencies, and labor organizations are protected under Federal law from discrimination on the following bases.

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN
Title VII of the Civil Rights Act of 1964, as amended, protects applicants and employees from discrimination in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment, on the basis of race, color, religion, sex (including pregnancy), or national origin. Religious discrimination includes failing to reasonably accommodate an employee's religious practices where the accommodation does not impose undue hardship.

DISABILITIES
Title I and Title V of the Americans with Disabilities Act of 1990, as amended, protect qualified individuals from discrimination on the basis of disability in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment. Disability discrimination includes not making reasonable accommodation to the known physical or mental limitations of an otherwise qualified individual with a disability who's is an applicant or employee, barring undue hardship.

AGE
The Age Discrimination in Employment Act of 1967, as amended, protects applicants and employees 40 years of age or older from discrimination based on age in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment.

SEX (WAGES)
In addition to sex discrimination prohibited by Title VII of the Civil Rights Act, as amended, the Equal Pay Act of 1963, as amended, prohibits sex discrimination in payment of wages to women and men performing substantially equal work jobs that require equal skill, effort, and responsibility, under similar working conditions, in the same establishment.

GENETICS
Title II of the Genetic Information Nondiscrimination Act of 2008 protects applicants and employees from discrimination based on genetic information in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment. GINA also restricts employers' acquisition of genetic information and strictly limits disclosure of genetic information. Genetic information includes information about genetic tests of applicants, employees, or their family members; the manifestation of diseases or disorders in family members (family medical history); and requests for or receipt of genetic services by applicants, employees, or their family members.

RETALIATION
All of these Federal laws prohibit covered entities from retaliating against a person who files a charge of discrimination, participates in a discrimination proceeding, or otherwise opposes an unlawful employment practice.

WHAT TO DO IF YOU BELIEVE DISCRIMINATION HAS OCCURRED
There are strict time limits for filing charges of employment discrimination. To preserve the ability of EEOC to act on your behalf and to protect your right to file a private lawsuit, should you ultimately need to, you should contact EEOC promptly when discrimination is suspected:
The U.S. Equal Employment Opportunity Commission (EEOC), 1-800-669-4000 (toll-free) or 1-800-669-6820 (toll-free TTY number for individuals with hearing empairments). EEOC field office information is available at www.eeoc.gov or in most telephone directories in the U.S. Government or Federal Government section. Additional information about EEOC, including information about charge filing, is available at www.eeoc.gov.

Employers Holding Federal Contracts or Subcontracts

Applicants to and employees of companies with a Federal government contract or subcontract, are protected under Federal law from discrimination on the following bases.

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN
Executive Order 11246, as amended, prohibits job discrimination on the basis of race, color, religion, sex or national origin, and requires affirmative action to ensure equality of opportunity in all aspects of employment.

INDIVIDUALS WITH DISABILITIES
Section 503 of the Rehabilitation Act of 1973, as amended, protects qualified individuals from discrimination on the basis of disability in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment, Disability discrimination includes not making reasonable accommodation to the known physical or mental limitations of an otherwise qualified employee, barring undue hardship. Section 503 also requires that Federal contractors take affirmative action to employ and advance in employment qualified individuals with disabilities at all levels of employment, including the executive level.

DISABLED, RECENTLY SEPARATED, OTHER PROTECTED, AND ARMED FORCES SERVICE MEDAL VETERANS
The Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, 38 U.S.C. 4212, prohibits job discrimination and requires affirmative action to employ and advance in employment disabled veterans, recently separated veterans (within three years of discharge or release from active duty), other protected veterans (veterans who served during a war or in a campaign or expedition for which a campaign badge has been authorized), and Armed Forces service medal veterans (veterans who, while on active duty, participated in a U.S. military operation for which an Armed Forces service medal was awarded).

RETALIATION
Retaliation is prohibited against a person who files a complaint of discrimination, participates in an OFCCP proceeding, or otherwise opposes discrimination under these Federal laws.

Any person who believes a contractor has violated its nondiscrimination or affirmative action obligations under the authorities above should contact immediately:

The Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210, 1-800-397-6251 (toll-free) or (202) 693-1337 (TTY). OFCCP may also be contacted by e-mail at OFCCP-Public@dol.gov, or by calling an OFCCP regional or district office, listed in most telephone directories under U.S. Government, Department of Labor.

Programs or Activities Receiving Federal Financial Assistance

RACE, COLOR, NATIONAL ORIGIN, SEX
In addition to the protections of Title VII of the Civil Rights Act of 1964, as amended, Title VI of the Civil Rights Act of 1964, as amended, prohibits discrimination on the basis of race, color or national origin in programs or activities receiving Federal financial assistance. Employment discrimination is covered by Title VI if the primary objective of the financial assistance is provision of employment, or where employment discrimination causes or may cause discrimination in providing services under such programs. Title IX of the Education Amendments of 1972 prohibits employment discrimination on the basis of sex in educational programs or activities which receive Federal financial assistance.

INDIVIDUALS WITH DISABILITIES
Section 504 of the Rehabilitation Act of 1973, as amended, prohibits employment discrimination on the basis of disability in any program or activity which receives Federal financial assistance. Discrimination is prohibited in all aspects of employment against persons with disabilities who, with or without reasonable accommodation, can perform the essential functions of the job.

If you believe you have been discriminated against in a program of any institution which receives Federal financial assistance, you should immediately contact the Federal agency providing such assistance.

FEDERAL WAGE RATES

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"General Decision Number: CA20230018 01/20/2023

Superseded General Decision Number: CA20220018

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

Counties: Alameda, Calaveras, Contra Costa, Fresno, Kings, Madera, Mariposa, Merced, Monterey, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Stanislaus and Tuolumne Counties in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker

protections under the Executive Orders is available at
http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	01/20/2023

ASBE0016-004 01/01/2021

AREA 1: CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, STANISLAUS & TOULMNE COUNTIES

AREA 2: ALAMEDA, CONTRA COSTA, SAN FRANSICO, SAN MATEO & SANTA CLARA COUNTIES

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)		
Area 1	$ 30.45	10.60
Area 2	$ 36.53	9.27

ASBE0016-008 08/01/2022

AREA 1: ALAMEDA, CONTRA COSTA, MONTEREY, SAN BENITO, SAN FRANSICO, SAN MATEO, SANTA CLARA, & SANTA CRUZ

AREA 2: CALAVERAS, COLUSA, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAU, & TUOLUMNE

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, Protective Coverings, Coatings, and Finishes to all types of mechanical systems)		
Area 1	$ 81.16	23.57
Area 2	$ 62.51	23.57

BOIL0549-001 01/01/2021

AREA 1: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO & SANTA CLARA COUNTIES

AREA 2: REMAINING COUNTIES

	Rates	Fringes
BOILERMAKER		

Area 1	$ 49.62	41.27
Area 2	$ 45.60	38.99

BRCA0003-001 08/01/2022

	Rates	Fringes
MARBLE FINISHER	$ 39.20	18.31

BRCA0003-003 08/01/2022

	Rates	Fringes
MARBLE MASON	$ 56.98	28.54

BRCA0003-005 05/01/2022

	Rates	Fringes
BRICKLAYER		
(1) Fresno, Kings, Madera, Mariposa, Merced	$ 47.88	23.29
(7) San Francisco, San Mateo	$ 53.69	26.03
(8) Alameda, Contra Costa, San Benito, Santa Clara	$ 53.61	23.81
(9) Calaveras, San Joaquin, Stanislaus, Toulumne	$ 45.12	21.55
(16) Monterey, Santa Cruz	$ 50.78	25.42

BRCA0003-008 07/01/2022

	Rates	Fringes
TERRAZZO FINISHER	$ 41.93	18.98
TERRAZZO WORKER/SETTER	$ 56.84	27.53

* BRCA0003-011 04/01/2022

AREA 1: Alameda, Contra Costa, Monterey, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz

AREA 2: Calaveras, San Joaquin, Stanislaus, Tuolumne

AREA 3: Fresno, Kings, Madera, Mariposa, Merced

	Rates	Fringes
TILE FINISHER		
Area 1	$ 33.86	17.54
Area 2	$ 30.90	17.67
Area 3	$ 29.89	16.80
Tile Layer		
Area 1	$ 55.41	20.50
Area 2	$ 50.66	20.40
Area 3	$ 45.76	19.92

CARP0022-001 07/01/2021

San Francisco County

	Rates	Fringes

Carpenters
     Bridge Builder/Highway
     Carpenter.....$ 54.85 31.49
     Hardwood Floorlayer,
     Shingler, Power Saw
     Operator, Steel Scaffold &
     Steel Shoring Erector, Saw
     Filer.....$ 55.00 31.49
     Journeyman Carpenter.....$ 54.85 31.49
     Millwright.....$ 54.95 33.08

CARP0034-001 07/01/2021

	Rates	Fringes
Diver		
Assistant Tender, ROV Tender/Technician	$ 54.10	34.69
Diver standby	$ 60.51	34.69
Diver Tender	$ 59.51	34.69
Diver wet	$ 103.62	34.69
Manifold Operator (mixed gas)	$ 64.51	34.69
Manifold Operator (Standby)	$ 59.51	34.69

DEPTH PAY (Surface Diving):
050 to 100 ft $2.00 per foot
101 to 150 ft $3.00 per foot
151 to 220 ft $4.00 per foot
221 ft.-deeper $5.00 per foot

SATURATION DIVING:
The standby rate shall apply until saturation starts. The saturation diving rate applies when divers are under pressure continuously until work task and decompression are complete. The diver rate shall be paid for all saturation hours.

DIVING IN ENCLOSURES:
Where it is necessary for Divers to enter pipes or tunnels, or other enclosures where there is no vertical ascent, the following premium shall be paid: Distance traveled from entrance 26 feet to 300 feet: $1.00 per foot. When it is necessary for a diver to enter any pipe, tunnel or other enclosure less than 48"" in height, the premium will be $1.00 per foot.

WORK IN COMBINATION OF CLASSIFICATIONS:
Employees working in any combination of classifications within the diving crew (except dive supervisor) in a shift are paid in the classification with the highest rate for that shift.

CARP0034-003 07/01/2021

	Rates	Fringes
Piledriver	$ 54.10	34.69

CARP0035-007 07/01/2020

AREA 1: Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties

AREA 2: Monterey, San Benito, Santa Cruz Counties

AREA 3: Calaveras, Fresno, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tuolumne Counties

	Rates	Fringes
Modular Furniture Installer		
Area 1		
Installer	$ 28.76	22.53
Lead Installer	$ 32.21	23.03
Master Installer	$ 36.43	23.03
Area 2		
Installer	$ 26.11	22.53
Lead Installer	$ 29.08	23.03
Master Installer	$ 32.71	23.03
Area 3		
Installer	$ 25.16	22.53
Lead Installer	$ 27.96	23.03
Master Installer	$ 31.38	23.03

CARP0035-008 08/01/2020

AREA 1: Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties

AREA 2: Monterey, San Benito, Santa Cruz Counties

AREA 3: San Joaquin

AREA 4: Calaveras, Fresno, Kings, Madera, Mariposa, Merced, Stanislaus, Tuolumne Counties

	Rates	Fringes
Drywall Installers/Lathers:		
Area 1	$ 52.65	31.26
Area 2	$ 46.77	31.26
Area 3	$ 47.27	31.26
Area 4	$ 45.92	31.26
Drywall Stocker/Scrapper		
Area 1	$ 26.33	18.22
Area 2	$ 23.39	18.22
Area 3	$ 23.64	18.22
Area 4	$ 22.97	18.22

CARP0152-001 07/01/2020

Contra Costa County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 52.80	30.82
Journeyman Carpenter	$ 52.65	30.82
Millwright	$ 52.75	32.41

CARP0152-002 07/01/2020

San Joaquin County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 46.92	30.82
Journeyman Carpenter	$ 46.77	30.82
Millwright	$ 49.27	32.41

CARP0152-004 07/01/2020

Calaveras, Mariposa, Merced, Stanislaus and Tuolumne Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 45.57	30.82
Journeyman Carpenter	$ 45.42	30.82
Millwright	$ 47.92	32.41

CARP0217-001 07/01/2021

San Mateo County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 55.00	31.49
Journeyman Carpenter	$ 54.85	31.49
Millwright	$ 54.95	33.08

CARP0405-001 07/01/2021

Santa Clara County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw		

Filer	$ 55.00	31.49
Journeyman Carpenter	$ 54.85	31.49
Millwright	$ 54.95	33.08

CARP0405-002 07/01/2021

San Benito County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 49.12	31.49
Journeyman Carpenter	$ 48.97	31.49
Millwright	$ 51.47	33.08

CARP0505-001 07/01/2021

Santa Cruz County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 49.12	31.49
Journeyman Carpenter	$ 48.97	31.49
Millwright	$ 51.47	33.08

CARP0605-001 07/01/2021

Monterey County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 49.12	31.49
Journeyman Carpenter	$ 48.97	31.49
Millwright	$ 51.47	33.08

CARP0701-001 07/01/2021

Fresno and Madera Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer,		

Shingler, Power Saw
Operator, Steel Scaffold &
Steel Shoring Erector, Saw
Filer.....$ 47.77 31.49
Journeyman Carpenter.....$ 47.62 31.49
Millwright.....$ 50.12 33.08

CARP0713-001 07/01/2021

Alameda County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 55.00	31.49
Journeyman Carpenter	$ 54.85	31.49
Millwright	$ 54.95	33.08

CARP1109-001 07/01/2021

Kings County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 47.77	31.49
Journeyman Carpenter	$ 47.62	31.49
Millwright	$ 50.12	33.08

ELEC0006-004 12/01/2021

SAN FRANCISCO COUNTY

	Rates	Fringes
Sound & Communications		
Installer	$ 48.43	3%+23.15
Technician	$ 55.69	3%+23.15

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

ELEC0006-007 06/01/2022

SAN FRANCISCO COUNTY

	Rates	Fringes
ELECTRICIAN	$ 83.25	3%+40.065

ELEC0100-002 09/01/2022

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 43.00	26.84

ELEC0100-005 12/01/2022

FRESNO, KINGS, MADERA

	Rates	Fringes
Communications System		
Installer	$ 38.24	23.80
Technician	$ 47.80	24.08

SCOPE OF WORK
Includes the installation testing, service and maintenance, of the following systems which utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms, and low voltage master clock systems.

A. SOUND AND VOICE TRANSMISSION/TRANSFERENCE SYSTEMS Background foreground music, Intercom and telephone interconnect systems, Telephone systems Nurse call systems, Radio page systems, School intercom and sound systems, Burglar alarm systems, Low voltage, master clock systems, Multi-media/multiplex systems, Sound and musical entertainment systems, RF systems, Antennas and Wave Guide,

B. FIRE ALARM SYSTEMS Installation, wire pulling and testing

C. TELEVISION AND VIDEO SYSTEMS Television monitoring and surveillance systems Video security systems, Video entertainment systems, Video educational systems, Microwave transmission systems, CATV and CCTV

D. SECURITY SYSTEMS Perimeter security systems Vibration sensor systems Card access systems Access control systems, Sonar/infrared monitoring equipment

E. COMMUNICATIONS SYSTEMS THAT TRANSMIT OR RECEIVE INFORMATION AND/OR CONTROL SYSTEMS THAT ARE INTRINSIC TO THE ABOVE LISTED SYSTEMS SCADA (Supervisory Control and Data Acquisition) PCM (Pulse Code Modulation) Inventory Control Systems, Digital Data Systems Broadband and Baseband and Carriers Point of Sale Systems, VSAT Data Systems Data Communication Systems RF and Remote Control Systems, Fiber Optic Data Systems

WORK EXCLUDED Raceway systems are not covered (excluding Ladder-Rack for the purpose of the above listed systems). Chases and/or nipples (not to exceed 10 feet) may be installed on open wiring systems. Energy management systems. SCADA (Supervisory Control and Data Acquisition) when not intrinsic to the above listed systems (in the scope). Fire alarm systems when installed in raceways (including wire and cable pulling) shall be performed at the electrician wage rate, when either of the following two (2) conditions apply:
1. The project involves new or major remodel building trades construction.
2. The conductors for the fire alarm system are installed in conduit.

ELEC0234-001 12/26/2022

MONTEREY, SAN BENITO AND SANTA CRUZ COUNTIES

	Rates	Fringes
ELECTRICIAN		
Zone A	$ 60.91	29.43
Zone B	$ 67.00	29.61

Zone A: All of Santa Cruz, Monterey, and San Benito Counties within 25 air miles of Highway 1 and Dolan Road in Moss Landing, and an area extending 5 miles east and west of Highway 101 South to the San Luis Obispo County Line

Zone B: Any area outside of Zone A

ELEC0234-003 12/01/2021

MONTEREY, SAN BENITO, AND SANTA CRUZ COUNTIES

	Rates	Fringes
Sound & Communications		
Installer	$ 47.93	24.09
Technician	$ 55.12	24.30

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety

systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

ELEC0302-001 03/01/2021

CONTRA COSTA COUNTY

	Rates	Fringes
CABLE SPLICER	$ 63.86	29.17
ELECTRICIAN	$ 56.76	28.95

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* ELEC0302-003 12/01/2022

CONTRA COSTA COUNTY

	Rates	Fringes
Sound & Communications		
Installer	$ 46.64	25.30
Technician	$ 53.64	25.51

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

ELEC0332-001 06/01/2022

SANTA CLARA COUNTY

	Rates	Fringes
CABLE SPLICER	$ 92.20	42.316
ELECTRICIAN	$ 80.17	41.955

FOOTNOTES: Work under compressed air or where gas masks are required, orwork on ladders, scaffolds, stacks, ""Bosun's

chairs,"" or other structures and where the workers are not protected by permanent guard rails at a distance of 40 to 60 ft. from the ground or supporting structures: to be paid one and one-half times the straight-time rate of pay.
Work on structures of 60 ft. or over (as described above): to be paid twice the straight-time rate of pay.

ELEC0332-003 12/01/2022

SANTA CLARA COUNTY

	Rates	Fringes
Sound & Communications		
Installer	$ 51.18	25.435
Technician	$ 58.86	25.666

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

ELEC0595-001 06/01/2021

ALAMEDA COUNTY

	Rates	Fringes
CABLE SPLICER	$ 72.80	3%+39.94
ELECTRICIAN	$ 63.30	3%+39.94

ELEC0595-002 06/01/2021

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
CABLE SPLICER	$ 50.70	7.75%+25.58
ELECTRICIAN		
(1) Tunnel work	$ 44.25	7.75%+25.58
(2) All other work	$ 42.25	7.75%+25.58

ELEC0595-006 12/01/2021

ALAMEDA COUNTY

	Rates	Fringes
Sound & Communications		
Installer	$ 47.93	3%+22.65
Technician	$ 55.12	3%+22.65

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

ELEC0595-008 12/01/2021

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
Communications System		
Installer	$ 38.24	3%+22.65
Technician	$ 43.98	3%+22.65

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

ELEC0617-001 06/01/2022

SAN MATEO COUNTY

	Rates	Fringes
ELECTRICIAN	$ 74.00	43.76

ELEC0617-003 12/01/2022

SAN MATEO COUNTY

	Rates	Fringes
Sound & Communications		
Installer	$ 51.18	25.44
Technician	$ 58.86	25.67

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

ELEC0684-001 06/01/2022

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 44.25	3%+26.63

CABLE SPLICER = 110% of Journeyman Electrician

ELEC0684-004 12/01/2021

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES

	Rates	Fringes
Communications System		
Installer	$ 38.24	23.80
Technician	$ 43.98	23.97

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when

performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

ELEC1245-001 06/01/2022

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer	$ 64.40	22.58
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment)	$ 50.00	21.30
(3) Groundman	$ 38.23	20.89
(4) Powderman	$ 51.87	18.79

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

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ELEV0008-001 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC	$ 77.61	37.335+a+b

FOOTNOTE:
a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

ENGI0003-001 06/28/2021

""AREA 1"" WAGE RATES ARE LISTED BELOW

""AREA 2"" RECEIVES AN ADDITIONAL $2.00 PER HOUR ABOVE AREA 1 RATES.

SEE AREA DEFINITIONS BELOW

	Rates	Fringes

OPERATOR: Power Equipment
(AREA 1:)
GROUP 1.....$ 53.92 31.54
GROUP 2.....$ 52.39 31.54
GROUP 3.....$ 50.91 31.54
GROUP 4.....$ 49.53 31.54
GROUP 5.....$ 48.26 31.54
GROUP 6.....$ 46.94 31.54
GROUP 7.....$ 45.80 31.54
GROUP 8.....$ 44.66 31.54
GROUP 8-A.....$ 42.45 31.54
OPERATOR: Power Equipment
(Cranes and Attachments -
AREA 1:)
GROUP 1
Cranes.....$ 52.30 31.15
Oiler.....$ 43.79 31.15
Truck crane oiler.....$ 46.08 31.15
GROUP 2
Cranes.....$ 50.54 31.15
Oiler.....$ 42.83 31.15
Truck crane oiler.....$ 45.07 31.15
GROUP 3
Cranes.....$ 48.80 31.15
Hydraulic.....$ 44.44 31.15
Oiler.....$ 42.55 31.15
Truck crane oiler.....$ 44.83 31.15
GROUP 4
Cranes.....$ 45.76 31.15
OPERATOR: Power Equipment
(Piledriving - AREA 1:)
GROUP 1
Lifting devices.....$ 52.64 31.15
Oiler.....$ 43.38 31.15
Truck Crane Oiler.....$ 45.66 31.15
GROUP 2
Lifting devices.....$ 50.82 31.15
Oiler.....$ 43.11 31.15
Truck Crane Oiler.....$ 45.41 31.15
GROUP 3
Lifting devices.....$ 49.14 31.15
Oiler.....$ 42.89 31.15
Truck Crane Oiler.....$ 45.12 31.15
GROUP 4
Lifting devices.....$ 47.37 31.15
GROUP 5
Lifting devices.....$ 44.73 31.15
GROUP 6
Lifting devices.....$ 42.50 31.15
OPERATOR: Power Equipment
(Steel Erection - AREA 1:)
GROUP 1
Cranes.....$ 53.27 31.15
Oiler.....$ 43.72 31.15
Truck Crane Oiler.....$ 45.95 31.15
GROUP 2
Cranes.....$ 51.50 31.15
Oiler.....$ 43.45 31.15
Truck Crane Oiler.....$ 45.73 31.15
GROUP 3
Cranes.....$ 50.02 31.15
Hydraulic.....$ 45.07 31.15
Oiler.....$ 43.23 31.15
Truck Crane Oiler.....$ 45.46 31.15
GROUP 4

Cranes	$ 48.00	31.15
GROUP 5		
Cranes	$ 46.70	31.15
OPERATOR: Power Equipment (Tunnel and Underground Work - AREA 1:)		
SHAFTS, STOPES, RAISES:		
GROUP 1	$ 47.52	31.15
GROUP 1-A	$ 49.99	31.15
GROUP 2	$ 46.26	31.15
GROUP 3	$ 44.93	31.15
GROUP 4	$ 43.79	31.15
GROUP 5	$ 42.65	31.15
UNDERGROUND:		
GROUP 1	$ 47.42	31.15
GROUP 1-A	$ 49.89	31.15
GROUP 2	$ 46.16	31.15
GROUP 3	$ 44.83	31.15
GROUP 4	$ 43.69	31.15
GROUP 5	$ 42.55	31.15

FOOTNOTE: Work suspended by ropes or cables, or work on a Yo-Yo Cat: $.60 per hour additional.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Operator of helicopter (when used in erection work); Hydraulic excavator, 7 cu. yds. and over; Power shovels, over 7 cu. yds.

GROUP 2: Highline cableway; Hydraulic excavator, 3-1/2 cu. yds. up to 7 cu. yds.; Licensed construction work boat operator, on site; Power blade operator (finish); Power shovels, over 1 cu. yd. up to and including 7 cu. yds. m.r.c.

GROUP 3: Asphalt milling machine; Cable backhoe; Combination backhoe and loader over 3/4 cu. yds.; Continuous flight tie back machine assistant to engineer or mechanic; Crane mounted continuous flight tie back machine, tonnage to apply; Crane mounted drill attachment, tonnage to apply; Dozer, slope brd; Gradall; Hydraulic excavator, up to 3 1/2 cu. yds.; Loader 4 cu. yds. and over; Long reach excavator; Multiple engine scraper (when used as push pull); Power shovels, up to and including 1 cu. yd.; Pre-stress wire wrapping machine; Side boom cat, 572 or larger; Track loader 4 cu. yds. and over; Wheel excavator (up to and including 750 cu. yds. per hour)

GROUP 4: Asphalt plant engineer/box person; Chicago boom; Combination backhoe and loader up to and including 3/4 cu. yd.; Concrete batch plant (wet or dry); Dozer and/or push cat; Pull- type elevating loader; Gradesetter, grade checker (GPS, mechanical or otherwise); Grooving and grinding machine; Heading shield operator; Heavy-duty drilling equipment, Hughes, LDH, Watson 3000 or similar; Heavy-duty repairperson and/or welder; Lime spreader; Loader under 4 cu. yds.; Lubrication and service engineer (mobile and grease rack); Mechanical finishers or spreader machine (asphalt, Barber-Greene and similar); Miller Formless M-9000 slope paver or similar; Portable crushing and screening plants; Power blade support; Roller operator, asphalt; Rubber-tired scraper, self-loading (paddle-wheels, etc.); Rubber- tired earthmoving equipment (scrapers); Slip

form paver (concrete); Small tractor with drag; Soil stabilizer (P & H or equal); Spider plow and spider puller; Tubex pile rig; Unlicensed constuction work boat operator, on site; Timber skidder; Track loader up to 4 yds.; Tractor-drawn scraper; Tractor, compressor drill combination; Welder; Woods-Mixer (and other similar Pugmill equipment)

GROUP 5: Cast-in-place pipe laying machine; Combination slusher and motor operator; Concrete conveyor or concrete pump, truck or equipment mounted; Concrete conveyor, building site; Concrete pump or pumpcrete gun; Drilling equipment, Watson 2000, Texoma 700 or similar; Drilling and boring machinery, horizontal (not to apply to waterliners, wagon drills or jackhammers); Concrete mixer/all; Person and/or material hoist; Mechanical finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical burm, curb and/or curb and gutter machine, concrete or asphalt); Mine or shaft hoist; Portable crusher; Power jumbo operator (setting slip-forms, etc., in tunnels); Screed (automatic or manual); Self-propelled compactor with dozer; Tractor with boom D6 or smaller; Trenching machine, maximum digging capacity over 5 ft. depth; Vermeer T-600B rock cutter or similar

GROUP 6: Armor-Coater (or similar); Ballast jack tamper; Boom- type backfilling machine; Assistant plant engineer; Bridge and/or gantry crane; Chemical grouting machine, truck-mounted; Chip spreading machine operator; Concrete saw (self-propelled unit on streets, highways, airports and canals); Deck engineer; Drilling equipment Texoma 600, Hughes 200 Series or similar up to and including 30 ft. m.r.c.; Drill doctor; Helicopter radio operator; Hydro-hammer or similar; Line master; Skidsteer loader, Bobcat larger than 743 series or similar (with attachments); Locomotive; Lull hi-lift or similar; Oiler, truck mounted equipment; Pavement breaker, truck-mounted, with compressor combination; Paving fabric installation and/or laying machine; Pipe bending machine (pipelines only); Pipe wrapping machine (tractor propelled and supported); Screed (except asphaltic concrete paving); Self- propelled pipeline wrapping machine; Tractor; Self-loading chipper; Concrete barrier moving machine

GROUP 7: Ballast regulator; Boom truck or dual-purpose A-frame truck, non-rotating - under 15 tons; Cary lift or similar; Combination slurry mixer and/or cleaner; Drilling equipment, 20 ft. and under m.r.c.; Firetender (hot plant); Grouting machine operator; Highline cableway signalperson; Stationary belt loader (Kolman or similar); Lift slab machine (Vagtborg and similar types); Maginnes internal full slab vibrator; Material hoist (1 drum); Mechanical trench shield; Pavement breaker with or without compressor combination); Pipe cleaning machine (tractor propelled and supported); Post driver; Roller (except asphalt); Chip Seal; Self-propelled automatically applied concrete curing mahcine (on streets, highways, airports and canals); Self-propelled compactor (without dozer); Signalperson; Slip-form pumps (lifting device for concrete forms); Tie spacer; Tower mobile; Trenching machine, maximum digging capacity up to and including 5 ft. depth; Truck- type loader

GROUP 8: Bit sharpener; Boiler tender; Box operator; Brakeperson; Combination mixer and compressor (shotcrete/gunite); Compressor operator; Deckhand; Fire

tender; Forklift (under 20 ft.); Generator; Gunite/shotcrete equipment operator; Hydraulic monitor; Ken seal machine (or similar); Mixermobile; Oiler; Pump operator; Refrigeration plant; Reservoir-debris tug (self-propelled floating); Ross Carrier (construction site); Rotomist operator; Self-propelled tape machine; Shuttlecar; Self-propelled power sweeper operator (includes vacuum sweeper); Slusher operator; Surface heater; Switchperson; Tar pot firetender; Tugger hoist, single drum; Vacuum cooling plant; Welding machine (powered other than by electricity)

GROUP 8-A: Elevator operator; Skidsteer loader-Bobcat 743 series or smaller, and similar (without attachments); Mini excavator under 25 H.P. (backhoe-trencher); Tub grinder wood chipper

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ALL CRANES AND ATTACHMENTS

GROUP 1: Clamshell and dragline over 7 cu. yds.; Crane, over 100 tons; Derrick, over 100 tons; Derrick barge pedestal-mounted, over 100 tons; Self-propelled boom-type lifting device, over 100 tons

GROUP 2: Clamshell and dragline over 1 cu. yd. up to and including 7 cu. yds.; Crane, over 45 tons up to and including 100 tons; Derrick barge, 100 tons and under; Self-propelled boom-type lifting device, over 45 tons; Tower crane

GROUP 3: Clamshell and dragline up to and including 1 cu. yd.; Cranes 45 tons and under; Self-propelled boom-type lifting device 45 tons and under;

GROUP 4: Boom Truck or dual purpose A-frame truck, non-rotating over 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) over 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) - under 15 tons;

PILEDRIVERS

GROUP 1: Derrick barge pedestal mounted over 100 tons; Clamshell over 7 cu. yds.; Self-propelled boom-type lifting device over 100 tons; Truck crane or crawler, land or barge mounted over 100 tons

GROUP 2: Derrick barge pedestal mounted 45 tons to and including 100 tons; Clamshell up to and including 7 cu. yds.; Self-propelled boom-type lifting device over 45 tons; Truck crane or crawler, land or barge mounted, over 45 tons up to and including 100 tons; Fundex F-12 hydraulic pile rig

GROUP 3: Derrick barge pedestal mounted under 45 tons; Self-propelled boom-type lifting device 45 tons and under; Skid/scow piledriver, any tonnage; Truck crane or crawler, land or barge mounted 45 tons and under

GROUP 4: Assistant operator in lieu of assistant to engineer; Forklift, 10 tons and over; Heavy-duty repairperson/welder

GROUP 5: Deck engineer

GROUP 6: Deckhand; Fire tender

STEEL ERECTORS

GROUP 1: Crane over 100 tons; Derrick over 100 tons; Self-propelled boom-type lifting device over 100 tons

GROUP 2: Crane over 45 tons to 100 tons; Derrick under 100 tons; Self-propelled boom-type lifting device over 45 tons to 100 tons; Tower crane

GROUP 3: Crane, 45 tons and under; Self-propelled boom-type lifting device, 45 tons and under

GROUP 4: Chicago boom; Forklift, 10 tons and over; Heavy-duty repair person/welder

GROUP 5: Boom cat

TUNNEL AND UNDERGROUND WORK

GROUP 1-A: Tunnel bore machine operator, 20' diameter or more

GROUP 1: Heading shield operator; Heavy-duty repairperson; Mucking machine (rubber tired, rail or track type); Raised bore operator (tunnels); Tunnel mole bore operator

GROUP 2: Combination slusher and motor operator; Concrete pump or pumpcrete gun; Power jumbo operator

GROUP 3: Drill doctor; Mine or shaft hoist

GROUP 4: Combination slurry mixer cleaner; Grouting Machine operator; Motorman

GROUP 5: Bit Sharpener; Brakeman; Combination mixer and compressor (gunite); Compressor operator; Oiler; Pump operator; Slusher operator

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AREA DESCRIPTIONS:

POWER EQUIPMENT OPERATORS, CRANES AND ATTACHMENTS,TUNNEL AND UNDERGROUND [These areas do not apply to Piledrivers and Steel Erectors]

AREA 1: ALAMEDA, CALAVERAS, CONTRA COSTA, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, STANISLAUS, TUOLUMNE

AREA 2 -NOTED BELOW

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

CALAVERAS COUNTY:

Area 1: Remainder
Area 2: Eastern Part

FRESNO COUNTY:
Area 1: Remainder
Area 2: Eastern Part

MADERA COUNTY:
Area 1: Remainder
Area 2: Eastern Part

MARIPOSA COUNTY:
Area 1: Remainder
Area 2: Eastern Part

MONTEREY COUNTY:
Area 1: Remainder
Area 2: Southwestern part

TUOLUMNE COUNTY:
Area 1: Remainder
Area 2: Eastern Part

ENGI0003-008 08/01/2022

	Rates	Fringes
Dredging: (DREDGING: CLAMSHELL & DIPPER DREDGING; HYDRAULIC SUCTION DREDGING:)		
AREA 1:		
(1) Leverman	$ 55.15	35.46
(2) Dredge Dozer; Heavy duty repairman	$ 50.19	35.46
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator	$ 49.07	35.46
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler	$ 45.77	35.46
AREA 2:		
(1) Leverman	$ 57.15	35.46
(2) Dredge Dozer; Heavy duty repairman	$ 52.19	35.46
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator	$ 51.07	35.46
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler	$ 47.77	35.46

AREA DESCRIPTIONS

AREA 1: ALAMEDA,BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2: MODOC COUNTY

THE REMAINGING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:
Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:
Area 1: Remainder
Area 2: Eastern part

COLUSA COUNTY:
Area 1: Eastern part
Area 2: Remainder

ELDORADO COUNTY:
Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY:
Area 1: Remainder
Area 2: Eastern part

GLENN COUNTY:
Area 1: Eastern part
Area 2: Remainder

LASSEN COUNTY:
  Area 1: Western part along the Southern portion of border
  with Shasta County
Area 2: Remainder

MADERA COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

MARIPOSA COUNTY
Area 1: Except Eastern part
Area 2: Eastern part

MONTERREY COUNTY
Area 1: Except Southwestern part
Area 2: Southwestern part

NEVADA COUNTY:
  Area 1: All but the Northern portion along the border of
  Sierra County
Area 2: Remainder

PLACER COUNTY:
Area 1: Al but the Central portion
Area 2: Remainder

PLUMAS COUNTY:
Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:
Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:
Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:
Area 1: Central part

Area 2: Remainder

SONOMA COUNTY:
Area 1: All but the Northwestern corner
Area 2: Remainder

TEHAMA COUNTY:
  Area 1: All but the Western border with Mendocino & Trinity
  Counties
Area 2: Remainder

TRINITY COUNTY:
  Area 1: East Central part and the Northeastern border with
  Shasta County
Area 2: Remainder

TUOLUMNE COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

 ENGI0003-019 06/29/2020

SEE AREA DESCRIPTIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment (LANDSCAPE WORK ONLY)		
GROUP 1		
AREA 1	$ 39.95	30.28
AREA 2	$ 41.95	30.28
GROUP 2		
AREA 1	$ 36.35	30.28
AREA 2	$ 38.35	30.28
GROUP 3		
AREA 1	$ 31.74	30.28
AREA 2	$ 33.74	30.28

GROUP DESCRIPTIONS:

  GROUP 1: Landscape Finish Grade Operator: All finish grade work regardless of equipment used, and all equipment with a rating more than 65 HP.

  GROUP 2: Landscape Operator up to 65 HP: All equipment with a manufacturer's rating of 65 HP or less except equipment covered by Group 1 or Group 3. The following equipment shall be included except when used for finish work as long as manufacturer's rating is 65 HP or less: A-Frame and Winch Truck, Backhoe, Forklift, Hydragraphic Seeder Machine, Roller, Rubber-Tired and Track Earthmoving Equipment, Skiploader, Straw Blowers, and Trencher 31 HP up to 65 HP.

  GROUP 3: Landscae Utility Operator: Small Rubber-Tired Tractor, Trencher Under 31 HP.

AREA DESCRIPTIONS:

  AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:
Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

COLUSA COUNTY:
Area 1: Eastern part
Area 2: Remainder

DEL NORTE COUNTY:
Area 1: Extreme Southwestern corner
Area 2: Remainder

ELDORADO COUNTY:
Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY
Area 1: Except Eastern part
Area 2: Eastern part

GLENN COUNTY:
Area 1: Eastern part
Area 2: Remainder

HUMBOLDT COUNTY:
Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:
Area 1: Southern part
Area 2: Remainder

LASSEN COUNTY:
Area 1: Western part along the Southern portion of border with Shasta County
Area 2: Remainder

MADERA COUNTY
Area 1: Remainder
Area 2: Eastern part

MARIPOSA COUNTY
Area 1: Remainder
Area 2: Eastern part

MENDOCINO COUNTY:
Area 1: Central and Southeastern parts
Area 2: Remainder

MONTEREY COUNTY
Area 1: Remainder
Area 2: Southwestern part

NEVADA COUNTY:
Area 1: All but the Northern portion along the border of Sierra County

Area 2: Remainder

PLACER COUNTY:
Area 1: All but the Central portion
Area 2: Remainder

PLUMAS COUNTY:
Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:
Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:
Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:
Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:
Area 1: All but the Northwestern corner
Area 2: Reaminder

TEHAMA COUNTY:
  Area 1: All but the Western border with mendocino & Trinity
  Counties
Area 2: Remainder

TRINITY COUNTY:
  Area 1: East Central part and the Northeaster border with
  Shasta County
Area 2: Remainder

TULARE COUNTY;
Area 1: Remainder
Area 2: Eastern part

TUOLUMNE COUNTY:
Area 1: Remainder
Area 2: Eastern Part

IRON0377-001 01/01/2023

ALAMEDA, CONTRA COSTA, SAN MATEO, SANTA CLARA COUNTIES

	Rates	Fringes
Ironworkers:		
Fence Erector	$ 41.28	25.66
Ornamental, Reinforcing and Structural	$ 49.88	34.30

PREMIUM PAY:

$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval
Reserve-Niland,
Edwards AFB, Fort Irwin Military Station, Fort Irwin Training
Center-Goldstone, San Clemente Island, San Nicholas Island,
Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine

Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base,
Naval Post Graduate School - Monterey, Yermo Marine Corps
Logistics Center

$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

IRON0377-003 01/01/2023

SAN FRANCISCO CITY and COUNTY

	Rates	Fringes
Ironworkers:		
Fence Erector	$ 41.28	25.66
Ornamental, Reinforcing and Structural	$ 50.38	34.30

PREMIUM PAY:

$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval
Reserve-Niland,
Edwards AFB, Fort Irwin Military Station, Fort Irwin Training
Center-Goldstone, San Clemente Island, San Nicholas Island,
Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine
Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base,
Naval Post Graduate School - Monterey, Yermo Marine Corps
Logistics Center

$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

IRON0433-005 01/01/2023

REMAINING COUNTIES

	Rates	Fringes
IRONWORKER		
Fence Erector	$ 41.28	25.66
Ornamental, Reinforcing and Structural	$ 46.20	34.30

PREMIUM PAY:

$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval
Reserve-Niland,

Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center

$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LABO0067-002 06/27/2022

AREA ""A"" - ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA ""B"" - CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, STANISLAUS, AND TUOLUMNE COUNTIES

	Rates	Fringes
Asbestos Removal Laborer		
All Counties	$ 27.05	13.50
LABORER (Lead Removal)		
Area A	$ 35.37	26.95
Area B	$ 34.37	26.95

ASBESTOS REMOVAL-SCOPE OF WORK: Site mobilization; initial site clean-up; site preparation; removal of asbestos-containing materials from walls and ceilings; or from pipes, boilers and mechanical systems only if they are being scrapped; encapsulation, enclosure and disposal of asbestos-containing materials by hand or with equipment or machinery; scaffolding; fabrication of temporary wooden barriers; and assembly of decontamination stations.

LABO0073-002 06/28/2021

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person	$ 33.48	26.21
Traffic Control Person I	$ 33.78	26.21
Traffic Control Person II	$ 31.28	26.21

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0073-003 07/01/2022

SAN JOAQUIN COUNTY

	Rates	Fringes
LABORER		
Mason Tender-Brick	$ 35.29	25.21

LABO0073-005 07/01/2021

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 42.00	25.71
GROUP 2	$ 41.77	25.71
GROUP 3	$ 41.52	25.71
GROUP 4	$ 41.07	25.71
GROUP 5	$ 40.53	25.71
Shotcrete Specialist	$ 42.52	25.71

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0073-007 06/25/2018

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS)		
Construction Specialist Group	$ 30.49	23.20
GROUP 1	$ 29.79	23.20
GROUP 1-a	$ 30.01	23.20
GROUP 1-c	$ 29.84	23.20
GROUP 1-e	$ 30.34	23.20
GROUP 1-f	$ 30.37	23.20
GROUP 2	$ 29.64	23.20
GROUP 3	$ 29.54	23.20

GROUP 4	$ 23.23	23.20

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS)		
(1) New Construction	$ 29.54	23.20
(2) Establishment Warranty Period	$ 23.23	23.20
LABORER (GUNITE)		
GROUP 1	$ 29.75	22.31
GROUP 2	$ 29.25	22.31
GROUP 3	$ 28.66	22.31
GROUP 4	$ 28.54	22.31
LABORER (WRECKING)		
GROUP 1	$ 29.79	23.20
GROUP 2	$ 29.64	23.20

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller;

Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural

and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0073-009 07/01/2021

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
LABORER (Plaster Tender).....	$ 35.82	28.45

Work on a swing stage scaffold: $1.00 per hour additional.

LABO0261-003 06/28/2021

SAN FRANCISCO AND SAN MATEO COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person..	$ 34.48	26.21
Traffic Control Person I....	$ 34.78	26.21
Traffic Control Person II...	$ 32.28	26.21

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0261-005 07/01/2021

SAN FRANCISCO AND SAN MATEO COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 42.00	25.71
GROUP 2	$ 41.77	25.71
GROUP 3	$ 41.52	25.71
GROUP 4	$ 41.07	25.71
GROUP 5	$ 40.53	25.71
Shotcrete Specialist	$ 42.52	25.71

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0261-009 06/25/2018

SAN FRANCISCO, AND SAN MATEO COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA A:)		
Construction Specialist Group	$ 31.49	23.20
GROUP 1	$ 30.79	23.20
GROUP 1-a	$ 31.01	23.20
GROUP 1-c	$ 30.84	23.20
GROUP 1-e	$ 31.34	23.20
GROUP 1-f	$ 31.37	23.20

GROUP 2.....$ 30.64 23.20
GROUP 3.....$ 30.54 23.20
GROUP 4.....$ 24.23 23.20
See groups 1-b and 1-d under laborer classifications.
LABORER (GARDENERS,
HORTICULTURAL & LANDSCAPE
LABORERS - AREA A:)
(1) New Construction.....$ 30.54 23.20
(2) Establishment Warranty
Period.....$ 24.23 23.20
LABORER (WRECKING - AREA A:)
GROUP 1.....$ 30.79 23.20
GROUP 2.....$ 30.64 23.20
Laborers: (GUNITE - AREA A:)
GROUP 1.....$ 30.75 22.31
GROUP 2.....$ 30.25 22.31
GROUP 3.....$ 29.66 22.31
GROUP 4.....$ 29.54 22.31

FOOTNOTES:
Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and

similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general

laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0261-011 07/01/2021

SAN FRANCISCO AND SAN MATEO COUNTIES:

	Rates	Fringes
MASON TENDER, BRICK	$ 34.85	26.32

FOOTNOTES: Underground work such as sewers, manholes, catch basins, sewer pipes, telephone conduits, tunnels and cut trenches: $5.00 per day additional. Work in live sewage: $2.50 per day additional.

LABO0261-014 07/01/2022

SAN FRANCISCO AND SAN MATEO COUNTIES:

	Rates	Fringes

PLASTER TENDER.....$ 40.48 30.23

Work on a swing stage scaffold: $1.00 per hour additional.

LABO0270-003 06/28/2021

AREA A: SANTA CLARA

AREA B: MONTEREY, SAN BENITO AND SANTA CRUZ COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person		
Area A	$ 34.48	26.21
Area B	$ 33.48	26.21
Traffic Control Person I		
Area A	$ 34.78	26.21
Area B	$ 33.78	26.21
Traffic Control Person II		
Area A	$ 32.28	26.21
Area B	$ 31.28	26.21

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0270-004 07/01/2021

MONTEREY, SAN BENITO, SANTA CLARA, AND SANTA CRUZ COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 42.00	25.71
GROUP 2	$ 41.77	25.71
GROUP 3	$ 41.52	25.71
GROUP 4	$ 41.07	25.71
GROUP 5	$ 40.53	25.71
Shotcrete Specialist	$ 42.52	25.71

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute

materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0270-005 07/01/2022

MONTEREY AND SAN BENITO COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick	$ 35.29	25.21

LABO0270-007 06/25/2018

MONTEREY, SAN BENITO, AND SANTA CRUZ, COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA B)		
Construction Specialist Group	$ 30.40	23.20
GROUP 1	$ 29.79	23.20
GROUP 1-a	$ 30.01	23.20
GROUP 1-c	$ 29.84	23.20
GROUP 1-e	$ 30.34	23.20
GROUP 1-f	$ 30.37	23.20
GROUP 2	$ 29.64	23.20
GROUP 3	$ 29.54	23.20
GROUP 4	$ 23.23	23.20
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA B)		
(1) New Construction	$ 29.54	23.20
(2) Establishment Warranty Period	$ 23.23	23.20
LABORER (GUNITE - AREA B)		
GROUP 1	$ 29.75	22.31
GROUP 2	$ 29.25	22.31
GROUP 3	$ 28.66	22.31
GROUP 4	$ 28.54	22.31
LABORER (WRECKING - AREA B)		
GROUP 1	$ 29.79	23.20
GROUP 2	$ 29.64	23.20

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $

.25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0270-010 06/25/2018

SANTA CLARA COUNTY

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA A:)		
Construction Specialist Group	$ 31.49	23.20
GROUP 1	$ 30.79	23.20
GROUP 1-a	$ 31.01	23.20
GROUP 1-c	$ 30.84	23.20
GROUP 1-e	$ 31.34	23.20
GROUP 1-f	$ 30.37	23.20
GROUP 2	$ 30.64	23.20
GROUP 3	$ 30.54	23.20
GROUP 4	$ 24.23	23.20
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA A:)		
(1) New Construction	$ 30.54	23.20
(2) Establishment Warranty Period	$ 24.23	23.20
LABORER (GUNITE - AREA A:)		
GROUP 1	$ 30.75	22.31
GROUP 2	$ 30.25	22.31
GROUP 3	$ 29.66	22.31
GROUP 4	$ 29.54	22.31
LABORER (WRECKING - AREA A:)		
GROUP 1	$ 30.79	23.20
GROUP 2	$ 30.64	23.20

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small

trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall

apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0270-011 07/01/2017

MONTEREY, SAN BENITO, SANTA CRUZ, SANTA CLARA COUNTIES

	Rates	Fringes
LABORER (Plaster Tender)	$ 34.70	21.22

Work on a swing stage scaffold: $1.00 per hour additional.

LABO0294-001 07/01/2022

FRESNO, KINGS AND MADERA COUNTIES

	Rates	Fringes
LABORER (Brick)		
Mason Tender-Brick	$ 35.29	25.21

LABO0294-002 06/28/2021

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person	$ 33.48	26.21
Traffic Control Person I	$ 33.78	26.21
Traffic Control Person II	$ 31.28	26.21

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0294-005 07/01/2021

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 42.00	25.71
GROUP 2	$ 41.77	25.71
GROUP 3	$ 41.52	25.71
GROUP 4	$ 41.07	25.71
GROUP 5	$ 40.53	25.71
Shotcrete Specialist	$ 42.52	25.71

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0294-008 06/25/2018

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA B:)		
Construction Specialist Group	$ 30.49	23.20
GROUP 1	$ 29.79	23.20
GROUP 1-a	$ 30.01	23.20
GROUP 1-c	$ 29.84	23.20
GROUP 1-e	$ 30.34	23.20
GROUP 1-f	$ 30.37	23.20
GROUP 2	$ 29.64	23.20
GROUP 3	$ 29.54	23.20
GROUP 4	$ 23.23	23.20
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA B:)		
(1) New Construction	$ 29.54	23.20
(2) Establishment Warranty Period	$ 23.23	23.20
LABORER (GUNITE - AREA B:)		
GROUP 1	$ 29.75	22.31
GROUP 2	$ 29.25	22.31
GROUP 3	$ 28.66	22.31
GROUP 4	$ 28.54	22.31
LABORER (WRECKING - AREA B:)		
GROUP 1	$ 29.79	23.20
GROUP 2	$ 29.64	23.20

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a

below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage

rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0294-010 07/01/2021

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS & TUOLUMNE

	Rates	Fringes
Plasterer tender	$ 35.82	28.45

Work on a swing stage scaffold: $1.00 per hour additional.

LABO0294-011 07/01/2021

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
LABORER (Plaster Tender)	$ 35.82	28.45

Work on a swing stage scaffold: $1.00 per hour additional.

LABO0304-002 06/28/2021

ALAMEDA COUNTY

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person	$ 34.48	26.21
Traffic Control Person I	$ 34.78	26.21
Traffic Control Person II	$ 32.28	26.21

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0304-003 07/01/2021

ALAMEDA COUNTY

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 42.00	25.71
GROUP 2	$ 41.77	25.71
GROUP 3	$ 41.52	25.71
GROUP 4	$ 41.07	25.71
GROUP 5	$ 40.53	25.71
Shotcrete Specialist	$ 42.52	25.71

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0304-004 06/25/2018

ALAMEDA COUNTY

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA A:)		
Construction Specialist Group	$ 31.49	23.20
GROUP 1	$ 30.79	23.20
GROUP 1-a	$ 31.01	23.20
GROUP 1-c	$ 30.84	23.20
GROUP 1-e	$ 31.34	23.20
GROUP 1-f	$ 30.37	23.20
GROUP 2	$ 30.64	23.20
GROUP 3	$ 30.54	23.20
GROUP 4	$ 24.23	23.20
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA A:)		
(1) New Construction	$ 30.54	23.20
(2) Establishment Warranty Period	$ 24.23	23.20

LABORER (GUNITE - AREA A:)

GROUP 1	$ 30.75	22.31
GROUP 2	$ 30.25	22.31
GROUP 3	$ 29.66	22.31
GROUP 4	$ 29.54	22.31

LABORER (WRECKING - AREA A:)

GROUP 1	$ 30.79	23.20
GROUP 2	$ 30.64	23.20

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller;

Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and

washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0304-005 05/01/2018

ALAMEDA COUNTY

	Rates	Fringes
Brick Tender	$ 35.37	20.70

FOOTNOTES: Work on jobs where heat-protective clothing is required: $2.00 per hour additional. Work at grinders: $.25 per hour additional. Manhole work: $2.00 per day additional.

LABO0304-008 07/01/2017

ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Plasterer tender	$ 34.70	23.11

Work on a swing stage scaffold: $1.00 per hour additional.

LABO0324-002 06/28/2021

CONTRA COSTA COUNTY

	Rates	Fringes

LABORER (TRAFFIC CONTROL/LANE CLOSURE)

Escort Driver, Flag Person..	$ 34.48	26.21
Traffic Control Person I....	$ 34.78	26.21
Traffic Control Person II...	$ 32.28	26.21

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0324-006 06/25/2018

CONTRA COSTA COUNTY

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	$ 37.82	24.11
GROUP 2.....	$ 37.59	24.11
GROUP 3.....	$ 37.34	24.11
GROUP 4.....	$ 36.89	24.11
GROUP 5.....	$ 36.35	24.11
Shotcrete Specialist.....	$ 38.34	24.11

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0324-012 06/25/2018

CONTRA COSTA COUNTY

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA A:)		
Construction Specialist Group.....	$ 31.49	23.20

GROUP 1.....$ 30.79 23.20
GROUP 1-a.....$ 31.01 23.20
GROUP 1-c.....$ 30.84 23.20
GROUP 1-e.....$ 31.34 23.20
GROUP 1-f.....$ 30.37 23.20
GROUP 1-g.....$ 30.99 23.20
GROUP 2.....$ 30.64 23.20
GROUP 3.....$ 30.54 23.20
GROUP 4.....$ 24.23 23.20

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS, HORTICULURAL & LANDSCAPE LABORERS - AREA A:)
(1) New Construction.....$ 30.54 23.20
(2) Establishment Warranty Period.....$ 24.23 23.20

LABORER (GUNITE - AREA A:)
GROUP 1.....$ 30.75 22.31
GROUP 2.....$ 30.25 22.31
GROUP 3.....$ 29.66 22.31
GROUP 4.....$ 29.54 22.31

LABORER (WRECKING - AREA A:)
GROUP 1.....$ 30.79 23.20
GROUP 2.....$ 30.64 23.20

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in

connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 1-g, CONTRA COSTA COUNTY: Pipelayer (including grade checking in connection with pipelaying); Caulker; Bander; Pipewrapper; Conduit layer; Plastic pipe layer; Pressure pipe tester; No joint pipe and stripping of same, including repair of voids; Precast manhole setters, cast in place manhole form setters

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work);

Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

GROUP 1-g, CONTRA COSTA COUNTY: Pipelayer (including grade checking in connection with pipelaying); Caulker; Bander; Pipewrapper; Conduit layer; Plastic pipe layer; Pressure pipe tester; No joint pipe and stripping of same, including repair of voids; Precast manhole setters, cast in place manhole form setters

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LABO0324-014 05/01/2018

CONTRA COSTA COUNTY:

	Rates	Fringes
Brick Tender	$ 35.37	20.70

FOOTNOTES: Work on jobs where heat-protective clothing is required: $2.00 per hour additional. Work at grinders: $.25 per hour additional. Manhole work: $2.00 per day additional.

LABO0324-018 07/01/2021

ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Plasterer tender	$ 38.28	29.43

Work on a swing stage scaffold: $1.00 per hour additional.

LABO1130-002 06/28/2021

MARIPOSA, MERCED, STANISLAUS, AND TUOLUMNE COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person	$ 33.48	26.21
Traffic Control Person I	$ 33.78	26.21
Traffic Control Person II	$ 31.28	26.21

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO1130-003 06/26/2017

MARIPOSA, MERCED, STANISLAUS, AND TUOLUMNE COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 36.60	24.83
GROUP 2	$ 36.37	24.83
GROUP 3	$ 36.12	24.83
GROUP 4	$ 35.67	24.83
GROUP 5	$ 35.13	24.83
Shotcrete Specialist	$ 37.12	24.83

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or

excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO1130-005 07/01/2022

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick	$ 35.29	25.21

LABO1130-007 06/25/2018

MARIPOSA, MERCED, STANISLAUS, AND TUOLUMNE , COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA B:)		
Construction Specialist Group	$ 30.49	23.20
GROUP 1	$ 29.79	23.20
GROUP 1-a	$ 30.01	23.20
GROUP 1-c	$ 29.84	23.20
GROUP 1-e	$ 30.34	23.20
GROUP 1-f	$ 29.37	23.20
GROUP 2	$ 29.64	23.20
GROUP 3	$ 29.54	23.20
GROUP 4	$ 23.23	23.20
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA B:)		
(1) New Construction	$ 29.54	23.20
(2) Establishment Warranty Period	$ 23.23	23.20
LABORER (GUNITE - AREA B:)		
GROUP 1	$ 29.75	22.31
GROUP 2	$ 29.25	22.31
GROUP 3	$ 28.66	22.31
GROUP 4	$ 28.54	22.31
LABORER (WRECKING - AREA B:)		
GROUP 1	$ 29.79	23.20
GROUP 2	$ 29.64	23.20

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who

handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in

the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO1130-008 07/01/2021

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS & TUOLUMNE

	Rates	Fringes
Plasterer tender	$ 35.82	28.45

Work on a swing stage scaffold: $1.00 per hour additional.

LABO1130-009 07/01/2021

MARIPOSA, MERCED, STANISLAUS, AND TUOLUMNE COUNTIES

	Rates	Fringes
LABORER (Plaster Tender)	$ 35.82	28.45

Work on a swing stage scaffold: $1.00 per hour additional.

PAIN0016-001 01/01/2022

ALAMEDA, CONTRA COSTA, MONTEREY, SAN BENITO, SAN MATEO, SANTA CLARA, AND SANTA CRUZ COUNTIES

	Rates	Fringes
Painters:	$ 46.37	26.33

PREMIUMS:

EXOTIC MATERIALS - $1.25 additional per hour.
SPRAY WORK: - $0.50 additional per hour.
INDUSTRIAL PAINTING - $0.25 additional per hour
[Work on industrial buildings used for the manufacture and processing of goods for sale or service; steel construction

(bridges), stacks, towers, tanks, and similar structures]

HIGH WORK:
over 50 feet - $2.00 per hour additional
100 to 180 feet - $4.00 per hour additional
Over 180 feet - $6.00 per houir additional

PAIN0016-003 07/01/2022

AREA 1: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO & SANTA CLARA COUNTIES

AREA 2: CALAVERAS, MARIPOA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, STANISLAUS & TUOLUMNE COUNTIES

	Rates	Fringes
Drywall Finisher/Taper		
AREA 1	$ 57.16	30.24
AREA 2	$ 53.03	28.84

PAIN0016-012 07/01/2022

ALAMEDA, CONTRA COSTA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA AND SANTA CRUZ COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER	$ 54.25	32.28

PAIN0016-015 01/01/2021

CALAVERAS, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS & TUOLUMNE COUNTIES

	Rates	Fringes
PAINTER		
Brush	$ 35.88	21.16

FOOTNOTES:
SPRAY/SANDBLAST: $0.50 additional per hour.
EXOTIC MATERIALS: $1.25 additional per hour.
HIGH TIME: Over 50 ft above ground or water level $2.00 additional per hour. 100 to 180 ft above ground or water level $4.00 additional per hour. Over 180 ft above ground or water level $6.00 additional per hour.

PAIN0016-022 01/01/2022

SAN FRANCISCO COUNTY

	Rates	Fringes
PAINTER	$ 49.99	26.33

PAIN0169-001 06/01/2020

FRESNO, KINGS, MADERA, MARIPOSA AND MERCED COUNTIES:

	Rates	Fringes
GLAZIER	$ 40.00	26.76

PAIN0169-005 01/01/2022

ALAMEDA CONTRA COSTA, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA & SANTA CRUZ COUNTIES

	Rates	Fringes
GLAZIER	$ 54.77	31.45

PAIN0294-004 01/01/2021

FRESNO, KINGS AND MADERA COUNTIES

	Rates	Fringes
PAINTER		
Brush, Roller	$ 31.36	20.33
Drywall Finisher/Taper	$ 40.10	25.00

FOOTNOTE:
Spray Painters & Paperhangers recive $1.00 additional per hour. Painters doing Drywall Patching receive $1.25 additional per hour. Lead Abaters & Sandblasters receive $1.50 additional per hour. High Time - over 30 feet (does not include work from a lift) $0.75 per hour additional.

PAIN0294-005 08/01/2022

FRESNO, KINGS & MADERA

	Rates	Fringes
SOFT FLOOR LAYER	$ 37.12	22.10

PAIN0767-001 01/01/2022

CALAVERAS, SAN JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
GLAZIER	$ 41.78	33.09

PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

Employee rquired to wear a body harness shall receive $1.50 per hour above the basic hourly rate at any elevation.

PAIN1176-001 07/01/2022

HIGHWAY IMPR0VEMENT

	Rates	Fringes
Parking Lot Striping/Highway Marking:		
GROUP 1	$ 40.83	17.62

GROUP 2	$ 34.71	17.62
GROUP 3	$ 35.11	17.62

CLASSIFICATIONS

GROUP 1: Striper: Layout and application of painted traffic stripes and marking; hot thermo plastic; tape, traffic stripes and markings

GROUP 2: Gamecourt & Playground Installer

GROUP 3: Protective Coating, Pavement Sealing

PAIN1237-003 08/01/2022

CALAVERAS; SAN JOAQUIN COUNTIES; STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
SOFT FLOOR LAYER	$ 44.72	24.98

PLAS0066-002 07/01/2019

ALAMEDA, CONTRA COSTA, SAN MATEO AND SAN FRANCISCO COUNTIES:

	Rates	Fringes
PLASTERER	$ 42.41	30.73

PLAS0300-001 07/01/2018

	Rates	Fringes
PLASTERER		
AREA 188: Fresno	$ 32.70	31.68
AREA 224: San Benito, Santa Clara, Santa Cruz	$ 32.88	31.68
AREA 295: Calaveras & San Joaquin Couonties	$ 32.70	31.68
AREA 337: Monterey County	$ 32.88	31.68
AREA 429: Mariposa, Merced, Stanislaus, Tuolumne Counties	$ 32.70	31.68

PLAS0300-005 07/01/2016

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.15	23.27

PLUM0038-001 07/01/2022

SAN FRANCISCO COUNTY

	Rates	Fringes
PLUMBER (Plumber, Steamfitter, Refrigeration Fitter)	$ 82.00	48.18

PLUM0038-005 07/01/2022

SAN FRANCISCO COUNTY

	Rates	Fringes
Landscape/Irrigation Fitter (Underground/Utility Fitter)	$ 69.70	33.15

* PLUM0062-001 01/01/2023

MONTEREY AND SANTA CRUZ COUNTIES

	Rates	Fringes
PLUMBER & STEAMFITTER	$ 50.00	39.35

PLUM0159-001 07/01/2022

CONTRA COSTA COUNTY

	Rates	Fringes
Plumber and steamfitter		
(1) Refrigeration	$ 56.93	41.04
(2) All other work	$ 62.12	45.24

PLUM0246-001 01/01/2023

FRESNO, KINGS & MADERA COUNTIES

	Rates	Fringes
PLUMBER & STEAMFITTER	$ 46.95	38.59

* PLUM0246-004 01/01/2017

FRESNO, MERCED & SAN JOAQUIN COUNIES

	Rates	Fringes
PLUMBER (PIPE TRADESMAN)	$ 13.00 **	10.74

PIPE TRADESMAN SCOPE OF WORK:
Installation of corrugated metal piping for drainage, as well as installation of corrugated metal piping for culverts in connection with storm sewers and drains; Grouting, dry packing and diapering of joints, holes or chases including paving over joints, in piping; Temporary piping for dirt work for building site preparation; Operating jack hammers, pavement breakers, chipping guns, concrete saws and spades to cut holes, chases and channels for piping systems; Digging, grading, backfilling and ground preparation for all types of pipe to all points of the jobsite; Ground preparation including ground leveling, layout and planting of shrubbery, trees and ground cover, including watering, mowing, edging, pruning and fertilizing, the breaking of concrete, digging, backfilling and tamping for the preparation and completion of all work in connection with lawn sprinkler and landscaping; Loading, unloading and distributing materials at jobsite; Putting away materials in storage bins in jobsite secure storage area; Demolition of piping and fixtures for remodeling and additions; Setting up and tearing down work benches, ladders and job shacks; Clean-up and sweeping of jobsite; Pipe wrapping and waterproofing where tar or similar material is applied for protection of buried piping; Flagman

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PLUM0342-001 07/01/2022

ALAMEDA & CONTRA COSTA COUNTIES

	Rates	Fringes
PIPEFITTER		
CONTRA COSTA COUNTY	$ 72.00	45.70
PLUMBER, PIPEFITTER, STEAMFITTER		
ALAMEDA COUNTY	$ 72.00	45.70

PLUM0355-004 07/01/2022

ALAMEDA, CALAVERAS, CONTRA COSTA, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, STANISLAUS, AND TUOLUMNE COUNTIES:

	Rates	Fringes
Underground Utility Worker /Landscape Fitter	$ 32.22	17.55

PLUM0393-001 07/01/2021

SAN BENITO AND SANTA CLARA COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 68.76	46.63

PLUM0442-001 01/01/2023

CALAVERAS, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS & TUOLUMNE COUNTIES

	Rates	Fringes
PLUMBER & STEAMFITTER	$ 50.75	35.14

PLUM0467-001 07/01/2021

SAN MATEO COUNTY

	Rates	Fringes
Plumber/Pipefitter/Steamfitter...	$ 73.10	38.61

ROOF0027-002 01/01/2023

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
ROOFER	$ 41.31	15.31

FOOTNOTE: Work with pitch, pitch base of pitch impregnated products or any material containing coal tar pitch, on any building old or new, where both asphalt and pitchers are used in the application of a built-up roof or tear off: $2.00 per hour additional.

ROOF0040-002 08/01/2022

SAN FRANCISCO & SAN MATEO COUNTIES:

	Rates	Fringes
ROOFER	$ 49.83	21.14

ROOF0081-001 08/01/2022

ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Roofer	$ 50.27	20.66

ROOF0081-004 08/01/2022

CALAVERAS, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
ROOFER	$ 43.13	19.71

ROOF0095-002 08/01/2022

MONTEREY, SAN BENITO, SANTA CLARA, AND SANTA CRUZ COUNTIES:

	Rates	Fringes
ROOFER		
Bitumastic, Enameler, Coal Tar, Pitch and Mastic worker	$ 55.16	20.82
Journeyman	$ 51.16	20.82
Kettle person (2 kettles)	$ 53.16	20.82

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* SFCA0483-001 01/01/2023

ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES:

	Rates	Fringes
SPRINKLER FITTER (FIRE)	$ 72.59	36.95

SFCA0669-011 01/01/2023

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
SPRINKLER FITTER	$ 42.30	27.25

SHEE0104-001 07/01/2020

AREA 1: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO, SANTA

CLARA

AREA 2: MONTEREY & SAN BENITO

AREA 3: SANTA CRUZ

	Rates	Fringes
SHEET METAL WORKER		
AREA 1:		
Mechanical Contracts		
under $200,000	$ 55.92	45.29
All Other Work	$ 64.06	46.83
AREA 2	$ 52.90	36.44
AREA 3	$ 55.16	34.18

SHEE0104-003 07/01/2021

CALAVERAS AND SAN JOAQUIN COUNTIES:

	Rates	Fringes
SHEET METAL WORKER	$ 44.34	39.22

SHEE0104-005 07/01/2021

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
SHEET METAL WORKER (Excluding metal deck and siding)	$ 41.28	45.41

SHEE0104-007 07/01/2021

FRESNO, KINGS, AND MADERA COUNTIES:

	Rates	Fringes
SHEET METAL WORKER	$ 44.07	40.79

SHEE0104-015 07/01/2020

ALAMEDA, CONTRA COSTA, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA AND SANTA CRUZ COUNTIES:

	Rates	Fringes
SHEET METAL WORKER (Metal Decking and Siding only)	$ 44.45	35.55

SHEE0104-018 07/01/2020

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
Sheet metal worker (Metal decking and siding only)	$ 44.45	35.55

TEAM0094-001 07/01/2022

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 36.95	31.14
GROUP 2	$ 37.25	31.14
GROUP 3	$ 37.55	31.14
GROUP 4	$ 37.90	31.14
GROUP 5	$ 38.25	31.14

FOOTNOTES:

Articulated dump truck; Bulk cement spreader (with or without auger); Dumpcrete truck; Skid truck (debris box); Dry pre-batch concrete mix trucks; Dumpster or similar type; Slurry truck: Use dump truck yardage rate.
Heater planer; Asphalt burner; Scarifier burner; Industrial lift truck (mechanical tailgate); Utility and clean-up truck: Use appropriate rate for the power unit or the equipment utilized.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Dump trucks, under 6 yds.; Single unit flat rack (2-axle unit); Nipper truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump machine; Fork lift and lift jitneys; Fuel and/or grease truck driver or fuel person; Snow buggy; Steam cleaning; Bus or personhaul driver; Escort or pilot car driver; Pickup truck; Teamster oiler/greaser and/or serviceperson; Hook tender (including loading and unloading); Team driver; Tool room attendant (refineries)

GROUP 2: Dump trucks, 6 yds. and under 8 yds.; Transit mixers, through 10 yds.; Water trucks, under 7,000 gals.; Jetting trucks, under 7,000 gals.; Single-unit flat rack (3-axle unit); Highbed heavy duty transport; Scissor truck; Rubber-tired muck car (not self-loaded); Rubber-tired truck jumbo; Winch truck and ""A"" frame drivers; Combination winch truck with hoist; Road oil truck or bootperson; Buggymobile; Ross, Hyster and similar straddle carriers; Small rubber-tired tractor

GROUP 3: Dump trucks, 8 yds. and including 24 yds.; Transit mixers, over 10 yds.; Water trucks, 7,000 gals. and over; Jetting trucks, 7,000 gals. and over; Vacuum trucks under 7500 gals. Trucks towing tilt bed or flat bed pull trailers; Lowbed heavy duty transport; Heavy duty transport tiller person; Self- propelled street sweeper with self-contained refuse bin; Boom truck - hydro-lift or Swedish type extension or retracting crane; P.B. or similar type self-loading truck; Tire repairperson; Combination bootperson and road oiler; Dry distribution truck (A bootperson when employed on such equipment, shall receive the rate specified for the classification of road oil trucks or bootperson); Ammonia nitrate distributor, driver and mixer; Snow Go and/or plow

GROUP 4: Dump trucks, over 25 yds. and under 65 yds.; Water pulls - DW 10's, 20's, 21's and other similar equipment when pulling Aqua/pak or water tank trailers; Helicopter pilots (when transporting men and materials); Lowbedk Heavy Duty Transport up to including 7 axles; DW10's, 20's, 21's and other similar Cat type, Terra Cobra, LeTourneau Pulls,

Tournorocker, Euclid and similar type equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers; Vacuum Trucks 7500 gals and over and truck repairman

GROUP 5: Dump trucks, 65 yds. and over; Holland hauler; Low bed Heavy Duty Transport over 7 axles

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($16.20) or 13658 ($12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this

classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests

for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

STATE WAGE RATES

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GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1 FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

LOCALITY: SAN MATEO COUNTY

DETERMINATION: SMA-2022-2

CRAFT	CLASSIFICATION	CRAFT FOOTNOTE	ISSUE DATE	EXPIRATION DATE	BASIC HOURLY RATE	BASIC HOURLY RATE FOOTNOTE	HEALTH AND WELFARE	HEALTH AND WELFARE FOOTNOTE	PENSION	PENSION FOOTNOTE	VACATION/ HOLIDAY	VACATION/ HOLIDAY FOOTNOTE	TRAINING	TRAINING FOOTNOTE	OTHER PAYMENTS	OTHER PAYMENTS FOOTNOTE	HOURS	HOURS FOOTNOTE	STRAIGHT-TIME TOTAL HOURLY RATE	DAILY OVERTIME HOURLY RATE	DAILY OVERTIME HOURLY RATE FOOTNOTE	SATURDAY OVERTIME HOURLY RATE	SATURDAY OVERTIME HOURLY RATE FOOTNOTE	SUNDAY AND HOLIDAY OVERTIME HOURLY RATE	SUNDAY AND HOLIDAY OVERTIME HOURLY RATE FOOTNOTE	HOLIDAY PROVISIONS	SCOPE OF WORK PROVISIONS	TRAVEL & SUBSISTENCE PROVISIONS
#BRICKLAYER, BLOCKLAYER:	BRICKLAYER, BLOCKLAYER, STONEMASON		08/22/2022	04/30/2023**	$50.690	A	$11.100		$13.320		$3.000	B	$0.800		$2.190	C	8.0	D	$81.100	$107.950	E	$107.950	E	$134.790		Holidays	Scope of Work	Travel & Subsistence
#BRICKLAYER, BLOCKLAYER:	POINTER, CLEANER, CAULKER, WATERPROOFER		08/22/2022	06/30/2023*	$56.700	A	$11.100		$13.620		$0.000	F	$1.630		$0.430		8.0	D	$83.480	$111.830		$111.830	G	$140.180		Holidays	Scope of Work	Travel & Subsistence
#BRICK TENDER			08/22/2022	06/30/2023*	$39.690	H	$9.600		$13.430		$0.000	F	$0.450		$0.300		8.0		$63.470	$83.320	I	$83.320	I	$103.160		Holidays	Scope of Work	Travel & Subsistence
#CARPET, LINOLEUM,	SOFT FLOOR LAYER		08/22/2022	12/31/2022**	$54.200	A	$10.700		$20.530		$0.000	J	$1.050		$0.340		8.0		$86.820	$113.920	K	$113.920	K	$141.020		Holidays	Scope of Work	Travel & Subsistence
CARPET, LINOLEUM,	FLOOR COVERING HANDLER AFTER 3 YEARS		08/22/2022	12/31/2022**	$27.080	A	$10.700		$10.270		$0.000	J	$0.050		$0.340		8.0		$48.440	$61.980	K	$61.980	K	$75.520		Holidays	Scope of Work	Travel & Subsistence
CARPET, LINOLEUM,	FLOOR COVERING HANDLER LESS THAN 3 YEARS		08/22/2022	12/31/2022**	$21.650	A	$10.700		$8.210		$0.000	J	$0.050		$0.340		8.0		$40.950	$51.780	K	$51.780	K	$62.600		Holidays	Scope of Work	Travel & Subsistence
CARPET, LINOLEUM,	FLOOR COVERING HANDLER TRAINEE, FIRST 3 MONTHS		02/22/2021	12/31/2021**	$16.940	A	$10.550		$5.550		$0.000	J	$0.050		$0.340		8.0		$33.430	$41.900	K	$41.900	K	$50.370		Holidays	Scope of Work	Travel & Subsistence
CARPET, LINOLEUM,	FLOOR COVERING HANDLER TRAINEE, SECOND 3 MONTHS		02/22/2021	12/31/2021**	$19.070	A	$10.550		$6.230		$0.000	J	$0.050		$0.340		8.0		$36.240	$45.780	K	$45.780	K	$55.310		Holidays	Scope of Work	Travel & Subsistence
#ELECTRICIAN:	COMM & SYSTEM INSTALLER		02/22/2022	11/30/2022*	$47.930		$12.400		$9.150	L	$0.000		$1.100		$0.260	M	8.0		$72.520	$97.320	N	$97.320	N	$122.130		Holidays	Scope of Work	Travel & Subsistence
#ELECTRICIAN:	COMM & SYSTEM TECH.		02/22/2022	11/30/2022*	$55.120		$12.400		$9.150	L	$0.000		$1.100		$0.260	M	8.0		$79.960	$108.490	N	$108.490	N	$137.020		Holidays	Scope of Work	Travel & Subsistence
#ELECTRICIAN:	INSIDE WIREMAN, TECHNICIAN		08/22/2022	05/31/2023**	$74.000	A	$19.990		$20.000	O	$0.000	F	$2.050		$0.250		8.0		$118.510	$156.620	P	$194.730		$194.730	Q	Holidays	Scope of Work	Travel & Subsistence
#ELECTRICIAN:	CABLE SPLICER		08/22/2022	05/31/2023**	$85.100	A	$19.990		$20.000	O	$0.000	F	$2.050		$0.250		8.0		$129.940	$173.770	P	$217.600		$217.600	Q	Holidays	Scope of Work	Travel & Subsistence
#FIELD SURVEYOR:	CHIEF OF PARTY	R	02/22/2022	02/28/2023**	$52.600		$13.380		$13.010	S	$4.900	T	$1.260		$0.190		8.0		$85.340	$111.640	U	$111.640	U	$137.940		Holidays	Scope of Work	Travel & Subsistence
#FIELD SURVEYOR:	INSTRUMENTMAN	R	02/22/2022	02/28/2023**	$49.010		$13.380		$13.010	S	$4.900	T	$1.260		$0.190		8.0		$81.750	$106.260	U	$106.260	U	$130.760		Holidays	Scope of Work	Travel & Subsistence
#FIELD SURVEYOR:	CHAINMAN/RODMAN	R	02/22/2022	02/28/2023**	$46.130		$13.380		$13.010	S	$4.900	T	$1.260		$0.190		8.0		$78.870	$101.940	U	$101.940	U	$125.000		Holidays	Scope of Work	Travel & Subsistence
#GLAZIER		V	02/22/2022	12/31/2022**	$54.720	A	$10.700		$19.650	W	$0.000		$1.100		$0.480	X	8.0		$86.650	$114.010	Y	$141.370		$141.370		Holidays	Scope of Work	Travel & Subsistence
#MARBLE FINISHER		Z	08/22/2022	07/31/2023**	$39.200	AA	$11.100		$6.180		$0.000	J	$0.450		$0.910		8.0		$57.840	$77.440	AB	$97.040		$97.040		Holidays	Scope of Work	Travel & Subsistence
#MARBLE MASON		Z	08/22/2022	07/31/2023**	$56.980	AA	$11.100		$15.780		$0.000	J	$0.800		$1.250		8.0		$85.910	$114.400	AB	$142.890		$142.890		Holidays	Scope of Work	Travel & Subsistence
#PAINTER		AC	08/22/2022	12/31/2022**	$46.320	H	$10.700		$14.670	S	$0.000	J	$0.960		$0.380		8.0	D	$73.030	$96.190	AD	$96.190	AD	$119.350		Holidays	Scope of Work	Travel & Subsistence
#PAINTER	INDUSTRIAL PAINTER	AE	08/22/2022	12/31/2022**	$48.320	H	$10.700		$14.670	S	$0.000	J	$0.960		$0.380		8.0	D	$75.030	$99.190	AD	$99.190	AD	$123.350		Holidays	Scope of Work	Travel & Subsistence
#PAINTER	BRIDGE PAINTER	AF	08/22/2022	12/31/2022**	$50.320	H	$10.700		$14.670	S	$0.000	J	$0.960		$0.380		8.0	D	$77.030	$102.190	AD	$102.190	AD	$127.350		Holidays	Scope of Work	Travel & Subsistence
#PAINTER:	TAPER		08/22/2022	12/31/2022**	$57.110	AG	$10.700		$18.490		$0.000	J	$1.050		$0.680		8.0		$88.030	$116.590	AH	$116.590	AH	$145.140	AI	Holidays	Scope of Work	Travel & Subsistence
#PLASTERER			08/22/2022	06/30/2023**	$47.540	AJ	$14.430		$18.490		$0.000	F	$1.290		$1.340		8.0		$83.090	$103.760	AK	$103.760	AL	$124.420		Holidays	Scope of Work	Travel & Subsistence
#PLASTER TENDER			08/22/2022	06/30/2023*	$40.480		$9.600		$15.220		$4.910		$0.500		$0.450		8.0		$71.160	$91.400	K	$91.400	K	$111.640		Holidays	Scope of Work	Travel & Subsistence
#PLUMBER:	UNDERGROUND UTILITY PIPEFITTER		08/22/2022	06/30/2023**	$32.220		$12.150		$3.000	AM	$2.000		$0.400		$0.800		8.0		$50.570	$66.680		$66.680	D	$82.790		Holidays	Scope of Work	Travel & Subsistence
#PLUMBER:	LANDSCAPE PIPEFITTER		08/22/2022	06/30/2023**	$32.220		$12.150		$3.000	AM	$2.000		$0.400		$0.800		8.0		$50.570	$66.680		$66.680	D	$82.790		Holidays	Scope of Work	Travel & Subsistence
PLUMBER:	UNDERGROUND UTILITY ASSISTANT JOURNEYMAN	AN	08/22/2022	06/30/2023**	$19.220		$12.150		$3.000	AM	$2.000		$0.400		$0.800		8.0		$37.570	$47.180		$47.180	D	$56.790		Holidays	Scope of Work	Travel & Subsistence
PLUMBER:	LANDSCAPE ASSISTANT JOURNEYMAN	AO	08/22/2022	06/30/2023**	$19.220		$12.150		$3.000	AM	$2.000		$0.400		$0.800		8.0		$37.570	$47.180		$47.180	D	$56.790		Holidays	Scope of Work	Travel & Subsistence
PLUMBER:	UNDERGROUND UTILITY TRADESMAN	AP	08/22/2022	06/30/2023**	$16.000		$12.150		$3.000	AM	$2.000		$0.400		$0.800		8.0		$34.350	$42.350		$42.350	D	$50.350		Holidays	Scope of Work	Travel & Subsistence
PLUMBER:	LANDSCAPE TRADESMAN I	AQ	08/22/2022	06/30/2023**	$16.000		$12.150		$0.000	AM	$2.000		$0.400		$0.800		8.0		$31.350	$39.350		$39.350	D	$47.350		Holidays	Scope of Work	Travel & Subsistence
PLUMBER:	LANDSCAPE TRADESMAN II	AQ	08/22/2022	06/30/2023**	$16.000		$12.150		$3.000	AM	$2.000		$0.400		$0.800		8.0		$34.350	$42.350		$42.350	D	$50.350		Holidays	Scope of Work	Travel & Subsistence
#PLUMBER:	PLUMBER, STEAMFITTER		08/22/2022	06/30/2023**	$76.100		$15.750		$22.500	AM	$0.000	F	$1.310		$0.650		8.0		$116.310	$154.360	E	$154.360	AR	$192.410		Holidays	Scope of Work	Travel & Subsistence
#PLUMBER:	REFRIGERATION FITTER (HVAC)		08/22/2022	06/30/2023**	$76.100		$15.750		$22.500	AM	$0.000	F	$1.310		$0.650		8.0		$116.310	$154.360	E	$154.360	AR	$192.410		Holidays	Scope of Work	Travel & Subsistence
#PLUMBER:	SPRINKLER FITTER (FIRE PROTECTION AND FIRE CONTROL SYSTEMS)		08/22/2022	12/31/2022**	$73.050	A	$12.440		$22.100		$0.000	F	$1.850		$0.300		8.0		$109.740	$146.270	E	$146.270	E	$182.790		Holidays	Scope of Work	Travel & Subsistence
#ROOFER			08/22/2022	07/31/2023**	$44.800		$10.710		$9.830		$5.030		$0.600		$0.800		8.0		$71.770	$94.170	AS	$94.170	AS	$116.570		Holidays	Scope of Work	Travel & Subsistence
#ROOFER	BITUMASTIC, ENAMELER, PIPE WRAPPER, COAL TAR PITCH BUILD-UP		08/22/2022	07/31/2023**	$46.800		$10.710		$9.830		$5.030		$0.600		$0.800		8.0		$73.770	$97.170	AS	$97.170	AS	$120.570		Holidays	Scope of Work	Travel & Subsistence
#ROOFER	MASTIC WORKER, KETTLEMAN (2 KETTLES WITHOUT PUMPS)		08/22/2022	07/31/2023**	$45.050		$10.710		$9.830		$5.030		$0.600		$0.800		8.0		$72.020	$94.550	AS	$94.550	AS	$117.070		Holidays	Scope of Work	Travel & Subsistence

CRAFT	CLASSIFICATION	CRAFT FOOTNOTE	ISSUE DATE	EXPIRATION DATE	BASIC HOURLY RATE	BASIC HOURLY RATE FOOTNOTE	HEALTH AND WELFARE	HEALTH AND WELFARE FOOTNOTE	PENSION	PENSION FOOTNOTE	VACATION/ HOLIDAY	VACATION/ HOLIDAY FOOTNOTE	TRAINING	TRAINING FOOTNOTE	OTHER PAYMENTS	OTHER PAYMENTS FOOTNOTE	HOURS	HOURS FOOTNOTE	STRAIGHT-TIME TOTAL HOURLY RATE	DAILY OVERTIME HOURLY RATE	DAILY OVERTIME HOURLY RATE FOOTNOTE	SATURDAY OVERTIME HOURLY RATE	SATURDAY OVERTIME HOURLY RATE FOOTNOTE	SUNDAY AND HOLIDAY OVERTIME HOURLY RATE	SUNDAY AND HOLIDAY OVERTIME HOURLY RATE FOOTNOTE	HOLIDAY PROVISIONS	SCOPE OF WORK PROVISIONS	TRAVEL & SUBSISTENCE PROVISIONS
#SHEET METAL WORKER			08/22/2022	07/02/2023**	$69.070	H	$15.020	AT	$32.290	AU	$0.000	F	$1.650		$0.710		8.0		$118.740	$157.110	AV	$157.110	AV	$195.480		Holidays	Scope of Work	Travel & Subsistence
#SHEET METAL WORKER	TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS		08/22/2022	07/02/2023**	$59.940	H	$15.020	AT	$30.590	AU	$0.000	F	$1.650		$0.710		8.0		$107.910	$141.210	AV	$141.210	AV	$174.510		Holidays	Scope of Work	Travel & Subsistence
#SHEET METAL WORKER	SERVICE MECHANIC (TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS)		08/22/2022	07/02/2023**	$47.250	H	$14.420	AW	$16.660	AU	$0.000	F	$1.490		$0.710		8.0		$80.530	$105.410	AX	$105.410	AX	$130.280		Holidays	Scope of Work	Travel & Subsistence
#SHEET METAL WORKER	SERVICE TECHNICIAN (TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS)		08/22/2022	07/02/2023**	$42.930	H	$14.420	AW	$10.950	AU	$0.000	F	$1.490		$0.710		8.0		$70.500	$92.770	AX	$92.770	AX	$115.030		Holidays	Scope of Work	Travel & Subsistence
#SHEET METAL WORKER	AIR CONDITIONING SPECIALIST (TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS)		08/22/2022	07/02/2023**	$37.590	H	$14.420	AW	$5.310	AU	$0.000	F	$1.470		$0.710		8.0		$59.500	$78.880	AV	$78.880	AV	$98.250		Holidays	Scope of Work	Travel & Subsistence
#SHEET METAL WORKER	AIR CONDITIONING PRO (TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS)		08/22/2022	07/02/2023**	$44.090	H	$14.420	AT	$11.310	AU	$0.000	F	$1.470		$0.710		8.0		$72.000	$94.800	AV	$94.800	AV	$117.590		Holidays	Scope of Work	Travel & Subsistence
#SHEET METAL WORKER	METAL DECK & SIDING		08/22/2022	06/30/2023*	$47.920	H	$15.000	AM	$21.960	AY	$0.000	F	$0.320	AZ	$0.000		8.0		$85.200	$110.160	AV	$110.160	AV	$135.120		Holidays	Scope of Work	Travel & Subsistence
#TERRAZZO FINISHER		BA	08/22/2022	06/30/2023**	$41.930	BB	$11.100		$6.470		$0.000	F	$0.800		$1.040		8.0		$61.340	$79.900	AV	$79.900	AV	$98.450		Holidays	Scope of Work	Travel & Subsistence
#TERRAZZO WORKER		BA	08/22/2022	06/30/2023**	$56.840	BB	$11.100		$14.780		$0.000	F	$0.800		$1.280		8.0		$84.800	$110.040	AV	$110.040	AV	$135.280		Holidays	Scope of Work	Travel & Subsistence
#TILE FINISHER			08/22/2022	03/31/2023*	$32.860	BC	$10.960		$5.550		$1.000		$0.490		$1.020		8.0	D	$51.880	$68.310		$68.310	BD	$84.740		Holidays	Scope of Work	Travel & Subsistence
#TILE FINISHER	RED CIRCLED FINISHER		08/22/2022	03/31/2023*	$38.130	BC	$10.960		$6.330		$1.500		$0.490		$1.150		8.0	D	$58.560	$77.630		$77.630	BD	$96.690		Holidays	Scope of Work	Travel & Subsistence
#TILE SETTER			08/22/2022	03/31/2023**	$52.910	BC	$10.960		$8.050		$2.500		$0.700		$1.690		8.0	D	$76.810	$103.270		$103.270	BD	$129.720		Holidays	Scope of Work	Travel & Subsistence
WATER WELL DRILLER:			02/22/2022	03/31/2022*	$15.000		$3.200		$0.780		$0.630	BE	$0.000		$0.000		8.0		$19.610	$27.110	BF	$27.110	BF	$27.110	BF	Holidays	Scope of Work	Travel & Subsistence
WATER WELL DRILLER:	PUMP INSTALLER		02/22/2022	03/31/2022*	$15.000		$3.200		$0.780		$0.630	BE	$0.000		$0.000		8.0		$19.610	$27.110	BF	$27.110	BF	$27.110	BF	Holidays	Scope of Work	Travel & Subsistence
WATER WELL DRILLER:	HELPER		02/22/2022	03/31/2022*	$15.000		$3.200		$0.780		$0.520	BG	$0.000		$0.000		8.0		$19.500	$27.000	BF	$27.000	BF	$27.000	BF	Holidays	Scope of Work	Travel & Subsistence

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FOOTNOTES

* EFFECTIVE UNTIL SUPERSEDED BY A NEW DETERMINATION ISSUED BY THE DIRECTOR OF INDUSTRIAL RELATIONS. CONTACT THE OFFICE OF THE DIRECTOR - RESEARCH UNIT AT (415) 703-4774 FOR THE NEW RATES AFTER TEN DAYS AFTER THE EXPIRATION DATE IF NO SUBSEQUENT DETERMINATION IS ISSUED.

** THE RATE TO BE PAID FOR WORK PERFORMED AFTER THIS DATE HAS BEEN DETERMINED. IF WORK WILL EXTEND PAST THIS DATE, THE NEW RATE MUST BE PAID AND SHOULD BE INCORPORATED IN CONTRACTS ENTERED INTO NOW. CONTACT THE OFFICE OF THE DIRECTOR RESEARCH UNIT FOR SPECIFIC RATES AT (415) 703-4774.

\# INDICATES AN APPRENTICEABLE CRAFT. THE CURRENT APPRENTICE WAGE RATES ARE AVAILABLE ON THE INTERNET @ HTTP://WWW.DIR.CA.GOV/OPRL/PWAPPWAGE/PWAPPWAGESTART.ASP.

& THE BASIC HOURLY RATE AND EMPLOYER PAYMENTS ARE NOT TAKEN FROM A COLLECTIVE BARGAINING AGREEMENT FOR THIS CRAFT OR CLASSIFICATION.

A INCLUDES AMOUNT WITHHELD FOR DUES CHECK OFF.

B VACATION IS FACTORED AT THE APPLICABLE OVERTIME MULTIPLIER

C INCLUDES AMOUNT FOR INDUSTRY PROMOTION FUND, INTERNATIONAL MASONRY INSTITUTE, LABOR MANAGEMENT COOPERATION COMMITTEE, AND VACATION TRUST FUND. EFFECTIVE 5/1/2022, INDUSTRY PROMOTION FUND IS SPLIT INTO THE INDUSTRY FUND AND THE CALIFORNIA MASONRY COUNCIL.

D SATURDAYS IN THE SAME WORK WEEK MAY BE WORKED AT STRAIGHT-TIME IF JOB IS SHUT DOWN DURING THE NORMAL WORKWEEK DUE TO INCLEMENT WEATHER.

E RATE APPLIES TO THE FIRST 2 DAILY OVERTIME HOURS AND THE FIRST 10 HOURS ON SATURDAY; ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME HOURLY RATE.

F INCLUDED IN STRAIGHT-TIME HOURLY RATE.

G RATE APPLIES TO THE FIRST 8 HOURS WORKED ON SATURDAY. ALL OTHER HOURS ARE PAID AT THE SUNDAY/HOLIDAY RATE.

H INCLUDES AMOUNT FOR VAC/HOL AND DUES CHECK OFF.

I RATE APPLIES TO FIRST 2 DAILY OVERTIME HOURS AND THE FIRST 10 HOURS WORKED ON SATURDAY. ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME HOURLY RATE. SATURDAYS IN THE SAME WORK WEEK MAY BE WORKED AT STRAIGHT-TIME IF JOB IS SHUT DOWNDURING THE NORMAL WORK WEEK DUE TO INCLEMENT WEATHER.

J INCLUDED IN BASIC HOURLY RATE.

K RATE APPLIES TO THE FIRST 4 DAILY OVERTIME HOURS AND THE FIRST 12 HOURS WORKED ON SATURDAY; ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME HOURLY RATE.

L IN ADDITION, AN AMOUNT EQUAL TO 3% OF THE BASIC HOURLY RATE IS ADDED TO THE TOTAL HOURLY RATE AND OVERTIME HOURLY RATES FOR THE NATIONAL EMPLOYEES BENEFIT BOARD.

M IN ADDITION, AN AMOUNT EQUAL TO 0.5% OF THE BASIC HOURLY RATE, WHICH IS FACTORED AT THE APPLICABLE OVERTIME MULTIPLIER, IS ADDED TO THE TOTAL HOURLY RATE AND OVERTIME HOURLY RATES.

N RATE APPLIES TO THE FIRST 4 DAILY OVERTIME HOURS AND THE FIRST 8 HOURS WORKED ON SATURDAY. ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME RATE.

O IN ADDITION, AN AMOUNT EQUAL TO 3% OF THE BASIC HOURLY RATE IS ADDED TO THE TOTAL HOURLY RATE AND OVERTIME HOURLY RATES FOR THE NATIONAL EMPLOYEES BENEFIT BOARD. PURSUANT TO LABOR CODE SECTIONS 1773.1 AND 1773.8, THE AMOUNT PAID FOR THIS EMPLOYER PAYMENT MAY VARY RESULTING IN A LOWER TAXABLE BASIC HOURLY WAGE RATE, BUT THE TOTAL HOURLY RATES FOR STRAIGHT TIME AND OVERTIME MAY NOT BE LESS THAN THE GENERAL PREVAILING RATE OF PER DIEM WAGES.

P RATE APPLIES TO THE FIRST 2 OVERTIME HOURS; ALL OTHER TIME IS PAID AT THE SATURDAY OVERTIME HOURLY RATE.

Q WHEN WORK IS PERFORMED ON THE FOLLOWING HOLIDAYS, FRINGES (EXCEPT FOR TRAINING) SHALL BE PAID AT DOUBLE (2X) THE STRAIGHT TIME RATE: LABOR DAY, THANKSGIVING DAY, CHRISTMAS DAY.

R ALL CREWS, WITHOUT CONSIDERATION TO THE NUMBER OF INDIVIDUALS IN THE CREW, SHALL INCLUDE A CHIEF OF PARTY. A CREW CONSISTS OF ONE (1) OR MORE EMPLOYEES PERFORMING FIELD AND CONSTRUCTION SURVEY WORK.

S INCLUDES AN AMOUNT PER HOUR WORKED FOR ANNUITY TRUST FUND.

T INCLUDES AN AMOUNT PER HOUR WORKED FOR SUPPLEMENTAL DUES.

U RATE APPLIES TO DAILY OVERTIME HOURS UP TO AND INCLUDING 12 HOURS WORKED IN A WORKDAY OR OTHER OVERTIME HOURS BEYOND 40 HOURS IN A WORKWEEK. ALL OTHER OVERTIME IS PAID AT THE SUNDAY/HOLIDAY RATE. IN THE EVENT THAT THERE ARE LESS THAN 40 HOURS WORKED MONDAY THROUGH FRIDAY, THEN THE BALANCE OF HOURS WORKED UP TO AND INCLUDING 40 HOURS FOR THE WORKWEEK, OR UP TO 8 HOURS FOR THE WORKDAY, MAY BE WORKED ON SATURDAY AT THE STRAIGHT-TIME RATE.

V CERTIFIED MANIPULATOR WORK SHALL RECEIVE $1.25 PER HOUR ABOVE THE BASIC WAGE RATE

W INCLUDES AN AMOUNT PER HOUR WORKED FOR IUPAT, IARP, AND RETIREE PENSION.

X INCLUDES AMOUNTS FOR INDUSTRY FUND, WORK PRESERVATION FUND, AND LABOR MANAGEMENT COOPERATION INITIATIVE

Y RATE APPLIES TO THE FIRST 2 DAILY OVERTIME HOURS AND FIRST 8 HOURS WORKED ON DESIGNATED DAYS OFF; ALL OTHER TIME IS PAID AT THE SATURDAY, SUNDAY AND HOLIDAY OVERTIME RATE.

Z EMPLOYEES WORKING ON ANY SUSPENDED PLATFORM/SCAFFFOLD SHALL BE PAID AN ADDITIONAL $20.00 PER DAY ABOVE THE WAGE RATE.

AA INCLUDES AN AMOUNT FOR DUES CHECK-OFF AND VACATION/HOLIDAY WHICH ARE FACTORED INTO OVERTIME RATES.

AB RATE APPLIES TO FIRST 2 OVERTIME HOURS MONDAY THROUGH FRIDAY; ALL OTHER OVERTIME IS PAID AT THE DOUBLE TIME RATE.

AC EMPLOYEES SHALL RECEIVE PREMIUM PAY FOR THE FOLLOWING WORK: WALLCOVERING ($2.00 PER HOUR), EXOTIC MATERIALS ($1.25 PER HOUR) AND LEAD ABATEMENT/REMOVAL ($1.00 PER HOUR). EMPLOYEES SHALL ALSO BE ENTITLED TO HIGH TIME PREMIUM PAY WHENEVER THE WORK PERFORMED REQUIRES PERSONAL FALL RESTRAINTS TO BE WORN BY THE EMPLOYEE. THE AMOUNT OF THE PREMIUM SHALL BE AS FOLLOWS: AN ADDITIONAL $2.00 PER HOUR ABOVE BASIC HOURLY RATE WHEN WORKING OVER 50 FEET ABOVE GROUND OR WATER LEVEL, $4.00 PER HOUR WHEN WORKING FROM 100 TO 180 FEET AND $6.00 PER HOUR WHEN WORKING OVER 180 FEET. SEE SCOPE PROVISIONS FOR FURTHER DETAILS ON PREMIUMS.

AD RATE APPLIES TO THE FIRST 4 OVERTIME HOURS MONDAY THROUGH FRIDAY AND THE FIRST 12 HOURS WORKED ON SATURDAYS AND DESIGNATED DAYS OFF. ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME RATE.

AE EMPLOYEES SHALL RECEIVE PREMIUM PAY FOR THE FOLLOWING WORK: METALIZING AND THERMAL SPRAY ($4.00 PER HOUR). EMPLOYEES SHALL ALSO BE ENTITLED TO HIGH TIME PREMIUM PAY WHENEVER THE WORK PERFORMED REQUIRES PERSONAL FALL RESTRAINTS TO BE WORN BY THE EMPLOYEE. THE AMOUNT OF THE PREMIUM SHALL BE AS FOLLOWS: AN ADDITIONAL $4.00 PER HOUR WHEN WORKING FROM 100 TO 180 FEET ABOVE GROUND OR WATER LEVEL AND $6.00 PER HOUR WHEN WORKING OVER 180 FEET. SEE SCOPE PROVISIONS FOR FURTHER DETAILS ON PREMIUMS.

AF EMPLOYEES SHALL RECEIVE PREMIUM PAY FOR THE FOLLOWING WORK: METALIZING AND THERMAL SPRAY ($4.00 PER HOUR). SEE SCOPE PROVISIONS FOR FURTHER DETAILS ON PREMIUMS.

AG INCLUDES AMOUNTS FOR VACATION AND DUES CHECK OFF

AH RATE APPLIES TO THE FIRST 4 DAILY OVERTIME HOURS AND THE FIRST 12 HOURS WORKED ON SATURDAY. ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME RATE. SATURDAYS IN THE SAME WORK WEEK MAY BE WORKED AT STRAIGHT-TIME IF JOB IS SHUT DOWN DURING THE NORMAL WORKWEEK DUE TO INCLEMENT WEATHER.

AI DESIGNATED DAYS OFF SHALL BE PAID AT THE SATURDAY OVERTIME RATE; PLEASE REFER TO THE HOLIDAY PROVISIONS FOR A LIST OF DESIGNATED DAYS OFF.

AJ INCLUDE AMOUNTS WITHHELD FOR DUES CHECK OFF AND VACATION WHICH IS NOT FACTORED INTO OVERTIME.EMPLOYEES OPERATING AND WORKING BEHIND PLASTER GUNS SHALL RECEIVE AN ADDITIONAL $5.00 PER DAY ABOVE THE WAGE RATE. EMPLOYEES WORKING ON AN EXTERIOR SUSPENDED SCAFFOLD SHALL BE PAID AN ADDITIONAL $15.00 PER DAY ABOVE THE WAGE RATE

AK RATE APPLIES TO THE FIRST 4 OVERTIME HOURS MONDAY THROUGH FRIDAY AND THE FIRST 8 HOURS WORKED ON SATURDAYS AND DESIGNATED DAYS OFF. ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME RATE.

AL RATE APPLIES TO THE FIRST 4 OVERTIME HOURS MONDAY THROUGH FRIDAY AND THE FIRST 8 HOURS WORKED ON SATURDAYS AND DESIGNATED DAYS OFF. ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME RATE. SATURDAYS IN THE SAME WORK WEEK MAY BE WORKED AT STRAIGHT-TIME IF JOB IS SHUT DOWN DURING THE NORMAL WORKWEEK DUE TO INCLEMENT WEATHER.

AM PURSUANT TO LABOR CODE SECTIONS 1773.1 AND 1773.8, THE AMOUNT PAID FOR THIS EMPLOYER PAYMENT MAY VARY RESULTING IN A LOWER TAXABLE BASIC HOURLY WAGE RATE, BUT THE TOTAL HOURLY RATES FOR STRAIGHT TIME AND OVERTIME MAY NOT BE LESS THAN THE GENERAL PREVAILING RATE OF PER DIEM WAGES.

AN THERE MUST BE AT LEAST ONE JOURNEYMAN PIPEFITTER PER CONTRACTOR ON EACH JOBSITE.

AO THERE MUST BE AT LEAST ONE JOURNEYMAN PIPEFITTER PER CONTRACTOR ON EACH JOBSITE. THIS AGREEMENT MAY BE USED TO COVER MAINTENANCE AND PLANT ESTABLISHMENT. PLANT ESTABLISHMENT SHALL BE WORK COVERED BY THIS AGREEMENT. THIS WORK MAY BE PERFORMED EXCLUSIVELY BY ALL CLASSIFICATIONS OUTLINED IN THIS AGREEMENT WITHOUT THE SUPERVISION OF A JOURNEYMAN, EXCEPT FOR APPRENTICES WHO REQUIRE THE SUPERVISION OF A JOURNEYMAN.

AP THERE SHALL BE NO MORE THAN THREE TRADESMEN TO EVERY TWO JOURNEYMAN PIPEFITTER/ASSISTANT JOURNEYMAN PIPEFITTER COMBINATION EMPLOYED PER CONTRACTOR ON EACH JOBSITE.

AQ THERE SHALL BE NO MORE THAN FOUR TRADESMEN TO EVERY TWO JOURNEYMAN PIPEFITTER/ASSISTANT JOURNEYMAN PIPEFITTER COMBINATION EMPLOYED PER CONTRACTOR ON EACH JOBSITE. THIS AGREEMENT MAY BE USED TO COVER MAINTENANCE AND PLANT ESTABLISHMENT. PLANT ESTABLISHMENT SHALL BE WORK COVERED BY THIS AGREEMENT. THIS WORK MAY BE PERFORMED EXCLUSIVELY BY ALL CLASSIFICATIONS OUTLINED IN THIS AGREEMENT WITHOUT THE SUPERVISION OF A JOURNEYMAN, EXCEPT FOR APPRENTICES WHO REQUIRE THE SUPERVISION OF A JOURNEYMAN

AR RATE APPLIES TO THE FIRST 2 DAILY OVERTIME HOURS AND THE FIRST 10 HOURS ON SATURDAY; ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME HOURLY RATE. SATURDAYS IN THE SAME WORK WEEK MAY BE WORKED AT STRAIGHT-TIME IF JOB IS SHUT DOWN DURING THE NORMAL WORKWEEK DUE TO INCLEMENT WEATHER.

AS RATE APPLIES FOR THE FIRST 4 OVERTIME HOURS MONDAY THROUGH FRIDAY AND THE FIRST 12 HOURS WORKED ON SATURDAY. ALL OTHER TIME IS PAID AT THE SUNDAY/HOLIDAY RATE. IN THE EVENT THAT CONDITIONS OVER WHICH THE INDIVIDUAL EMPLOYER HAS NO CONTROL (I.E. ADVERSE WEATHER, PROJECT DELAYS, LOGISTICAL PROBLEMS, GENERAL CONTRACTOR OR BUILDING OWNER REQUIREMENTS, ETC.) PREVENT EMPLOYEES FROM WORKING ON ONE OR MORE DAYS DURING THE REGULAR WORK WEEK, THEN WORK IS TO BE PERFORMED ON SATURDAY, WHEN AVAILABLE, AND PAID AT THE STRAIGHT TIME RATES.

AT INCLUDES SMOHIT AND SHC. EFFECTIVE 1/1/2013, PURSUANT TO LABOR CODE SECTIONS 1773.1 AND 1773.8, THE AMOUNT PAID FOR THIS EMPLOYER PAYMENT MAY VARY RESULTING IN A LOWER TAXABLE BASIC HOURLY WAGE RATE, BUT THE TOTAL HOURLY RATES FOR STRAIGHT TIME AND OVERTIME MAY NOT BE LESS THAN THE GENERAL PREVAILING RATE OF PER DIEM WAGES.

AU INCLUDES AN AMOUNT FOR PENSION WHICH IS FACTORED AT THE APPLICABLE OVERTIME MULTIPLIER. PURSUANT TO LABOR CODE SECTIONS 1773.1 AND 1773.8, THE AMOUNT PAID FOR THIS EMPLOYER PAYMENT MAY VARY RESULTING IN A LOWER TAXABLE BASIC HOURLY WAGE RATE, BUT THE TOTAL HOURLY RATES FOR STRAIGHT TIME AND OVERTIME MAY NOT BE LESS THAN THE GENERAL PREVAILING RATE OF PER DIEM WAGES.

AV RATE APPLIES TO THE FIRST 2 DAILY OVERTIME HOURS AND THE FIRST 8 HOURS ON SATURDAY ONLY; ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME HOURLY RATE.

AW INCLUDES SHC. EFFECTIVE 1/1/2013, PURSUANT TO LABOR CODE SECTIONS 1773.1 AND 1773.8, THE AMOUNT PAID FOR THIS EMPLOYER PAYMENT MAY VARY RESULTING IN A LOWER TAXABLE BASIC HOURLY WAGE RATE, BUT THE TOTAL HOURLY RATES FOR STRAIGHT TIME AND OVERTIME MAY NOT BE LESS THAN THE GENERAL PREVAILING RATE OF PER DIEM WAGES.

AX RATE APPLIES TO FIRST 4 DAILY OVERTIME HOURS AND THE FIRST 8 HOURS WORKED ON SATURDAY DURING THE EMPLOYEES NORMAL WORKING HOURS. ALL OTHER OVERTIME HOURS SHALL BE PAID AT THE SUNDAY AND HOLIDAY DOUBLE TIME RATE.

AY INCLUDES AN AMOUNT FOR PENSION FACTORED AT THE OVERTIME MULTIPLIER RATE.

AZ INCLUDES $0.05 FOR SCHOLAR FUND.

BA THE RATIO OF TERRAZZO FINISHER HOURS TO TERRAZZO WORKER HOURS SHALL NOT EXCEED TWO (2) TO ONE (1).

BB INCLUDES AN AMOUNT FOR VACATION/DUES CHECK OFF WHICH IS NOT FACTORED IN THE OVERTIME RATES.

BC INCLUDES AMOUNT WITHHELD FOR DUES CHECK OFF, WHICH IS FACTORED IN THE OVERTIME RATES. ANY EMPLOYEE WORKING UNDERGROUND SHALL RECEIVE $1.00 PER HOUR IN ADDITION TO REGULAR WAGES.

BD RATE APPLIES TO THE FIRST 9 HOURS WORKED ON SATURDAY. ALL OTHER TIME IS PAID AT THE SUNDAY AND HOLIDAY OVERTIME RATE.

BE RATE APPLIES TO FIRST YEAR OF EMPLOYMENT ONLY; $0.88 AFTER 2 YEARS OF EMPLOYMENT.

BF RATE APPLIES TO ALL TIME WORKED IN EXCESS OF 8 HOURS PER DAY OR 40 HOURS PER WEEK AND FOR ALL HOURS ON SUNDAYS AND HOLIDAYS. RATE DOES NOT INCLUDE ANY ADDITIONAL AMOUNT THAT MAY BE REQUIRED FOR VACATION/HOLIDAY PAYMENT.

BG RATE APPLIES TO FIRST YEAR OF EMPLOYMENT ONLY; $0.72 AFTER 2 YEARS OF EMPLOYMENT.

RECOGNIZED HOLIDAYS: HOLIDAYS UPON WHICH THE GENERAL PREVAILING HOURLY WAGE RATE FOR HOLIDAY WORK SHALL BE PAID, SHALL BE ALL HOLIDAYS IN THE COLLECTIVE BARGAINING AGREEMENT, APPLICABLE TO THE PARTICULAR CRAFT, CLASSIFICATION, OR TYPE OF WORKER EMPLOYED ON THE PROJECT, WHICH IS ON FILE WITH THE DIRECTOR OF INDUSTRIAL RELATIONS. IF THE PREVAILING RATE IS NOT BASED ON A COLLECTIVELY BARGAINED RATE, THE HOLIDAYS UPON WHICH THE PREVAILING RATE SHALL BE PAID SHALL BE AS PROVIDED IN SECTION 6700 OF THE GOVERNMENT CODE. YOU MAY OBTAIN THE HOLIDAY PROVISIONS FOR THE CURRENT DETERMINATIONS ON THE INTERNET AT HTTP://WWW.DIR.CA.GOV/OPRL/DPreWageDetermination.htm. HOLIDAY PROVISIONS FOR THE CURRENT OR SUPERSEDED DETERMINATIONS MAY BE OBTAINED BY CONTACTING THE OFFICE OF THE DIRECTOR - RESEARCH UNIT AT (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE: IN ACCORDANCE WITH LABOR CODE SECTIONS 1773.1 AND 1773.9, CONTRACTORS SHALL MAKE TRAVEL AND/OR SUBSISTENCE PAYMENTS TO EACH WORKER TO EXECUTE THE WORK. YOU MAY OBTAIN THE TRAVEL AND/OR SUBSISTENCE PROVISIONS FOR THE CURRENT DETERMINATIONS ON THE INTERNET AT HTTP://WWW.DIR.CA.GOV/OPRL/DPreWageDetermination.htm. TRAVEL AND/OR SUBSISTENCE REQUIREMENTS FOR CURRENT OR SUPERSEDED DETERMINATIONS MAY BE OBTAINED BY CONTACTING THE OFFICE OF THE DIRECTOR - RESEARCH UNIT AT (415) 703-4774.

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GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1 FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

LOCALITY: SAN MATEO COUNTY

DETERMINATION: SMA-2022-2

PREDETERMINED INCREASES

CRAFT	CLASSIFICATION	CRAFT FOOTNOTE	ISSUE DATE	EXPIRATION DATE	DATE OF NEXT INCREASE 1	AMOUNT OF INCREASE 1	INCREASE FOOTNOTE 1	DATE OF NEXT INCREASE 2	AMOUNT OF INCREASE 2	INCREASE FOOTNOTE 2	DATE OF NEXT INCREASE 3	AMOUNT OF INCREASE 3	INCREASE FOOTNOTE 3	DATE OF NEXT INCREASE 4	AMOUNT OF INCREASE 4	INCREASE FOOTNOTE 4
BRICKLAYER, BLOCKLAYER:	BRICKLAYER, BLOCKLAYER, STONEMASON		08/22/2022	04/30/2023**	05/01/2023	$2.80	A	05/01/2024	$3.00	A	05/01/2025	$3.10	A	05/01/2026	$3.25	A
CARPET, LINOLEUM,	SOFT FLOOR LAYER		08/22/2022	12/31/2022**	01/01/2023	$1.35	B									
CARPET, LINOLEUM,	FLOOR COVERING HANDLER AFTER 3 YEARS		08/22/2022	12/31/2022**	01/01/2023	$.85	C									
CARPET, LINOLEUM,	FLOOR COVERING HANDLER LESS THAN 3 YEARS		08/22/2022	12/31/2022**	01/01/2023	$.75	D									
CARPET, LINOLEUM,	FLOOR COVERING HANDLER TRAINEE, FIRST 3 MONTHS		02/22/2021	12/31/2021**	01/01/2022	$.96	A									
CARPET, LINOLEUM,	FLOOR COVERING HANDLER TRAINEE, SECOND 3 MONTHS		02/22/2021	12/31/2021**	01/01/2022	$1.08	A									
ELECTRICIAN:	INSIDE WIREMAN, TECHNICIAN		08/22/2022	05/31/2023**	06/01/2023	$6.00	A									
ELECTRICIAN:	CABLE SPLICER		08/22/2022	05/31/2023**	06/01/2023	$6.00	A									
FIELD SURVEYOR:	CHIEF OF PARTY	E	02/22/2022	02/28/2023**	03/01/2023	$3.25	A	03/01/2024	$3.25	A						
FIELD SURVEYOR:	INSTRUMENTMAN	E	02/22/2022	02/28/2023**	03/01/2023	$2.75	A	03/01/2024	$2.75	A						
FIELD SURVEYOR:	CHAINMAN/RODMAN	E	02/22/2022	02/28/2023**	03/01/2023	$2.75	A	03/01/2024	$2.75	A						
GLAZIER		F	02/22/2022	12/31/2022**	01/01/2023	$2.00	A	01/01/2024	$2.00	A						
MARBLE FINISHER		G	08/22/2022	07/31/2023**	08/01/2023	$2.25	A									
MARBLE MASON		G	08/22/2022	07/31/2023**	08/01/2023	$3.50	A									
PAINTER		H	08/22/2022	12/31/2022**	01/01/2023	$2.00	I									
PAINTER	INDUSTRIAL PAINTER	J	08/22/2022	12/31/2022**	01/01/2023	$2.00	I									
PAINTER	BRIDGE PAINTER	K	08/22/2022	12/31/2022**	01/01/2023	$2.00	I									
PAINTER:	TAPER		08/22/2022	12/31/2022**												
PLASTERER			08/22/2022	06/30/2023**	07/01/2023	$3.00	A	07/01/2024	$3.00	A						
PLUMBER:	UNDERGROUND UTILITY PIPEFITTER		08/22/2022	06/30/2023**	07/01/2023	$1.57	L	07/01/2024	$1.47	M						
PLUMBER:	LANDSCAPE PIPEFITTER		08/22/2022	06/30/2023**	07/01/2023	$1.57	L	07/01/2024	$1.47	M						
PLUMBER:	UNDERGROUND UTILITY ASSISTANT JOURNEYMAN	N	08/22/2022	06/30/2023**	07/01/2023	$1.17	O	07/01/2024	$1.02	P						
PLUMBER:	LANDSCAPE ASSISTANT JOURNEYMAN	Q	08/22/2022	06/30/2023**	07/01/2023	$1.17	O	07/01/2024	$1.02	P						
PLUMBER:	UNDERGROUND UTILITY TRADESMAN	R	08/22/2022	06/30/2023**	07/01/2023	$1.10	S	07/01/2024	$.97	T						
PLUMBER:	LANDSCAPE TRADESMAN I	U	08/22/2022	06/30/2023**	07/01/2023	$1.10	S	07/01/2024	$.97	T						
PLUMBER:	LANDSCAPE TRADESMAN II	U	08/22/2022	06/30/2023**	07/01/2023	$1.10	S	07/01/2024	$.97	T						
PLUMBER:	PLUMBER, STEAMFITTER		08/22/2022	06/30/2023**	07/01/2023	$3.95	A									
PLUMBER:	REFRIGERATION FITTER (HVAC)		08/22/2022	06/30/2023**	07/01/2023	$3.95	A									
PLUMBER:	SPRINKLER FITTER (FIRE PROTECTION AND FIRE CONTROL SYSTEMS)		08/22/2022	12/31/2022**	01/01/2023	$.10	V	07/31/2023	$3.50	A						
ROOFER			08/22/2022	07/31/2023**	08/01/2023	$3.65	A									
ROOFER	BITUMASTIC, ENAMELER, PIPE WRAPPER, COAL TAR PITCH BUILD-UP		08/22/2022	07/31/2023**	08/01/2023	$3.65	A									
ROOFER	MASTIC WORKER, KETTLEMAN (2 KETTLES WITHOUT PUMPS)		08/22/2022	07/31/2023**	08/01/2023	$3.65	A									
SHEET METAL WORKER			08/22/2022	07/02/2023**	07/03/2023	$5.30	A	07/01/2024	$5.70	A						
SHEET METAL WORKER	TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS		08/22/2022	07/02/2023**	07/03/2023	$4.50	A	07/01/2024	$4.85	A						
SHEET METAL WORKER	SERVICE MECHANIC (TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS)		08/22/2022	07/02/2023**	07/03/2023	$3.18	A	07/01/2024	$3.42	A						
SHEET METAL WORKER	SERVICE TECHNICIAN (TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS)		08/22/2022	07/02/2023**	07/03/2023	$2.92	A	07/01/2024	$3.14	A						

CRAFT	CLASSIFICATION	CRAFT FOOTNOTE	ISSUE DATE	EXPIRATION DATE	DATE OF NEXT INCREASE 1	AMOUNT OF INCREASE 1	INCREASE FOOTNOTE 1	DATE OF NEXT INCREASE 2	AMOUNT OF INCREASE 2	INCREASE FOOTNOTE 2	DATE OF NEXT INCREASE 3	AMOUNT OF INCREASE 3	INCREASE FOOTNOTE 3	DATE OF NEXT INCREASE 4	AMOUNT OF INCREASE 4	INCREASE FOOTNOTE 4
SHEET METAL WORKER	AIR CONDITIONING SPECIALIST (TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS)		08/22/2022	07/02/2023**	07/03/2023	$2.39	A	07/01/2024	$2.57	A						
SHEET METAL WORKER	AIR CONDITIONING PRO (TOTAL SHEET METAL CONTRACT OF $200,000 OR LESS)		08/22/2022	07/02/2023**	07/03/2023	$2.92	A	07/01/2024	$3.14	A						
TERRAZZO FINISHER		W	08/22/2022	06/30/2023**	07/01/2023	$2.50	A	07/01/2024	$2.50	A	07/01/2025	$2.50	A	07/01/2026	$2.50	A
TERRAZZO WORKER		W	08/22/2022	06/30/2023**	07/01/2023	$3.00	A	07/01/2024	$3.00	A	07/01/2025	$3.00	A	07/01/2026	$3.00	A
TILE SETTER			08/22/2022	03/31/2023**	04/01/2023	$3.25	A	04/01/2024	$3.75	A						

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FOOTNOTES

** THE RATE TO BE PAID FOR WORK PERFORMED AFTER THIS DATE HAS BEEN DETERMINED. IF WORK WILL EXTEND PAST THIS DATE, THE NEW RATE MUST BE PAID AND SHOULD BE INCORPORATED IN CONTRACTS ENTERED INTO NOW. CONTACT THE OFFICE OF THE DIRECTOR RESEARCH UNIT FOR SPECIFIC RATES AT (415) 703-4774.

A THE PREDETERMINED INCREASE SHOWN IS TO BE ALLOCATED TO WAGES AND/OR EMPLOYER PAYMENTS. PLEASE CONTACT THE OFFICE OF THE DIRECTOR - RESEARCH UNIT AT (415) 703-4774 WHEN THE PREDETERMINED INCREASE BECOMES DUE TO CONFIRM THE DISTRIBUTION. PLEASE ALSO EXAMINE THE IMPORTANT NOTICES TO SEE IF ANY MODIFICATIONS HAVE BEEN ISSUED, AS THERE MAY BE REDUCTIONS TO PREDETERMINED INCREASES.

B $1.00 TO BASIC HOURLY RATE AND $0.35 TO HEALTH & WELFARE

C $0.50 TO BASIC HOURLY RATE AND $0.35 TO HEALTH & WELFARE

D $0.40 TO BASIC HOURLY RATE AND $0.35 TO HEALTH & WELFARE

E ALL CREWS, WITHOUT CONSIDERATION TO THE NUMBER OF INDIVIDUALS IN THE CREW, SHALL INCLUDE A CHIEF OF PARTY. A CREW CONSISTS OF ONE (1) OR MORE EMPLOYEES PERFORMING FIELD AND CONSTRUCTION SURVEY WORK.

F CERTIFIED MANIPULATOR WORK SHALL RECEIVE $1.25 PER HOUR ABOVE THE BASIC WAGE RATE

G EMPLOYEES WORKING ON ANY SUSPENDED PLATFORM/SCAFFFOLD SHALL BE PAID AN ADDITIONAL $20.00 PER DAY ABOVE THE WAGE RATE.

H EMPLOYEES SHALL RECEIVE PREMIUM PAY FOR THE FOLLOWING WORK: WALLCOVERING ($2.00 PER HOUR), EXOTIC MATERIALS ($1.25 PER HOUR) AND LEAD ABATEMENT/REMOVAL ($1.00 PER HOUR). EMPLOYEES SHALL ALSO BE ENTITLED TO HIGH TIME PREMIUM PAY WHENEVER THE WORK PERFORMED REQUIRES PERSONAL FALL RESTRAINTS TO BE WORN BY THE EMPLOYEE. THE AMOUNT OF THE PREMIUM SHALL BE AS FOLLOWS: AN ADDITIONAL $2.00 PER HOUR ABOVE BASIC HOURLY RATE WHEN WORKING OVER 50 FEET ABOVE GROUND OR WATER LEVEL, $4.00 PER HOUR WHEN WORKING FROM 100 TO 180 FEET AND $6.00 PER HOUR WHEN WORKING OVER 180 FEET. SEE SCOPE PROVISIONS FOR FURTHER DETAILS ON PREMIUMS.

I $1.05 TO BASIC HOURLY RATE, $0.35 TO HEALTH & WELFARE, $0.55 TO PENSION AND $0.05 TO TRAINING.

J EMPLOYEES SHALL RECEIVE PREMIUM PAY FOR THE FOLLOWING WORK: METALIZING AND THERMAL SPRAY ($4.00 PER HOUR). EMPLOYEES SHALL ALSO BE ENTITLED TO HIGH TIME PREMIUM PAY WHENEVER THE WORK PERFORMED REQUIRES PERSONAL FALL RESTRAINTS TO BE WORN BY THE EMPLOYEE. THE AMOUNT OF THE PREMIUM SHALL BE AS FOLLOWS: AN ADDITIONAL $4.00 PER HOUR WHEN WORKING FROM 100 TO 180 FEET ABOVE GROUND OR WATER LEVEL AND $6.00 PER HOUR WHEN WORKING OVER 180 FEET. SEE SCOPE PROVISIONS FOR FURTHER DETAILS ON PREMIUMS.

K EMPLOYEES SHALL RECEIVE PREMIUM PAY FOR THE FOLLOWING WORK: METALIZING AND THERMAL SPRAY ($4.00 PER HOUR). SEE SCOPE PROVISIONS FOR FURTHER DETAILS ON PREMIUMS.

L $1.07 TO THE BASIC HOURLY RATE, AND $0.50 TO VACATION/HOLIDAY.

M $1.22 TO THE BASIC HOURLY RATE, AND $0.25 TO HEALTH & WELFARE.

N THERE MUST BE AT LEAST ONE JOURNEYMAN PIPEFITTER PER CONTRACTOR ON EACH JOBSITE.

O $0.67 TO THE BASIC HOURLY RATE, AND $0.50 TO VACATION/HOLIDAY.

P $0.77 TO THE BASIC HOURLY RATE, $0.25 TO HEALTH & WELFARE.

Q THERE MUST BE AT LEAST ONE JOURNEYMAN PIPEFITTER PER CONTRACTOR ON EACH JOBSITE. THIS AGREEMENT MAY BE USED TO COVER MAINTENANCE AND PLANT ESTABLISHMENT. PLANT ESTABLISHMENT SHALL BE WORK COVERED BY THIS AGREEMENT. THIS WORK MAY BE PERFORMED EXCLUSIVELY BY ALL CLASSIFICATIONS OUTLINED IN THIS AGREEMENT WITHOUT THE SUPERVISION OF A JOURNEYMAN, EXCEPT FOR APPRENTICES WHO REQUIRE THE SUPERVISION OF A JOURNEYMAN.

R THERE SHALL BE NO MORE THAN THREE TRADESMEN TO EVERY TWO JOURNEYMAN PIPEFITTER/ASSISTANT JOURNEYMAN PIPEFITTER COMBINATION EMPLOYED PER CONTRACTOR ON EACH JOBSITE.

S $0.60 TO BASIC HOURLY RATE, AND $0.50 TO VACATION/HOLIDAY.

T $0.72 TO BASIC HOURLY RATE, AND $0.25 TO HEALTH & WELFARE.

U THERE SHALL BE NO MORE THAN FOUR TRADESMEN TO EVERY TWO JOURNEYMAN PIPEFITTER/ASSISTANT JOURNEYMAN PIPEFITTER COMBINATION EMPLOYED PER CONTRACTOR ON EACH JOBSITE. THIS AGREEMENT MAY BE USED TO COVER MAINTENANCE AND PLANT ESTABLISHMENT. PLANT ESTABLISHMENT SHALL BE WORK COVERED BY THIS AGREEMENT. THIS WORK MAY BE PERFORMED EXCLUSIVELY BY ALL CLASSIFICATIONS OUTLINED IN THIS AGREEMENT WITHOUT THE SUPERVISION OF A JOURNEYMAN, EXCEPT FOR APPRENTICES WHO REQUIRE THE SUPERVISION OF A JOURNEYMAN

V $0.44 REDISTRIBUTION FROM BASIC HOURLY RATE TO HEALTH & WELFARE AND $0.10 INCREASE TO PENSION.

W THE RATIO OF TERRAZZO FINISHER HOURS TO TERRAZZO WORKER HOURS SHALL NOT EXCEED TWO (2) TO ONE (1).

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PREDETERMINED INCREASE

CRAFT:
Building/Construction Inspector and Field Soils and Material Tester (All Shifts)

DETERMINATION:
NC-63-3-9-2022-1

LOCALITIES:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba Counties

The predetermined increases for the above-named craft apply only to the above-referenced determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2022, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER: Group 1 through Group 4 (All Shifts)
The above determination is currently in effect and expires on June 30, 2023**.

Effective July 1, 2023, there will be an increase of $2.75 to be allocated to wages and/or employer payments.

Effective July 1, 2024, there will be an increase of $3.00 to be allocated to wages and/or employer payments.

There will be no further increases applicable to these determinations.

Issued 8/22/2022, effective 9/1/2022 until superseded.
This page will be updated when wage rate breakdown information becomes available.
Last Updated: September 1, 2022

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: Building/Construction Inspector and Field Soils and Material Tester[#]

Determination:
NC-63-3-9-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

Localities:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba counties.

Wages and Employer Payments:

Classification[a] (Journeyperson)	Basic Hourly Rate	Health and Welfare[b]	Pension	Vacation/ Holiday	Training	Other Payments	Hours	Total Hourly Rate	Daily Overtime Hourly Rate[c] (1 ½ X)	Saturday Overtime Hourly Rate[c] (1 ½ X)	Sunday/Holiday Overtime Hourly Rate (2X)
Group 1	$56.02	$13.38	$11.57	$6.15	$1.13	$0.24	8	$88.49	$116.50	$116.50	$144.51
Group 2	$54.02	$13.38	$11.57	$6.15	$1.13	$0.24	8	$86.49	$113.50	$113.50	$140.51
Group 3	$46.81	$13.38	$11.57	$6.15	$1.13	$0.24	8	$79.28	$102.685	$102.685	$126.09
Group 4	$40.84	$13.38	$11.57	$6.15	$1.13	$0.24	8	$73.31	$93.73	$93.73	$114.15

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: Building/Construction Inspector and Field Soils and Material Tester (Second Shift)#

Determination:
NC-63-3-9-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

Localities:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba counties.

Wages and Employer Payments:

Classification[a] (Journeyperson) Group	Basic Hourly Rate	Health and Welfare[b]	Pension	Vacation/ Holiday	Training	Other Payments	Hours	Total Hourly Rate	Daily Overtime Hourly Rate[c] (1 ½ X)	Saturday Overtime Hourly Rate[c] (1 ½ X)	Sunday/Holiday Overtime Hourly Rate (2X)
Group 1	$63.02	$13.38	$11.57	$6.15	$1.13	$0.24	8	$95.49	$127.00	$127.00	$158.51
Group 2	$60.77	$13.38	$11.57	$6.15	$1.13	$0.24	8	$93.24	$123.625	$123.625	$154.01
Group 3	$52.66	$13.38	$11.57	$6.15	$1.13	$0.24	8	$85.13	$111.46	$111.46	$137.79
Group 4	$45.95	$13.38	$11.57	$6.15	$1.13	$0.24	8	$78.42	$101.395	$101.395	$124.37

CLASSIFICATIONS:

GROUP 1
ASNT Level II-III
DSA Masonry
DSA Shotcrete
Lead Inspector
NICET Level IV
NDT Level Two

GROUP 2
AWS-CWI
ICC Certified Structural Inspector
NICET Level III
Shear Wall/Floor System Inspector
Building/Construction Inspector

GROUP 3
Geotechnical Driller
Soils/Asphalt
Earthwork Grading
Excavation and Backfill
NICET Level II

GROUP 4
ACI
Drillers Helper
ICC Fireproofing
NICET Level I
Proofload Testing
Torque Testing
NACE
NDT Level One

Recognized holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

[#] Indicates an apprenticeable craft. The current apprentice wage rates are available on the Prevailing Wage Apprentice Determinations Website (http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp).
[a] For classifications within each group, see page 3.
[b] Amount shall be paid for all hours worked up to 173 hours per month.
[c] Rate applies to the first 4 daily overtime hours, Monday through Friday, and the first 8 hours on Saturday. All other overtime is paid at the Sunday/Holiday overtime rate.

PREDETERMINED INCREASE

CRAFTS/CLASSIFICATIONS:
Driver (On/Off-Hauling To/From Construction Site)

DETERMINATION:
C-MT-261-X-261-2022-2

LOCALITIES:
All localities within San Mateo County.

These predetermined increases for the above named crafts apply only to the current determinations for work being performed on public works projects with bid advertisement dates on or after September 1, 2022, until the determination(s) is/are superseded by a new determination(s) or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project, has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)
The above determination is currently in effect and will expire on December 31, 2022**.

Effective January 1, 2023, there will be an increase of $1.00 to be allocated as follows: $0.26 to Health & Welfare and $0.74 to Pension.

There will be no further increases applicable to this determination.

Issued 8/22/2022, Effective 9/1/2022 until superseded.
This page will be updated when wage rate breakdown becomes available.
Last Updated: January 4, 2023

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)

Determination:
C-MT-261-X-261-2022-2

Issue Date:
August 22, 2022

Expiration date of determination:
December 31, 2022** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

Localities:
All localities within San Mateo County.

Wages and Employer Payments:

Classification	Basic Hourly Rate[a]	Health and Welfare[b]	Pension[c]	Vacation and Holiday	Training	Other[d]	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Daily Saturday Hourly Rate (1 ½ X)	Sunday/ Holiday Overtime Hourly Rate (2 X)
Ready-mix Driver	$43.58	$12.55	$12.87	$2.85[e]	$0.00	$1.67	8.0	$73.52	$95.31	$95.31	$117.10

Recognized holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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[a] An amount up to $22.40 per 8 hour day ($2.80 per hour) for a maximum of 5 days per week may be deducted for Health and Welfare. This is in addition to the $12.55 per hour employer payment for Health and Welfare.
[b] The contribution applies to all hours until $2,166.15 is paid for the month.
[c] This includes an amount equal to $0.65 for PEER84 fund to be included for the first 2,280 hours in a calendar year.
[d] Includes amounts for sick leave.
[e] $3.18 after 2 years of service, $3.52 after 3 years of service, $4.36 after 5 years of service, $5.20 after 10 years of service, $6.03 after 20 years of service.

PREDETERMINED INCREASE

CRAFT:
Laborer and Related Classifications (All Shifts)

DETERMINATIONS:
NC-23-102-1-2022-1 and NC-23-102-1-2022-1A

LOCALITIES:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo And Yuba Counties.

These predetermined increases apply to the above referenced determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2022 until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project, has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

LABORER: All Classifications, Areas and All Shifts (Except Group 7, Stage 1-3)
Determinations NC-23-102-1-2022-1 and NC-23-102-1-2022-1A are currently in effect and expire on June 25, 2023**.

Effective June 26, 2023, there will be an increase of $2.50 to be allocated to wages and/or employer payments.

Effective July 1, 2024, there will be an increase of $2.60 to be allocated to wages and/or employer payments.

Effective June 30, 2025, there will be an increase of $2.65 to be allocated to wages and/or employer payments.

Effective June 29, 2026, there will be an increase of $2.65 to be allocated to wages and/or employer payments.

There will be no further increases applicable to this determination.

LABORER: Group 7 - Stage 1 (1st 6 Months)(All Areas)(All Shifts)
Determinations NC-23-102-1-2022-1 and NC-23-102-1-2022-1A are currently in effect and expire on June 25, 2023**.

Effective June 26, 2023, there will be an increase of $1.75 to be allocated to wages and/or employer payments.

Effective July 1, 2024, there will be an increase of $1.82 to be allocated to wages and/or employer payments.

Effective June 30, 2025, there will be an increase of $1.86 to be allocated to wages and/or employer payments.

Effective June 29, 2026, there will be an increase of $1.86 to be allocated to wages and/or employer payments.

There will be no further increases applicable to this determination.

LABORER: Group 7 - Stage 2 (2nd 6 Months)(All Areas)(All Shifts)
Determinations NC-23-102-1-2022-1 and NC-23-102-1-2022-1A are currently in effect and expire on June 25, 2023**.

Effective June 26, 2023, there will be an increase of $2.00 to be allocated to wages and/or employer payments.

Effective July 1, 2024, there will be an increase of $2.08 to be allocated to wages and/or employer payments.

Effective June 30, 2025, there will be an increase of $2.12 to be allocated to wages and/or employer payments.

Effective June 29, 2026, there will be an increase of $2.12 to be allocated to wages and/or employer payments.

There will be no further increases applicable to this determination.

LABORER: Group 7 - Stage 3 (3rd 6 Months) (All Areas)(All Shifts)
Determinations NC-23-102-1-2022-1 and NC-23-102-1-2022-1A are currently in effect and expire on June 25, 2023**.

Effective June 26, 2023, there will be an increase of $2.25 to be allocated to wages and/or employer payments.

Effective July 1, 2024, there will be an increase of $2.34 to be allocated to wages and/or employer payments.

Effective June 30, 2025, there will be an increase of $2.39 to be allocated to wages and/or employer payments.

Effective June 29, 2026, there will be an increase of $2.39 to be allocated to wages and/or employer payments.

There will be no further increases applicable to these determinations.

Issued 8/22/2022, Effective 9/1/2022 until superseded.
This page will updated when wage rate breakdown information becomes available.
Last Updated: September 1, 2022

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE
DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: LABORER AND RELATED CLASSIFICATIONS[#]

Determination:
NC-23-102-1-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
June 25, 2023** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

Localities:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Marin, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

AREA 1 - Alameda, Contra Costa, Marin, San Francisco, San Mateo, And Santa Clara Counties.

AREA 2 - Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo And Yuba Counties.

WAGE RATES AND TOTAL HOURLY RATES (AREA 1):

Classification[a] (Journeyperson)	Basic Hourly Rate[b]	Hours[c]	Total Hourly Rate	Daily/ Saturday Overtime Hourly Rate[d]	Sunday/ Holiday Overtime Hourly Rate
Construction Specialist	$35.95	8	$63.26	$81.24	$99.21
Group 1; Group 1(B)[e]	$35.25	8	$62.56	$80.19	$97.81
Group 1 (A)	$35.47	8	$62.78	$80.52	$98.25
Group 1 (C)	$35.30	8	$62.61	$80.26	$97.91
Group 1 (E)	$35.80	8	$63.11	$81.01	$98.91
Group 1 (G)	$35.45	8	$62.76	$80.49	$98.21
Group 2	$35.10	8	$62.41	$79.96	$97.51
Group 3; Group 3 (A)	$35.00	8	$62.31	$79.81	$97.31
Group 4; Group 6 (B)	$28.69	8	$56.00	$70.35	$84.69
Group 6	$36.21	8	$63.52	$81.63	$99.73
Group 6 (A)	$35.71	8	$63.02	$80.88	$98.73
Group 6 (C)	$35.12	8	$62.43	$79.99	$97.55
Group 6 (D)	$35.83	8	$63.14	$81.06	$98.97
Group 6 (E)	$34.85	8	$62.16	$79.59	$97.01
Group 7 – Stage 1 (1st 6 months)	$24.50	8	$51.81	$64.06	$76.31
Group 7 – Stage 2 (2nd 6 months)	$28.00	8	$55.31	$69.31	$83.31
Group 7 – Stage 3 (3rd 6 months)	$31.50	8	$58.81	$74.56	$90.31

WAGE RATES AND TOTAL HOURLY RATES (AREA 2):

Classification[a] (Journeyperson)	Basic Hourly Rate[b]	Hours[c]	Total Hourly Rate	Daily/ Saturday Overtime Hourly Rate[d]	Sunday/ Holiday Overtime Hourly Rate
Construction Specialist	$34.95	8	$62.26	$79.74	$97.21
Group 1; Group 1(B)[e]	$34.25	8	$61.56	$78.69	$95.81
Group 1 (A)	$34.47	8	$61.78	$79.02	$96.25
Group 1 (C)	$34.30	8	$61.61	$78.76	$95.91
Group 1 (E)	$34.80	8	$62.11	$79.51	$96.91
Group 2	$34.10	8	$61.41	$78.46	$95.51
Group 3; Group 3 (A)	$34.00	8	$61.31	$78.31	$95.31
Group 4; Group 6 (B)	$27.69	8	$55.00	$68.85	$82.69
Group 6	$35.21	8	$62.52	$80.13	$97.73
Group 6 (A)	$34.71	8	$62.02	$79.38	$96.73
Group 6 (C)	$34.12	8	$61.43	$78.49	$95.55
Group 6 (D)	$34.83	8	$62.14	$79.56	$96.97
Group 6 (E)	$33.85	8	$61.16	$78.09	$95.01
Group 7 – Stage 1 (1st 6 months)	$23.80	8	$51.11	$63.01	$74.91
Group 7 – Stage 2 (2nd 6 months)	$27.20	8	$54.51	$68.11	$81.71
Group 7 – Stage 3 (3rd 6 months)	$30.60	8	$57.91	$73.21	$88.51

EMPLOYER PAYMENTS:

Type of Fund	Amount per Hour Worked
Health & Welfare	$9.60
Pension	$13.86
Vacation and Holiday	$3.05
Training	$0.50
Other	$0.30

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE
DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: LABORER AND RELATED CLASSIFICATIONS (Special Single and Second Shift)#

Determination:
NC-23-102-1-2022-1A

Issue Date:
August 22, 2022

Expiration date of determination:
June 25, 2023** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

Localities:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Marin, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

AREA 1 - Alameda, Contra Costa, Marin, San Francisco, San Mateo, And Santa Clara Counties.

AREA 2 - Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo And Yuba Counties.

WAGE RATES AND TOTAL HOURLY RATES (AREA 1):

Classification[a] (Journeyperson)	Basic Hourly Rate[b]	Hours	Total Hourly Rate	Daily/ Saturday Overtime Hourly Rate[d]	Sunday/ Holiday Overtime Hourly Rate
Construction Specialist	$38.95	8	$66.26	$85.74	$105.21
Group 1; Group 1(B)[e]	$38.25	8	$65.56	$84.69	$103.81
Group 1 (A)	$38.47	8	$65.78	$85.02	$104.25
Group 1 (C)	$38.30	8	$65.61	$84.76	$103.91
Group 1 (E)	$38.80	8	$66.11	$85.51	$104.91
Group 1 (G)	$38.45	8	$65.76	$84.99	$104.21
Group 2	$38.10	8	$65.41	$84.46	$103.51
Group 3; Group 3 (A)	$38.00	8	$65.31	$84.31	$103.31
Group 4; Group 6 (B)	$31.69	8	$59.00	$74.85	$90.69
Group 6	$39.21	8	$66.52	$86.13	$105.73
Group 6 (A)	$38.71	8	$66.02	$85.38	$104.73
Group 6 (C)	$38.12	8	$65.43	$84.49	$103.55
Group 6 (D)	$38.83	8	$66.14	$85.56	$104.97
Group 6 (E)	$37.85	8	$65.16	$84.09	$103.01
Group 7 – Stage 1 (1st 6 months)	$27.50	8	$54.81	$68.56	$82.31
Group 7 – Stage 2 (2nd 6 months)	$31.00	8	$58.31	$73.81	$89.31
Group 7 – Stage 3 (3rd 6 months)	$34.50	8	$61.81	$79.06	$96.31

WAGE RATES AND TOTAL HOURLY RATES (AREA 2):

Classification[a] (Journeyperson) Group	Basic Hourly Rate[b]	Hours	Total Hourly Rate	Daily/ Saturday Overtime Hourly Rate[d]	Sunday/ Holiday Overtime Hourly Rate
Construction Specialist	$37.95	8	$65.26	$84.24	$103.21
Group 1; Group 1(B)[e]	$37.25	8	$64.56	$83.19	$101.81
Group 1 (A)	$37.47	8	$64.78	$83.52	$102.25
Group 1 (C)	$37.30	8	$64.61	$83.26	$101.91
Group 1 (E)	$37.80	8	$65.11	$84.01	$102.91
Group 2	$37.10	8	$64.41	$82.96	$101.51
Group 3; Group 3 (A)	$37.00	8	$64.31	$82.81	$101.31
Group 4; Group 6 (B)	$30.69	8	$58.00	$73.35	$88.69
Group 6	$38.21	8	$65.52	$84.63	$103.73
Group 6 (A)	$37.71	8	$65.02	$83.88	$102.73
Group 6 (C)	$37.12	8	$64.43	$82.99	$101.55
Group 6 (D)	$37.83	8	$65.14	$84.06	$102.97
Group 6 (E)	$36.85	8	$64.16	$82.59	$101.01
Group 7 – Stage 1 (1st 6 months)	$26.80	8	$54.11	$67.51	$80.91
Group 7 – Stage 2 (2nd 6 months)	$30.20	8	$57.51	$72.61	$87.71
Group 7 – Stage 3 (3rd 6 months)	$33.60	8	$60.91	$77.71	$94.51

EMPLOYER PAYMENTS:

Type of Fund	Amount per Hour Worked
Health & Welfare	$9.60
Pension	$13.86
Vacation and Holiday	$3.05
Training	$0.50
Other	$0.30

CLASSIFICATIONS

Construction Specialist

ASPHALT IRONERS AND RAKERS
CHAINSAW
CONCRETE DIAMOND CHAINSAW
LASER BEAM IN CONNECTION WITH LABORER'S WORK
MASONRY AND PLASTER TENDER
MECHANICAL PIPE LAYER-ALL TYPES REGARDLESS OF TYPE OR METHOD OF POWER
CAST IN PLACE MANHOLE FORM SETTERS
PRESSURE PIPELAYERS
DAVIS TRENCHER – 300 OR SIMILAR TYPE (AND ALL SMALL TRENCHERS)
STATE LICENSED BLASTERS AS DESIGNATED
DIAMOND DRILLERS
DIAMOND CORE DRILLER
MULTIPLE UNIT DRILLS
HIGH SCALERS (INCLUDING DRILLING OF SAME)
HYDRAULIC DRILLS
CERTIFIED WELDER

GROUP 1 (FOR CONTRA COSTA COUNTY ONLY, USE GROUP 1 (G) FOR SOME OF THE FOLLOWING CLASSIFICATIONS)

ASPHALT SPREADER BOXES (ALL TYPES)
BARKO, WACKER AND SIMILAR TYPE TAMPERS
BIOHAZARD CLEANUP WORKER
BUGGYMOBILE
CAULKERS, BANDERS, PIPEWRAPPERS, CONDUIT LAYERS, PLASTIC PIPE LAYERS
CERTIFIED ASBESTOS AND MOLD REMOVAL WORKER
CERTIFIED HAZARDOUS WASTE WORKER (INCLUDING LEAD ABATEMENT)
COMPACTORS OF ALL TYPES
CONCRETE AND MAGNESITE MIXER AND ½ YARD
CONCRETE PAN WORK
CONCRETE SANDERS, CONCRETE SAW
CRIBBERS AND/OR SHORING
CUT GRANITE CURB SETTER
DRI PAK-IT MACHINE
FALLER, LOGLOADER AND BUCKER
FORM RAISERS, SLIP FORMS
GREEN CUTTERS
HEADERBOARD MEN, HUBSETTERS, ALIGNERS BY ANY METHOD
HIGH PRESSURE BLOW PIPE (1-1/2" OR OVER, 100 LBS. PRESSURE/OVER)
HYDRO SEEDER AND SIMILAR TYPE
JACKHAMMER OPERATORS
JACKING OF PIPE OVER 12 INCHES
JACKSON AND SIMILAR TYPE COMPACTORS
KETTLEMEN, POTMEN, AND MEN APPLYING ASPHALT, LAY KOLD, CREOSOTE, LIME, CAUSTIC AND SIMILAR TYPE MATERIALS (APPLYING MEANS APPLYING DIPPING, OR HANDLING OF SUCH MATERIALS)
LAGGING, SHEETING, WHALING, BRACING, TRENCH-JACKING, LAGGING HAMMER
MAGNESITE, EPOXY RESIN, FIBER GLASS AND MASTIC WORKERS (WET/DRY)
NO JOINT PIPE AND STRIPPING OF SAME, INCLUDING REPAIR OF VOIDS
PAVEMENT BREAKERS AND SPADERS, INCLUDING TOOL GRINDER
PERMA CURBS
PRECAST-MANHOLE SETTERS
PIPELAYERS (INCLUDING GRADE CHECKING IN CONNECTION WITH PIPELAYING)
PRESSURE PIPE TESTER
POST HOLE DIGGERS-AIR, GAS, AND ELECTRIC POWER BROOM SWEEPERS
POWER TAMPERS OF ALL TYPES, EXCEPT AS SHOWN IN GROUP 2
RAM SET GUN AND STUD GUN
RIPRAP-STONEPAVER AND ROCK-SLINGER, INCLUDING PLACING OF SACKED CONCRETE AND/OR SAND (WET OR DRY) AND GABIONS AND SIMILAR TYPE
ROTARY SCARIFIER OR MULTIPLE HEAD CONCRETE CHIPPING SCARIFIER
ROTO AND DITCH WITCH
ROTOTILLER
SAND BLASTERS, POTMEN, GUNMEN, AND NOZZLEMEN
SIGNALING AND RIGGING
SKILLED WRECKER (REMOVING AND SALVAGING OF SASH, WINDOWS, DOORS, PLUMBING AND ELECTRIC FIXTURES)
TANK CLEANERS
TREE CLIMBERS
TRENCHLESS TECHNOLOGY LABORER- PIPE INSTALLATION, BURSTING, RELINING, OR SIMILAR
TRENCHLESS LABORER'S WORK, CAMERA CONTROLLER, CCTV
TURBO BLASTER
VIBRA-SCREED-BULL FLOAT IN CONNECTION

WITH LABORER'S WORK
VIBRATORS

GROUP 1 (A)
ALL WORK OF LOADING, PLACING AND BLASTING OF ALL POWDER & EXPLOSIVES OF WHATEVER TYPE, REGARDLESS OF METHOD USED FOR LOADING AND PLACING
JOY DRILL MODEL TWM-2A
GARDENER-DENVER MODEL DH 143 AND SIMILAR TYPE DRILLS
TRACK DRILLERS
JACK LEG DRILLERS
WAGON DRILLERS
MECHANICAL DRILLERS-ALL TYPES REGARDLESS OF TYPE OR METHOD OF POWER
BLASTERS AND POWDERMAN
TREE TOPPER
BIT GRINDER

GROUP 1 (B) -- SEE GROUP 1 RATES
SEWER CLEANERS (ANY WORKMEN WHO HANDLE OR COME IN CONTACT WITH RAW SEWAGE IN SMALL DIAMETER SEWERS) SHALL RECEIVE $4.00 PER DAY ABOV GROUP 1 WAGE RATES. THOSE WHO WORK INSIDE RECENTLY ACTIVE, LARGE DIAMETER SEWERS, AND ALL RECENTLY ACTIVE SEWER MANHOLES SHALL RECEIVE $5.00 PER DAY ABOVE GROUP 1 WAGE RATES.

GROUP 1 (C)
BURNING AND WELDING IN CONNECTION WITH LABORER'S WORK
SYNTHETIC THERMOPLASTICS AND SIMILAR TYPE WELDING

GROUP 1 (D)
SEE FOOTNOTE A ON PAGE 8

GROUP 1 (E)
WORK ON AND/OR IN BELL HOLE FOOTINGS AND SHAFTS THEREOF, AND WORK ON AND IN DEEP FOOTINGS (DEEP FOOTINGS IS A HOLE 15 FEET OR MORE IN DEPTH)
SHAFT IS AN EXCAVATION OVER FIFTEEN (15) FEET DEEP OF ANY TYPE

GROUP 1 (G) APPLIES ONLY TO WORK IN CONTRA COSTA COUNTY
PIPELAYERS (INCLUDING GRADE CHECKING IN CONNECTION WITH PIPELAYING), CAULKERS, BANDERS, PIPEWRAPPERS, CONDUIT LAYERS, PLASTIC PIPE LAYER, PRESSURE PIPE TESTER, NO JOINT PIPE AND STRIPPING OF SAME, INCLUDING REPAIR OF VOIDS, PRECAST MANHOLE SETTERS, CAST IN PLACE MANHOLE FORM SETTERS IN CONTRA COSTA COUNTY ONLY

GROUP 1(H)
SEE FOOTNOTE A ON PAGE 8

GROUP 2
ASPHALT SHOVELERS
CEMENT DUMPERS AND HANDLING DRY CEMENT OR GYPSUM
CHOKE-SETTER AND RIGGER (CLEARING WORK)
CONCRETE BUCKET DUMPER AND CHUTEMAN
CONCRETE CHIPPING AND GRINDING
CONCRETE LABORERS (WET OR DRY)
DRILLERS HELPER, CHUCK TENDER, NIPPER (ONE CHUCKTENDER ON SINGLE MACHINE OPERATION WITH MINIMUM OF ONE CHUCKTENDER FOR EACH TWO MACHINES ON MULTIPLE MACHINE OPERATION. JACKHAMMERS IN NO WAY INVOLVED IN THIS ITEM.)
GUINEA CHASER (STAKEMAN), GROUT CREW
HIGH PRESSURE NOZZLEMAN, ADDUCTORS
HYDRAULIC MONITOR (OVER 100 LBS. PRESSURE)
LOADING AND UNLOADING, CARRYING AND HANDLING OF ALL RODS AND MATERIALS FOR USE IN REINFORCING CONCRETE CONSTRUCTION
PITTSBURGH CHIPPER, AND SIMILAR TYPE BRUSH SHREDDERS
SEMI-SKILLED WRECKER (SALVAGING OF OTHER BUILDING MATERIALS) – SEE ALSO SKILLED WRECKER (GROUP 1)
SLOPER
SINGLEFOOT, HAND HELD, PNEUMATIC TAMPER
ALL PNEUMATIC, AIR, GAS AND ELECTRIC TOOLS NOT LISTED IN GROUPS 1 THROUGH 1 (F)
JACKING OF PIPE-UNDER 12 INCHES

GROUP 3
CONSTRUCTION LABORERS INCLUDING BRIDGE LABORERS, GENERAL LABORERS AND CLEANUP LABORERS
DEMOLITION WORKER
DUMPMAN, LOAD SPOTTER
FLAGPERSON/PEDESTRIAN MONITOR
FIRE WATCHER
FENCE ERECTORS, INCLUDING TEMPORARY FENCING
GUARDRAIL ERECTORS
GARDENER, HORTICULTURAL AND LANDSCAPE LABORERS (SEE GROUP 4, FOR LANDSCAPE MAINTENANCE ON NEW CONSTRUCTION DURING PLANT ESTABLISHMENT PERIOD)
JETTING
LIMBERS, BRUSH LOADERS, AND PILERS
PAVEMENT MARKERS (BUTTON SETTERS)
PAVERS/INTERLOCKING PAVERS (ALL TYPES) AND INTERLOCKING PAVER MACHINES
MAINTENANCE, REPAIR TRACKMEN AND ROAD BEDS
STREETCAR AND RAILROAD CONSTRUCTION TRACK LABORERS
TEMPORARY AIR AND WATER LINES, VICTAULIC OR SIMILAR
TOOL ROOM ATTENDANT (JOBSITE ONLY)
TREE REMOVAL
WHEELBARROW, INCLUDING POWER DRIVEN

GROUP 3 (A) -- SEE GROUP 3 RATES
COMPOSITE CREW PERSON (OPERATION OF VEHICLES, WHEN IN CONJUNCTION WITH LABORER'S DUTIES)

GROUP 4
ALL FINAL CLEANUP OF DEBRIS, GROUNDS AND BUILDINGS NEAR THE COMPLETION OF THE PROJECT INCLUDING BUT NOT LIMITED TO STREET CLEANERS (NOT APPLICABLE TO ENGINEERING OR HEAVY HIGHWAY PROJECTS)
CLEANING AND WASHING WINDOWS (NEW CONSTRUCTION ONLY), SERVICE LANDSCAPE LABORERS (SUCH AS GARDENER, HORTICULTURE, MOWING, TRIMMING, REPLANTING, WATERING DURING PLANT ESTABLISHMENT PERIOD) ON NEW CONSTRUCTION
BRICK CLEANERS (JOB SITE ONLY)
MATERIAL CLEANERS (JOB SITE ONLY)

NOTE: AN ADDITIONAL DETERMINATION FOR LANDSCAPE MAINTENANCE WORK AFTER THE PLANT ESTABLISHMENT PERIOD OR WARRANTY PERIOD IS PUBLISHED IN THE NORTHERN CALIFORNIA LANDSCAPE MAINTENANCE LABORER DETERMINATION.

GROUP 6
STRUCTURAL NOZZLEMAN

GROUP 6 (A)
NOZZLEMAN (INCLUDING GUNMAN, POTMAN)
RODMAN
GROUNDMAN

GROUP 6 (B) -- SEE GROUP 4 RATES GUNITE TRAINEE (ONE GUNITE LABORER SHALL BE ALLOWED FOR EACH THREE (3) JOURNEYMAN (GROUP 6, 6A, 6C, OR GENERAL LABORER) ON A CREW. IN THE ABSENCE OF THE JOURNEYMAN, THE GUNITE TRAINEE RECEIVES THE JOURNEYMAN SCALE.).
NOTE: THIS RATIO APPLIES ONLY TO WORK ON THE SAME JOB SITE.

GROUP 6 (C)
REBOUNDMAN

GROUP 6 (D)
ALIGNER OF WIRE WINDING MACHINE IN CONNECTION WITH GUNITING OR SHOT CRETE

GROUP 6 (E)
ALIGNER HELPER OF WIRE WINDING MACHINE IN CONNECTION WITH GUNITING OR SHOT CRETE

GROUP 7
ENTRY LEVEL LANDSCAPE LABORER (RATIO FOR ENTRY LEVEL IS ONE IN THREE. AT LEAST ONE SECOND PERIOD ENTRY LEVEL AND AT LEAST ONE THIRD PERIOD ENTRY LEVEL MUST BE EMPLOYED BEFORE EMPLOYING ANOTHER FIRST PERIOD TRAINEE).
NOTE: THIS RATIO APPLIES ONLY TO WORK ON THE SAME JOB SITE

Recognized holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Prevailing Wage Apprentice Determinations Website (http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp).

[a] GROUP 1(D) - MAINTENANCE OR REPAIR TRACKMEN AND ROAD BEDS AND ALL EMPLOYEES PERFORMING WORK COVERED BY THIS CLASSIFICATION SHALL RECEIVE $0.25 PER HOUR ABOVE THEIR REGULAR RATE FOR ALL WORK PERFORMED ON UNDERGROUND STRUCTURES NOT SPECIFICALLY COVERED HEREIN. THIS SHALL NOT APPLY TO WORK BELOW GROUND LEVEL IN OPEN CUT. THIS SHALL APPLY TO CUT AND COVER WORK OF SUBWAY CONSTRUCTION AFTER TEMPORARY COVER HAS BEEN PLACED.

GROUP 1(H) - ALL LABORERS WORKING OFF OR WITH OR FROM BOS'N CHAIRS, SWINGING SCAFFOLDS, BELTS RECEIVE $0.50 PER HOUR ABOVE THEIR APPLICABLE WAGE RATE. THIS SHALL NOT APPLY TO LABORERS ENTITLED TO RECEIVE THE WAGE RATE SET FORTH IN GROUP 1(A).

[b] ZONE PAY AT THREE DOLLARS ($3.00) PER HOUR, FACTORED AT THE APPLICABLE OVERTIME MULTIPLE, WILL BE ADDED TO THE BASE RATE FOR WORK PERFORMED OUTSIDE THE FREE ZONE DESCRIBED BY THE BOUNDARIES ALONG TOWNSHIP AND RANGE LINES. PLEASE SEE TRAVEL AND SUBSISTENCE PROVISION FOR MAP DESCRIPTION AND EXCEPTIONS.

[c] WHEN THREE SHIFTS ARE EMPLOYED FOR FIVE (5) OR MORE CONSECUTIVE DAYS, SEVEN AND ONE-HALF (7 ½) CONSECUTIVE HOURS (EXCLUSIVE OF MEAL PERIOD), SHALL CONSTITUTE A DAY OF WORK, FOR WHICH EIGHT (8) TIMES THE STRAIGHT TIME HOURLY RATE SHALL BE PAID AT THE NON-SHIFT WAGE RATE FOR THE SECOND SHIFT. THE THIRD SHIFT SHALL BE SEVEN (7) HOURS OF WORK FOR EIGHT (8) HOURS PAY AT THE NON-SHIFT WAGE RATE.

[d] SATURDAYS IN THE SAME WORK WEEK MAY BE WORKED AT STRAIGHT-TIME IF JOB IS SHUT DOWN DURING THE NORMAL WORK WEEK DUE TO INCLEMENT WEATHER, MAJOR MECHANICAL BREAKDOWN OR LACK OF MATERIALS BEYOND THE CONTROL OF THE EMPLOYER.

[e] GROUP 1(B) RECEIVES AN ADDITIONAL AMOUNT EACH DAY. SEE PAGE 6 FOR DETAILS

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE
DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: OPERATING ENGINEER (HEAVY AND HIGHWAY WORK) #

Determination:
NC-23-63-1-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Locality:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

AREA 1 - Alameda, Butte, Contra Costa, Kings, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba Counties; and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties. (Portions of counties falling in each area detailed below)

Wages and total hourly rates (including employer payments) (Area 1):

Classification (Journeyperson) Classification Group [a]	Basic Hourly Rate	Hours[b]	Total Hourly Rate	Daily/Saturday Overtime Hourly Rate (1½ X) [c]	Sunday/Holiday Overtime Hourly Rate (2X)
Group 1	$55.92	8	$88.65	$116.61	$144.57
Group 2	$54.39	8	$87.12	$114.32	$141.51
Group 3	$52.91	8	$85.64	$112.10	$138.55
Group 4	$51.53	8	$84.26	$110.03	$135.79
Group 5	$50.26	8	$82.99	$108.12	$133.25
Group 6	$48.94	8	$81.67	$106.14	$130.61
Group 7	$47.80	8	$80.53	$104.43	$128.33
Group 8	$46.66	8	$79.39	$102.72	$126.05
Group 8-A	$44.45	8	$77.18	$99.41	$121.63
ALL CRANES & ATTACHMENTS: Group 1	$57.55	8	$90.28	$119.06	$147.83
Truck Crane Assistant to Engineer	$50.58	8	$83.31	$108.60	$133.89
Assistant to Engineer	$48.29	8	$81.02	$105.17	$129.31
Group 1-A	$56.80	8	$89.53	$117.93	$146.33
Truck Crane Assistant to Engineer	$49.83	8	$82.56	$107.48	$132.39
Assistant to Engineer	$47.54	8	$80.27	$104.04	$127.81
Group 2-A	$55.04	8	$87.77	$115.29	$142.81
Truck Crane Assistant to Engineer	$49.57	8	$82.30	$107.09	$131.87

Classification (Journeyperson) Classification Group [a]	Basic Hourly Rate	Hours[b]	Total Hourly Rate	Daily/Saturday Overtime Hourly Rate (1½ X) [c]	Sunday/Holiday Overtime Hourly Rate (2X)
Assistant to Engineer	$47.33	8	$80.06	$103.73	$127.39
Group 3-A	$53.30	8	$86.03	$112.68	$139.33
Truck Crane Assistant to Engineer	$49.33	8	$82.06	$106.73	$131.39
Hydraulic	$48.94	8	$81.67	$106.14	$130.61
Assistant to Engineer	$47.05	8	$79.78	$103.31	$126.83
Group 4-A	$50.26	8	$82.99	$108.12	$133.25

AREA 2 - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties. (Portions of counties falling in each area detailed below)

Wages and total hourly rates (including employer payments) (Area 2):

Classification (Journeyperson) Classification Group [a]	Basic Hourly Rate	Hours[b]	Total Hourly Rate	Daily/Saturday Overtime Hourly Rate (1½ X) [c]	Sunday/Holiday Overtime Hourly Rate (2X)
Group 1	$57.92	8	$90.65	$119.61	$148.57
Group 2	$56.39	8	$89.12	$117.32	$145.51
Group 3	$54.91	8	$87.64	$115.10	$142.55
Group 4	$53.53	8	$86.26	$113.03	$139.79
Group 5	$52.26	8	$84.99	$111.12	$137.25
Group 6	$50.94	8	$83.67	$109.14	$134.61
Group 7	$49.80	8	$82.53	$107.43	$132.33
Group 8	$48.66	8	$81.39	$105.72	$130.05
Group 8-A	$46.45	8	$79.18	$102.41	$125.63
ALL CRANES & ATTACHMENTS: Group 1	$59.55	8	$92.28	$122.06	$151.83
Truck Crane Assistant to Engineer	$52.58	8	$85.31	$111.60	$137.89
Assistant to Engineer	$50.29	8	$83.02	$108.17	$133.31
Group 1-A	$58.80	8	$91.53	$120.93	$150.33
Truck Crane Assistant to Engineer	$51.83	8	$84.56	$110.48	$136.39
Assistant to Engineer	$49.54	8	$82.27	$107.04	$131.81
Group 2-A	$57.04	8	$89.77	$118.29	$146.81
Truck Crane Assistant to Engineer	$51.57	8	$84.30	$110.09	$135.87
Assistant to Engineer	$49.33	8	$82.06	$106.73	$131.39
Group 3-A	$55.30	8	$88.03	$115.68	$143.33
Truck Crane Assistant to Engineer	$51.33	8	$84.06	$109.73	$135.39
Hydraulic	$50.94	8	$83.67	$109.14	$134.61
Assistant to Engineer	$49.05	8	$81.78	$106.31	$130.83
Group 4-A	$52.26	8	$84.99	$111.12	$137.25

Employer Payments:

Type of Fund	**Amount per Hour**
Health and Welfare	$13.38
Pension	$10.78
Vacation and Holiday[d]	$5.87
Training	$1.12
Other	$1.58

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE
DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE
PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: OPERATING ENGINEER (HEAVY AND HIGHWAY WORK) #
(SPECIAL SINGLE AND SECOND SHIFT)

Determination:
NC-23-63-1-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Locality:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

AREA 1 - Alameda, Butte, Contra Costa, Kings, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba Counties; and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties. (Portions of counties falling in each area detailed below)

Wages and total hourly rates (including employer payments) (Area 1):

Classification (Journeyperson) (Special Single and Second Shift) Classification Group [a]	Basic Hourly Rate	Hours	Total Hourly Rate	Daily/Saturday Overtime Hourly Rate (1 ½ X) [c]	Sunday/Holiday Overtime Hourly Rate (2X)
Group 1	$61.25	8	$93.98	$124.61	$155.23
Group 2	$59.52	8	$92.25	$122.01	$151.77
Group 3	$57.86	8	$90.59	$119.52	$148.45
Group 4	$56.30	8	$89.03	$117.18	$145.33
Group 5	$54.88	8	$87.61	$115.05	$142.49
Group 6	$53.38	8	$86.11	$112.80	$139.49
Group 7	$52.10	8	$84.83	$110.88	$136.93
Group 8	$50.83	8	$83.56	$108.98	$134.39
Group 8-A	$48.32	8	$81.05	$105.21	$129.37
ALL CRANES & ATTACHMENTS: Group 1	$62.98	8	$95.71	$127.20	$158.69
Truck Crane Assistant to Engineer	$55.15	8	$87.88	$115.46	$143.03
Assistant to Engineer	$52.56	8	$85.29	$111.57	$137.85
Group 1-A	$62.23	8	$94.96	$126.08	$157.19

Classification (Journeyperson) (Special Single and Second Shift) Classification Group [a]	Basic Hourly Rate	Hours	Total Hourly Rate	Daily/Saturday Overtime Hourly Rate (1 ½ X) [c]	Sunday/Holiday Overtime Hourly Rate (2X)
Truck Crane Assistant to Engineer	$54.40	8	$87.13	$114.33	$141.53
Assistant to Engineer	$51.81	8	$84.54	$110.45	$136.35
Group 2-A	$60.24	8	$92.97	$123.09	$153.21
Truck Crane Assistant to Engineer	$54.11	8	$86.84	$113.90	$140.95
Assistant to Engineer	$51.58	8	$84.31	$110.10	$135.89
Group 3-A	$58.28	8	$91.01	$120.15	$149.29
Truck Crane Assistant to Engineer	$53.84	8	$86.57	$113.49	$140.41
Hydraulic	$53.38	8	$86.11	$112.80	$139.49
Assistant to Engineer	$51.27	8	$84.00	$109.64	$135.27
Group 4-A	$54.88	8	$87.61	$115.05	$142.49

AREA 2 - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties. (Portions of counties falling in each area detailed below)

Wages and total hourly rates (including employer payments) (Area 2):

Classification (Journeyperson) (Special Single and Second Shift) Classification Group [a]	Basic Hourly Rate	Hours	Total Hourly Rate	Daily/Saturday Overtime Hourly Rate (1½ X) [c]	Sunday/Holiday Overtime Hourly Rate (2X)
Group 1	$63.25	8	$95.98	$127.61	$159.23
Group 2	$61.52	8	$94.25	$125.01	$155.77
Group 3	$59.86	8	$92.59	$122.52	$152.45
Group 4	$58.30	8	$91.03	$120.18	$149.33
Group 5	$56.88	8	$89.61	$118.05	$146.49
Group 6	$55.38	8	$88.11	$115.80	$143.49
Group 7	$54.10	8	$86.83	$113.88	$140.93
Group 8	$52.83	8	$85.56	$111.98	$138.39
Group 8-A	$50.32	8	$83.05	$108.21	$133.37
ALL CRANES & ATTACHMENTS: Group 1	$64.98	8	$97.71	$130.20	$162.69
Truck Crane Assistant to Engineer	$57.15	8	$89.88	$118.46	$147.03
Assistant to Engineer	$54.56	8	$87.29	$114.57	$141.85
Group 1-A	$64.23	8	$96.96	$129.08	$161.19
Truck Crane Assistant to Engineer	$56.40	8	$89.13	$117.33	$145.53
Assistant to Engineer	$53.81	8	$86.54	$113.45	$140.35
Group 2-A	$62.24	8	$94.97	$126.09	$157.21
Truck Crane Assistant to Engineer	$56.11	8	$88.84	$116.90	$144.95
Assistant to Engineer	$53.58	8	$86.31	$113.10	$139.89
Group 3-A	$60.28	8	$93.01	$123.15	$153.29
Truck Crane Assistant to Engineer	$55.84	8	$88.57	$116.49	$144.41
Hydraulic	$55.38	8	$88.11	$115.80	$143.49
Assistant to Engineer	$53.27	8	$86.00	$112.64	$139.27
Group 4-A	$56.88	8	$89.61	$118.05	$146.49

Employer Payments:

Type of Fund	Amount per Hour
Health and Welfare	$13.38
Pension	$10.78
Vacation and Holiday[d]	$5.87
Training	$1.12
Other	$1.58

CLASSIFICATIONS

GROUP 1

Drill Equipment, over 200,000 lbs
Operator of Helicopter (when used in erection work)
Hydraulic Excavator 7 cu yds and over
Power Shovels, over 7 cu yds

GROUP 2

Highline Cableway
Hydraulic Excavator 3 1/2 cu yds up to 7 cu yds
Licensed Construction Work Boat Operator, On Site
Microtunneling Machine
Power Blade Operator (finish)
Power Shovels, (over 1 cu yd and up to and including 7 cu yds m.r.c.)

GROUP 3

Asphalt Milling Machine
Cable Backhoe
Combination Backhoe and Loader over ¾ cu yds
Continuous Flight Tie Back Machine
Crane Mounted Continuous Flight Tie Back Machine, tonnage to apply
Crane Mounted Drill Attachments, Tonnage to apply
Dozer, Slope Board
Drill Equipment, over 100,000 lbs up to and including 200,000 lbs
Gradall
Hydraulic Excavator up to 3 1/2 cu yds
Loader 4 cu yds and over
Long Reach Excavator
Multiple Engine Scrapers (when used as push pull)
Power Shovels, up to and including 1 cu yd
Pre-Stress Wire Wrapping machine
Side Boom Cat, 572 or larger
Track Loader 4 cu yds and over
Wheel Excavator (up to and including 750 cu yds per hour)

GROUP 4

Asphalt Plant Engineer/Boxman
Chicago Boom
Combination Backhoe and Loader up to and including ¾ cu yds
Concrete Batch Plants (wet or dry)
Dozer and/or Push Cat
Drill Equipment, over 50,000 lbs up to and including 100,000 lbs
Pull-Type Elevating Loader
Gradesetter, Grade Checker (GPS, mechanical or otherwise)
Grooving and Grinding Machine
Heading Shield Operator
Heavy Duty Drilling Equipment, Hughes, LDH, Watson 3000 or similar
Heavy Duty Repairman and/or Welder
Lime Spreader
Loader under 4 cu yds
Lubrication and Service Engineer (mobile and grease rack)
Mechanical Finishers or Spreader Machine (asphalt, Barber-Greene and similar)
Miller Formless M-9000 Slope Paver or similar
Portable Crushing and Screening plants
Power Blade Support
Roller Operator, Asphalt
Rubber-Tired Scraper, Self-Loading (paddle-wheels, etc)
Rubber-Tired Earthmoving Equipment (Scrapers)
Slip Form Paver (concrete)
Small Tractor with Drag
Soil Stabilizer (P&H or equal)
Spider Plow and Spider Puller
Timber Skidder
Track Loader up to 4 yards
Tractor Drawn Scraper
Tractor, Compressor Drill Combination
Tubex Pile Rig
Unlicensed Construction Work Boat Operator, On Site
Welder
Woods-Mixer (and other similar Pugmill equipment)

GROUP 5

Cast-In Place Pipe Laying Machine
Combination Slusher and Motor Operator
Concrete Conveyor or Concrete Pump, Truck or Equipment Mounted
Concrete Conveyor, Building Site
Concrete Pump or Pumpcrete Guns

Drilling Equipment, Watson 2000, Texoma 700 or similar
Drilling and Boring Machinery, Horizontal (not to apply to waterlines, wagon drills or jackhammers)
Concrete Mixers/all
Man and/or Material Hoist
Mechanical Finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types)
Mechanical Burm, Curb and/or Curb and Gutter Machine, Concrete or Asphalt
Mine or Shaft Hoist
Portable Crushers
Power Jumbo Operator (setting slip-forms, etc., in tunnels)
Screedman (automatic or manual)
Self Propelled Compactor with Dozer
Tractor with boom, D6 or smaller
Trenching Machine, maximum digging capacity over 5 ft. depth
Vermeer T-600B Rock Cutter or similar

GROUP 6

Armor-Coater (or similar)
Ballast Jack Tamper
Boom-Type Backfilling Machine
Asst. Plant Engineer
Bridge and/or Gantry Crane
Chemical Grouting Machine, truck mounted
Chip Spreading Machine Operator
Concrete Barrier Moving Machine
Concrete Saws (self-propelled unit on streets, highways, airports, and canals)
Deck Engineer
Drill Doctor
Drill Equipment, over 25,000 lbs up to and including 50,000 lbs
Drilling Equipment Texoma 600, Hughes 200 series or similar up to and including 30 ft. m.r.c.
Helicopter Radioman
Hydro-Hammer or similar
Line Master
Skidsteer Loader, Bobcat larger than 743 series or similar (with attachments)
Locomotive
Rotating Extendable Forklift, Lull Hi-Lift or similar
Assistant to Engineer, Truck Mounted Equipment
Pavement Breaker, Truck Mounted, with compressor combination
Paving Fabric Installation and/or Laying Machine
Pipe Bending Machine (pipelines only)
Pipe Wrapping Machine (Tractor propelled and supported)
Screedman, (except asphaltic concrete paving)
Self-Loading Chipper
Self Propelled Pipeline Wrapping Machine
Tractor

GROUP 7

Ballast Regulator
Cary Lift or similar
Combination Slurry Mixer and/or Cleaner
Coolant/Slurry Tanker Operator (hooked to Grooving/Grinding Machine)
Drilling Equipment, 20 ft and under m.r.c.
Drill Equipment, over 1,000 lbs up to and including 25,000 lbs
Fireman Hot Plant
Grouting Machine Operator
Highline Cableway Signalman
Stationary Belt Loader (Kolman or similar)
Lift Slab Machine (Vagtborg and similar types)
Maginnes Internal Full Slab Vibrator
Material Hoist (1 Drum)
Mechanical Trench Shield
Partsman (heavy duty repair shop parts room)
Pavement Breaker with or without Compressor Combination
Pipe Cleaning Machine (tractor propelled and supported)
Post Driver
Roller (except Asphalt), Chip Seal
Self Propelled Automatically Applied Concrete Curing Machine (on streets, highways, airports and canals)
Self Propelled Compactor (without dozer)
Signalman
Slip-Form Pumps (lifting device for concrete forms)
Super Sucker Vacuum Truck
Tie Spacer
Trenching Machine (maximum digging capacity up to and including 5 ft depth)
Truck Type Loader

GROUP 8

Bit Sharpener
Boiler Tender
Box Operator
Brakeman
Combination Mixer and Compressor (shotcrete/gunite)
Compressor Operator
Deckhand
Fireman
Generators
Gunite/Shotcrete Equipment Operator
Heavy Duty Repairman Helper
Hydraulic Monitor
Ken Seal Machine (or similar)

Mast Type Forklift
Mixermobile
Assistant to Engineer
Pump Operator
Refrigerator Plant
Reservoir-Debris Tug (Self-Propelled Floating)
Ross Carrier (Construction site)
Rotomist Operator
Self Propelled Tape Machine
Shuttlecar
Self Propelled Power Sweeper Operator (Includes Vacuum Sweeper)
Slusher Operator
Surface Heater
Switchman
Tar Pot Fireman
Tugger Hoist, Single Drum
Vacuum Cooling Plant
Welding Machine (powered other than by electricity)

GROUP 8-A
Articulated Dump Truck Operator
Elevator Operator
Mini Excavator under 25 H.P. (Backhoe-Trencher)
Skidsteer Loader, Bobcat 743 series or Smaller and similar (without attachments)

ALL CRANES AND ATTACHMENTS:
GROUP 1
Cranes over 350 tons
Derrick over 250 tons
Self Propelled Boom Type Lifting Device over 250 tons

GROUP 1-A
Clamshells and Draglines over 7 cu yds
Cranes over 100 tons
Derrick, over 100 tons
Derrick Barge Pedestal mounted over 100 tons
Self Propelled Boom Type Lifting Device Over 100 tons
Tower Cranes

GROUP 2-A
Clamshells and Draglines over 1 cu yds up to and including 7 cu yds
Cranes over 45 tons up to and including 100 tons
Derrick Barge 100 tons and under
Mobile Self-Erecting Tower Crane (Potain) over 3 stories
Self Propelled Boom Type Lifting Device over 45 tons

GROUP 3-A
Clamshells and Draglines up to and including 1 cu yd
Cranes 45 tons and under
Mobile Self-Erecting Tower Crane (Potain), 3 stories and under
Self Propelled Boom Type Lifting Device 45 tons and under

GROUP 4-A
Boom Truck or dual-purpose A-Frame Truck, Non-Rotating over 15 tons.
Truck Mounted Rotating Telescopic Boom Type Lifting Device, Manitex or similar (Boom Truck -over 15 tons)
Truck-Mounted Rotating Telescopic Boom Type Lifting Device, Manitex or Similar (Boom Truck), under 15 tons

DESCRIPTIONS FOR AREAS 1 AND 2:

Area 1 is all of Northern California within the following Township, State and/or county Boundaries:

Commencing in the Pacific Ocean on the extension of the Southerly line of Township 19S, of the Mount Diablo Base and Meridian,
Thence Easterly along the Southerly line of Township 19S, to the Northwest corner of Township 20S, Range 6E,
Thence Southerly to the Southwest corner of Township 20S, Range 6E,
Thence Easterly to the Northwest corner of Township 21S, Range 7E
Thence Southerly to the Southwest corner of Township 21S, Range 7E
Thence Easterly to the Northwest corner of Township 22S, Range 9E,
Thence Southerly to the Southwest corner of Township 22S, Range 9E,
Thence Easterly to the Northwest corner of Township 23S, Range 10E,
Thence Southerly to the Southwest corner of Township 24S, Range 10E,
Thence Easterly to the Southwest corner of Township 24S, Range 31E,
Thence Northerly to the Northeast corner of Township 20S, Range 31E,
Thence Westerly to the Southeast corner of Township 19S, Range 29E,

Thence Northerly to the Northeast corner of Township 17S, Range 29E,
Thence Westerly to the Southeast corner of Township 16S, Range 28E,
Thence Northerly to the Northeast corner of Township 13S, Range 28E,
Thence Westerly to the Southeast corner of Township 12S, Range 27E,
Thence Northerly to the Northeast corner of Township 12S, Range 27E,
Thence Westerly to the Southeast corner of Township 11S, Range 26E,
Thence Northerly to the Northeast corner of Township 11S, Range 26E,
Thence Westerly to the Southeast corner of Township 10S, Range 25E,
Thence Northerly to the Northeast corner of Township 9S, Range 25E,
Thence Westerly to the Southeast corner of Township 8S, Range 24E,
Thence Northerly to the Northeast corner of Township 8S, Range 24E,
Thence Westerly to the Southeast corner of Township 7S, Range 23E,
Thence Northerly to the Northeast corner of Township 6S, Range 23E,
Thence Westerly to the Southeast corner of Township 5S, Range 20E,
Thence Northerly to the Northeast corner of Township 5S, Range 20E,
Thence Westerly to the Southeast corner of Township 4S, Range 19E,
Thence Northerly to the Northeast corner of Township 1S, Range 19E,
Thence Westerly to the Southeast corner of Township 1N, Range 18E,
Thence Northerly to the Northeast corner of Township 3N, Range 18E,
Thence Westerly to the Southeast corner of Township 4N, Range 17E,
Thence Northerly to the Northeast corner of Township 4N, Range 17E,
Thence Westerly to the Southeast corner of Township 5N, Range 15E,
Thence Northerly to the Northeast corner of Township 5N, Range 15E,
Thence Westerly to the Southeast corner of Township 6N, Range 14E,
Thence Northerly to the Northeast corner of Township 10N, Range 14E,
Thence Easterly along the Southern line of Township 11N, to the California/Nevada State Border,
Thence Northerly along the California/Nevada State Border to the Northerly line of Township 17N,
Thence Westerly to the Southeast corner of Township 18N, Range 10E,
Thence Northerly to the Northeast corner of Township 20N, Range 10E,
Thence Westerly to the Southeast corner of Township 21N, Range 9E,
Thence Northerly to the Northeast corner of Township 21N, Range 9E,
Thence Westerly to the Southeast corner of Township 22N, Range 8E,
Thence Northerly to the Northeast corner of Township 22N, Range 8E,
Thence Westerly to the Northwest corner of Township 22N, Range 8E,
Thence Northerly to the Southwest corner of Township 27N, Range 8E,
Thence Easterly to the Southeast corner of Township 27N, Range 8E,
Thence Northerly to the Northeast corner of Township 28N, Range 8E,
Thence Westerly to the Southeast corner of Township 29N, Range 6E,
Thence Northerly to the Northeast corner of Township 32N, Range 6E,
Thence Westerly to the Northwest corner of Township 32N, Range 6E,
Thence Northerly to the Northeast corner of Township 35N, Range 5E,
Thence Westerly to the Southeast corner of Township 36N, Range 3E,
Thence Northerly to the Northeast corner of township 36N, Range 3E,
Thence Westerly to the Southeast corner of Township 37N, Range 1W,
Thence Northerly to the Northeast corner of Township 38N, Range 1W,
Thence Westerly to the Southeast corner of Township 39N, Range 2W,
Thence Northerly to the Northeast corner of Township 40N, Range 2W,
Thence Westerly to the Southeast corner of Township 41N, Range 4W,
Thence Northerly to the Northeast corner of Township 42N, Range 4W,
Thence Westerly to the Southeast corner of Township 43N, Range 5W,
Thence Northerly to the California/Oregon State Border,
Thence Westerly along the California/Oregon State Border to the Westerly Boundary of Township Range 8W,

Thence Southerly to the Southwest corner of Township 43N, Range 8W,
Thence Easterly to the Southeast corner of Township 43N, Range 8W,
Thence Southerly to the Southwest corner of Township 42N, Range 7W,
Thence Easterly to the Southeast corner of Township 42N, Range 7W,
Thence Southerly to the Southwest corner of Township 41N, Range 6W,
Thence Easterly to the Northwest corner of Township 40N, Range 5W,
Thence Southerly to the Southwest corner of Township 38N, Range 5W,
Thence Westerly to the Northwest corner of Township 37N, Range 6W,
Thence Southerly to the Southwest corner of Township 35N, Range 6W,
Thence Westerly to the Northwest corner of Township 34N, Range 10W,
Thence Southerly to the Southwest corner of Township 31N, Range 10W,
Thence Easterly to the Northwest corner of Township 30N, Range 9W,
Thence Southerly to the Southwest corner of Township 30N, Range 9W,
Thence Easterly to the Northwest corner of Township 29N, Range 8W,
Thence Southerly to the Southwest corner of Township 23N, Range 8W,
Thence Easterly to the Northwest corner of Township 22N, Range 6W,
Thence Southerly to the Southwest corner of Township 16N, Range 6W,
Thence Westerly to the Southeast corner of Township 16N, Range 9W,
Thence Northerly to the Northeast corner of Township 16N, Range 9W,
Thence Westerly to the Southeast corner of Township 17N, Range 12W,
Thence Northerly to the Northeast corner of Township 18N, Range 12W,
Thence Westerly to the Northwest corner of Township 18N, Range 15W,
Thence Southerly to the Southwest corner of Township 14N, Range 15W,
Thence Easterly to the Northwest corner of Township 13N, Range 14W,
Thence Southerly to the Southwest corner of Township 13N, Range 14W,
Thence Easterly to the Northwest corner of Township 12N, Range 13W,
Thence Southerly to the Southwest corner of Township 12N, Range 13W,
Thence Easterly to the Northwest corner of Township 11N, Range 12W,
Thence Southerly into the Pacific Ocean and Commencing in the Pacific Ocean on the extension of the Humboldt Base Line,
Thence Easterly to the Northwest corner of Township 1S, Range 2E,
Thence Southerly to the Southwest corner of Township 2S, Range 2E,
Thence Easterly to the Northwest corner of Township 3S, Range 3E,
Thence Southerly to the Southwest corner of Township 5S, Range 3E,
Thence Easterly to the Southeast corner of Township 5S, Range 4E,
Thence Northerly to the Northeast corner of Township 4S, Range 4E,
Thence Westerly to the Southeast corner of Township 3S, Range 3E,
Thence Northerly to the Northeast corner of Township 5N, Range 3E,
Thence Easterly to the Southeast corner of Township 6N, Range 5E,
Thence Northerly to the Northeast corner of Township 7N, Range 5E,
Thence Westerly to the Southeast corner of Township 8N, Range 3E,
Thence Northerly to the Northeast corner of Township 9N, Range 3E,
Thence Westerly to the Southeast corner of Township 10N, Range 1E,
Thence Northerly to the Northeast corner of Township 13N, Range 1E,
Thence Westerly into the Pacific Ocean, excluding that portion of Northern California contained within the following lines:
Commencing at the Southwest corner of Township 12N, Range 11E, of the Mount Diablo Base and Meridian,
Thence Easterly to the Southeast corner of Township 12N, Range 16E,
Thence Northerly to the Northeast corner of Township 12N, Range 16E,
Thence Westerly to the Southeast corner of Township 13N, Range 15E,
Thence Northerly to the Northeast corner of Township 13N, Range 15E,
Thence Westerly to the Southeast corner of Township 14N, Range 14E,

Thence Northerly to the Northeast corner of Township 16N, Range 14E,
Thence Westerly to the Northwest corner of Township 16N, Range 12E,
Thence Southerly to the Southwest corner of Township 16N, Range 12E,
Thence Westerly to the Northwest corner of Township 15N, Range 11E,
Thence Southerly to the point of beginning at the Southwest corner of Township 12N, Range 11E,
Area 2 shall be all areas not part of Area 1 described above.

Recognized holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

[#] Indicates an apprenticeable craft. The current apprentice wage rates are available on the Prevailing Wage Apprentice Determinations Website (http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp).
[a] For classifications within each group, see Pages 5 – 7.
[b] When three shifts are employed for five (5) or more consecutive days, seven and one-half (7½) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.
[c] Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.
[d] Includes an amount for supplemental dues.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: TEAMSTER (APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)

Determination:
NC-23-261-1-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities:
All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

WAGE RATES AND TOTAL HOURLY RATES (including employer payments):

Classification[a] (Journeyperson)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)[b]	Sunday/ Holiday Overtime Hourly Rate (2 X)
Group 1	$36.95	8	$68.82	$87.30	$87.30	$105.77
Group 2	$37.25	8	$69.12	$87.75	$87.75	$106.37
Group 3	$37.55	8	$69.42	$88.20	$88.20	$106.97
Group 4	$37.90	8	$69.77	$88.72	$88.72	$107.67
Group 5	$38.25	8	$70.12	$89.25	$89.25	$108.37
Group 6	USE DUMP TRUCK YARDAGE RATE					
Group 7	USE APPROPRIATE RATE FOR THE POWER UNIT OR THE EQUIPMENT UTILIZED					
Group 8 (Trainee)[c] [d] Step I – 1st 1000 Hours [e] Step II – 2nd 1000 Hours [f] Step III – 3rd 1000 Hours						

EMPLOYER PAYMENTS:

Type of Fund	Amount per Hour Worked
Health & Welfare	$19.74
Pension	$8.10
Vacation and Holiday	$2.30
Training	$1.00
Other[g]	$0.73

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: TEAMSTER (SPECIAL SINGLE SHIFT RATE)
(APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)

Determination:
NC-23-261-1-2022-1A

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities:
All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

WAGE RATES AND TOTAL HOURLY RATES (including employer payments):

Classification[a] (Journeyperson)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)[b]	Sunday/ Holiday Overtime Hourly Rate (2 X)
Group 1	$38.95	8	$70.82	$90.30	$90.30	$109.77
Group 2	$39.25	8	$71.12	$90.75	$90.75	$110.37
Group 3	$39.55	8	$71.42	$91.20	$91.20	$110.97
Group 4	$39.90	8	$71.77	$91.72	$91.72	$111.67
Group 5	$40.25	8	$72.12	$92.25	$92.25	$112.37
Group 6	USE DUMP TRUCK YARDAGE RATE					
Group 7	USE APPROPRIATE RATE FOR THE POWER UNIT OR THE EQUIPMENT UTILIZED					

Classification[a] (Journeyperson)	Basic Hourly Rate	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)[b]	Sunday/ Holiday Overtime Hourly Rate (2 X)
Group 8 (Trainee)[c] [d] Step I – 1st 1000 Hours [e] Step II – 2nd 1000 Hours [f] Step III – 3rd 1000 Hours						

EMPLOYER PAYMENTS:

Type of Fund	Amount per Hour Worked
Health & Welfare	$19.74
Pension	$8.10
Vacation and Holiday	$2.30
Training	$1.00
Other[g]	$0.73

CLASSIFICATIONS:

GROUP 1

Dump Trucks under 6 yards
Single Unit Flat Rack (2 axle unit)
Nipper Truck (When Flat Rack Truck is used appropriate Flat Rack shall apply)
Concrete pump truck (When Flat Rack Truck is used appropriate Flat Rack shall apply)
Concrete pump machine
Snow Buggy
Steam Cleaning
Bus or Manhaul Driver
Escort or Pilot Car Driver
Pickup Truck
Teamster Oiler/Greaser/and or Serviceman
Hook Tenders
Team Drivers
Warehouseman
Tool Room Attendant (Refineries)
Fork Lift and Lift Jitneys
Warehouse Clerk/Parts Man
Fuel and/or Grease Truck Driver or Fuelman
Truck Repair Helper
Fuel Island Attendant, or Combination Pit and/or Grease Rack and Fuel Island Attendant

GROUP 2

Dump Trucks 6 yards Under 8 yards
Transit Mixers through 10 yards
Water Trucks Under 7000 gals.
Jetting Trucks Under 7000 gals.
Single Unit flat rack (3 axle unit)
Highbed Heavy Duty Transport
Scissor Truck
Rubber Tired Muck Car (not self-loaded)
Rubber Tired Truck Jumbo
Winch Truck and “A” Frame Drivers
Combination Winch Truck With Hoist
Road Oil Truck or Bootman
Buggymobile
Ross, Hyster and similar Straddle Carrier
Small Rubber Tired Tractor
Truck Dispatcher

GROUP 3

Dump Trucks 8 yards and including 24 yards
Transit Mixers Over 10 yards
Water Trucks 7000 gals and over
Jetting Trucks 7000 gals and over
Vacuum Trucks under 7500 gals
Trucks Towing Tilt Bed or Flat Bed Pull Trailers
Heavy Duty Transport Tiller Man
Tire Repairman
Truck Mounted Self Propelled Street Sweeper with or without Self-Contained Refuse Bin and or Vacuum Unit
Boom Truck - Hydro-Lift or Swedish Type Extension or Retracting Crane
P.B. or Similar Type Self Loading Truck
Combination Bootman and Road Oiler
Dry Distribution Truck (A Bootman when employed on such equipment, shall receive the rate specified for the classification of Road Oil Trucks or Bootman)
Ammonia Nitrate Distributor, Driver and Mixer
Snow Go and/or Plow

GROUP 4

Dump Trucks over 25 yards and under 65 yards
Vacuum Trucks 7500 gals and over.
Truck Repairman
Water Pulls - DW 10s, 20s, 21s and other similar equipment when pulling Aqua/pak or Water Tank Trailers
Helicopter Pilots
Lowbed Heavy Duty Transport (up to and including 7 axles)
DW 10s, 20s, 21s and other similar Cat type, Terra Cobra, LeTourneau Pulls, Tournorocker, Euclid and similar type Equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers

GROUP 5
Dump Truck 65 yards and over
Holland Hauler
Lowbed Heavy Duty Transport (over 7 axles)

GROUP 6 (Use dump truck yardage rate)
Articulated Dump Truck
Bulk Cement Spreader (w/ or w/o Auger)
Dumpcrete Truck
Skid Truck (Debris Box)
Dry Pre-Batch Concrete Mix Trucks
Dumpster or Similar Type
Slurry Truck

GROUP 7 (Use appropriate Rate for the Power Unit or the Equipment Utilized)
Heater Planer
Asphalt Burner
Scarifier Burner
Fire Guard
Industrial Lift Truck (mechanical tailgate)
Utility and Clean-up Truck
Composite Crewman

GROUP 8
Trainee

Recognized holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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[a] For classifications within each group, see Pages 5 and 6.
[b] Saturday in the same work week may be worked at straight-time hourly rate if a job is shut down during the normal work week due to inclement weather or major mechanical breakdown, or lack of materials beyond the control of the Employer.
[c] An individual employer may employ one (1) trainee for every four (4) journey level Teamsters actively employed. Individual employers with less than four (4) journey level Teamsters may utilize one (1) trainee; thereafter, one (1) for every four (4) journey level Teamsters.
[d] Sixty-five percent (65%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.
[e] Seventy-five percent (75%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.
[f] Eighty-five percent (85%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.
[g] Supplemental Dues and Contract Administration.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: Cement Mason[#]

Determination:
NC-23-203-1-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023 * Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Wages and Employer Payments:

Classification (Journeyperson)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday[a]	Training	Other	Hours[b]	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)[cd]	Sunday/ Holiday Overtime Hourly Rate (2 X)
Cement Mason	$42.85	$9.00	$11.86	$6.15	$0.60	$0.10	8.0	$70.56	$91.985	$91.985	$113.41
Mastic Magnesite Gypsum, Epoxy, Polyester, Resin and all composition masons, swing or slip form scaffolds	$43.85	$9.00	$11.86	$6.15	$0.60	$0.10	8.0	$71.56	$93.485	$93.485	$115.41

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: Cement Mason (Special Single Shift)[#]

Determination:
NC-23-203-1A-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023 * Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Wages and Employer Payments:

Classification (Journeyperson)	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday [a]	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X) [cd]	Sunday/ Holiday Overtime Hourly Rate (2 X)
Cement Mason	$45.85	$9.00	$11.86	$6.15	$0.60	$0.10	8.0	$73.56	$96.485	$96.485	$119.41
Mastic Magnesite Gypsum, Epoxy, Polyester, Resin and all composition masons, swing or slip form scaffolds	$46.85	$9.00	$11.86	$6.15	$0.60	$0.10	8.0	$74.56	$97.985	$97.985	$121.41

Recognized holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of

Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

[#] Indicates an apprenticeable craft. The current apprentice wage rates are available on the Prevailing Wage Apprentice Determinations Website (http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp).
[a] Includes an amount for supplemental dues.
[b] Where multiple shifts are worked, the day shift shall work eight (8) hours and for such work they shall be paid the regular straight time rate for eight (8) hours; the second (2nd) shift shall work seven and one-half (7 ½) hours, and for such work they shall be paid the regular straight time rate for eight (8) hours; if a third (3rd) shift is worked, they shall work seven (7) hours and for such work they shall be paid eight (8) hours regular straight time pay. No multiple shift shall be started for less than five (5) consecutive days.
[c] Saturdays in the same work week may be worked at straight time if a job is shut down during the normal work week due to inclement weather or major mechanical breakdown (limited to curb and gutter machine, concrete pump, and concrete plant).
[d] Rate applies to the first 8 hours of work on Saturday. All other hours worked on Saturday are paid at the Sunday/Holiday rate.

PREDETERMINED INCREASE

CRAFT:
Slurry Seal Worker (Laborer)

DETERMINATION:
NC-23-102-1B-2022-1

LOCALITIES:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba Counties.

These predetermined increases apply to the above referenced determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2022 until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project, has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

Slurry Seal Worker (Laborer): Mixer Operator
Determination NC-23-102-1B-2022-1 is currently in effect and expires on March 31, 2023**.

Effective April 1, 2023, there will be an increase of $2.00 to be allocated to wages and/or fringes.

There will be no further increases applicable to this determination.

Slurry Seal Worker (Laborer): Shuttle/Line Driver Determination
Determination NC-23-102-1B-2022-1 is currently in effect and expires on March 31, 2023**.

Effective April 1, 2023, there will be an increase of $2.00 to be allocated to wages and/or fringes.

There will be no further increases applicable to this determination.

Slurry Seal Worker (Laborer): Squeegee/Sealer
Determination NC-23-102-1B-2022-1 is currently in effect and expires on March 31, 2023**.

Effective April 1, 2023, there will be an increase of $2.00 to be allocated to wages and/or fringes.

There will be no further increases applicable to this determination.

Slurry Seal Worker (Laborer): Utility Maintenance Man
Determination NC-23-102-1B-2022-1 is currently in effect and expires on March 31, 2023**.

Effective April 1, 2023, there will be an increase of $2.00 to be allocated to wages and/or fringes.

There will be no further increases applicable to this determination.

Issued 8/22/2022, effective 9/1/2022 until superseded.
This page will be updated when wage rate breakdown information becomes available.
Last Updated: September 1, 2022

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: Slurry Seal Worker (Laborer)

Determination:
NC-23-102-1B-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
March 31, 2023** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

Localities:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Wages and Employer Payments:

Classification (Journeyperson)	Basic Hourly Rate[a]	Health and Welfare	Pension	Vacation and Holiday	Training	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)	Saturday Overtime Hourly Rate (1 ½ X)[b]	Holiday Overtime Hourly Rate (2 X)
Mixer Operator	$41.27	$9.60	$11.15	$3.05	$0.10	8.0	$65.17	$85.81	$85.81	$106.44
Shuttle/Line Driver	$35.27	$9.60	$11.15	$3.05	$0.10	8.0	$59.17	$76.81	$76.81	$94.44
Squeegee/Sealer	$33.77	$9.60	$11.15	$3.05	$0.10	8.0	$57.67	$74.56	$74.56	$91.44
Utility-Maintenance Man	$32.77	$9.60	$11.15	$3.05	$0.10	8.0	$56.67	$73.06	$73.06	$89.44

Recognized holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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[a] Zone Pay at three dollars ($3.00) per hour, factored at the applicable overtime multiplier, will be added to the base rate for work performed outside the Free Zone described by the boundaries along township and range lines. Please see travel and subsistence provision for map description and exceptions.
[b] Saturdays in the same work week may be worked at straight-time if job is shut down during the normal work week due to inclement weather, major mechanical breakdown or lack of materials beyond the control of the employer.

PREDETERMINED INCREASE

CRAFT:
Traffic Control/Lane Closure (Laborer) and Parking and Highway Improvement Painter (Laborer)

DETERMINATIONS:
NC-23-102-13-2022-2 and NC-23-102-13-2022-2A

LOCALITIES:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Marin, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin[a], San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne[a], Yolo[a], and Yuba Counties.

The predetermined increases for the above named crafts apply only to the current determinations for work being performed on public works projects with bid advertisement dates on or after September 1, 2022, until these determinations are superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

TRAFFIC CONTROL/LANE CLOSURE (LABORER) and PARKING AND HIGHWAY IMPROVEMENT PAINTER (LABORER)
Determinations NC-23-102-13-2022-2 and NC-23-102-13-2022-2A are currently in effect and expire on June 30, 2023**.

Effective July 1, 2023, there will be an increase of $2.50 to be allocated to wages and/or fringes.
Effective July 1, 2024, there will be an increase of $2.60 to be allocated to wages and/or fringes.
Effective July 1, 2025, there will be an increase of $2.65 to be allocated to wages and/or fringes.
Effective July 1, 2026, there will be an increase of $2.65 to be allocated to wages and/or fringes.

There will be no further increases applicable to these determinations.

Issued 8/22/2022, Effective 9/1/2022 until superseded.
This page will be updated when wage rate breakdown information becomes available.
Last Updated: September 1, 2022

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[a] County not covered by Parking and Highway Improvement Painter (Laborer) - Striper and Related Classifications.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: #TRAFFIC CONTROL/LANE CLOSURE (LABORER)[a]
AND
 # PARKING AND HIGHWAY IMPROVEMENT PAINTER (LABORER)

Determination:
NC-23-102-13-2022-2

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

Localities:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

AREA 1 - Alameda, Contra Costa, Marin, San Francisco, San Mateo and Santa Clara Counties.
AREA 2 - Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba Counties.

Wages and Employer Payments (Area 1):

Classification **TRAFFIC CONTROL AND RELATED CLASSIFICATIONS**	Basic Hourly Rate	Health and Welfare[b]	Pension[c]	Vacation and Holiday[d]	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)[e]	Saturday Overtime Hourly Rate (1 ½ X)[ef]	Sunday/ Holiday Overtime Hourly Rate (2 X)[g]
Traffic Control Person I	$36.31	$9.60	$13.86	$3.05	$0.50	$0.30	8	$63.62	$81.775	$81.775	$99.93
Traffic Control Person II	$33.81	$9.60	$13.86	$3.05	$0.50	$0.30	8	$61.12	$78.025	$78.025	$94.93
Construction Zone Traffic Control Pilot Car, Flag Person	$36.01	$9.60	$13.86	$3.05	$0.50	$0.30	8	$63.32	$81.325	$81.325	$99.33

Wages and Employer Payments (Area 2):

Classification **TRAFFIC CONTROL AND RELATED CLASSIFICATIONS**	Basic Hourly Rate	Health and Welfare[b]	Pension[c]	Vacation and Holiday[d]	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)[e]	Saturday Overtime Hourly Rate (1 ½ X)[ef]	Sunday/ Holiday Overtime Hourly Rate (2 X)[g]
Traffic Control Person I	$35.31	$9.60	$13.86	$3.05	$0.50	$0.30	8	$62.62	$80.275	$80.275	$97.93
Traffic Control Person II	$32.81	$9.60	$13.86	$3.05	$0.50	$0.30	8	$60.12	$76.525	$76.525	$92.93
Construction Zone Traffic Control Pilot Car, Flag Person	$35.01	$9.60	$13.86	$3.05	$0.50	$0.30	8	$62.32	$79.825	$79.825	$97.33

Determination:
NC-23-102-13-2022-2A

Issue Date:
August 22, 2022

Expiration date of determination:
June 30, 2023** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

Localities:
All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, and Yuba Counties.

Wages and Employer Payments:

Classification **STRIPER AND RELATED CLASSIFICATIONS**	Basic Hourly Rate	Health and Welfare[b]	Pension[c]	Vacation and Holiday[d]	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X)[e]	Saturday Overtime Hourly Rate (1 ½ X)[ef]	Sunday/ Holiday Overtime Hourly Rate (2 X)[g]
Group 1	$39.20	$9.60	$13.25	$3.05	$0.50	$0.27	8	$65.87	$85.470	$85.470	$105.07
Group 2	$37.70	$9.60	$13.25	$3.05	$0.50	$0.27	8	$64.37	$83.220	$83.220	$102.07
Group 3	$35.95	$9.60	$13.25	$3.05	$0.50	$0.27	8	$62.62	$80.595	$80.595	$98.57
Group 4	$33.85	$9.60	$13.25	$3.05	$0.50	$0.27	8	$60.52	$77.445	$77.445	$94.37

Group 1
Traffic Striping Applicator

Group 2
Traffic Delineating Device Applicator
Traffic Protective System Installer
Pavement Markings Applicator
Decorative Asphalt Surfacing Applicator

Group 3
Traffic Surface Abrasive Blaster
Pot Tender

Group 4
Parking Lots, Game Courts & Playground Striping Applicator
Decorative Asphalt Surfacing Laborer

Recognized holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

[#] Indicates an apprenticeable craft. The current apprentice wage rates are available on the Prevailing Wage Apprentice Determinations Website (http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp).

[a] The rates of the Laborer classifications for the craft of Traffic Control/Lane Closure (Laborer) do not apply to traffic control work associated with parking and highway improvement projects in San Joaquin, Tuolumne, and Yolo Counties. For traffic control work associated with parking and highway improvement projects in these three counties, the minimum rate of pay is that of the Painter classifications for the craft of Parking and Highway Improvement Painter (Painter).

[#] Indicates an apprenticeable craft. The current apprentice wage rates are available on the Prevailing Wage Apprentice Determinations Website (http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp).

[b] Includes an amount for Retiree Health & Welfare.

[c] Includes an amount for the Annuity Trust Fund.

[d] Includes an amount for Supplemental Dues.

[e] One and one-half (1-1/2) the straight time hourly rate of pay shall be paid for all work performed in excess of forty hours (40) a week or eight hours (8) a day and the sixth (6th) consecutive day worked or Saturdays.

[f] Saturdays or scheduled sixth (6th) consecutive work day in the same work week may be worked at straight-time if the job is shut down during the normal work week due to inclement weather, major mechanical breakdown or lack of materials beyond the control of the employer.

[g] Two times (2x) the straight time hourly rate of pay shall be paid for all work performed on the seventh (7th) consecutive day worked, or Sundays and holidays.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

Craft: # Parking and Highway Improvement Painter (Painter) [a]

Determination:
NC-200-X-17-2022-1

Issue Date:
August 22, 2022

Expiration date of determination:
June 25, 2023* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities:
All localities within San Joaquin, Tuolumne and Yolo Counties.

Wages and Employer Payments:

Classification	Basic Hourly Rate[b]	Health and Welfare	Pension	Vacation and Holiday[c]	Training	Other	Hours	Total Hourly Rate	Daily Overtime Hourly Rate (1 ½ X) [d]	Daily Overtime Hourly Rate (2 X)	Holiday Overtime Hourly Rate (2 X)
Striper; Layout and application of painted traffic stripes; hot thermo plastic; tape traffic stripes	$40.44	$10.70	$6.82	$0.00	$0.10	$0.00	8	$58.06	$78.28	$98.50	$98.50
Parking Lots, Gamecourts, Playgrounds	$34.37	$10.70	$6.82	$0.00	$0.10	$0.00	8	$51.99	$69.175	$86.36	$86.36
Protective Coating, Resurfacing, Pavement Sealing, Including Repair When Done in Conjunction With Pavement Sealing	$34.78	$10.70	$6.82	$0.00	$0.10	$0.00	8	$52.40	$69.79	$87.18	$87.18

Recognized holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the

Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Director's General Prevailing Wage Determinations Website (http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

[#] Indicates an apprenticeable craft. The current apprentice wage rates are available on the Prevailing Wage Apprentice Determinations Website (http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp).
[a] The minimum rate of pay for traffic control work associated with parking and highway improvement projects is that of the Painter classifications for the craft of Parking and Highway Improvement Painter (Painter) in San Joaquin, Tuolumne, and Yolo Counties.
[b] Includes an amount withheld for Dues Check-Off.
[c] Included in Basic Hourly Rate ($2.74). Rate applies to the first 9 years of employment only; $3.13 per hour worked for 10 years or more.
[d] Rate applies to first 4 overtime hours in any one day and for work in excess of 40 hours in any one designated work week. All other overtime is paid at the double time rate.

END OF SPECIAL PROVISIONS

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Item C-100 Contractor Quality Control Program (CQCP)

100-1 General. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The Contractor shall establish a CQCP that will:

- **a.** Provide qualified personnel to develop and implement the CQCP.
- **b.** Provide for the production of acceptable quality materials.
- **c.** Provide sufficient information to assure that the specification requirements can be met.
- **d.** Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the Resident Project Representative (RPR). No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction. The QC/QA workshop will be facilitated by the Contractor. The Contractor shall coordinate with the Airport and the RPR on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

- **a.** Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.
- **b.** Discussion of the QA program.
- **c.** Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.
- **d.** Establish regular meetings to discuss control of materials, methods and testing.
- **e.** Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-

site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the RPR prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least 10 calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the RPR prior to the Notice to Proceed (NTP).

The CQCP shall be organized to address, as a minimum, the following:

1. QC organization and resumes of key staff
2. Project progress schedule
3. Submittals schedule
4. Inspection requirements
5. QC testing plan
6. Documentation of QC activities and distribution of QC reports
7. Requirements for corrective action when QC and/or QA acceptance criteria are not met
8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet at least one of the following requirements:

(1) Professional Engineer with one (1) year of airport paving experience.

(2) Engineer-in-training with two (2) years of airport paving experience.

(3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.

(4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.

(2) Performance of all QC tests as required by the technical specifications and paragraph100-8.

(3) Performance of tests for the RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

100-4 Project progress schedule. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

100-5 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

a. Specification item number

b. Item description

c. Description of submittal

d. Specification paragraph requiring submittal

e. Scheduled date of submittal

100-6 Inspection requirements. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

a. For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

b. For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation:

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401)

b. Item description (e.g., Hot Mix Asphalt Pavements)

c. Test type (e.g., gradation, grade, asphalt content)

d. Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)

e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)

f. Responsibility (e.g., plant technician)

g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

(1) Technical specification item number and description

(2) Compliance with approved submittals

(3) Proper storage of materials and equipment

(4) Proper operation of all equipment

(5) Adherence to plans and technical specifications

(6) Summary of any necessary corrective actions

(7) Safety inspection.

(8) Photographs and/or video

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

(1) Technical specification item number and description

(2) Test designation

(3) Location

(4) Date of test

(5) Control requirements

(6) Test results

(7) Causes for rejection

(8) Recommended remedial actions

(9) Retests

Test results from each day's work period shall be submitted to the RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the RPR at the site for the same purpose.

Inspection and/or observations by the RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

a. The Resident Project Representative (RPR) will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the RPR will recommend the Owner take the following actions:

(1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

100-13 Basis of measurement and payment. Contractor Quality Control Program (CQCP) is for the personnel, tests, facilities and documentation required to implement the CQCP. The CQCP shall be considered incidental and no separate measurement shall be made.

BASIS OF PAYMENT

100-14 Payment will be made under: The CQCP shall be considered incidental and no separate payment shall be made.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

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Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control

DESCRIPTION

102-1. This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods. Control measures shall also be in accordance with the Storm Water Pollution Prevention Plan (SWPPP).

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

MATERIALS

102-2.1 Grass. Not Used.

102-2.2 Mulches. Not Used.

102-2.3 Fertilizer. Not Used.

102-2.4 Slope drains. Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.

102-2.5 Fiber Roll. Fiber roll must be a premanufactured roll filled with rice or wheat straw, wood excelsior, or coconut fiber. Fiber roll must be covered with biodegradable jute, sisal, or coir fiber netting secured tightly at each end and must be one of the following: (1) 8 to 10 inches in diameter and at least 1.1 lb/ft (2) 10 to 12 inches in diameter and at least 3 lb/ft.

102-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

102-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

A Storm Water Pollution Prevention Plan (SWPPP) is included as part of this specification.

The RPR shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary erosion control work for clearing and grubbing; grading; construction; and paving. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

102-3.3 Construction details. The Contractor will be required to incorporate all erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion may be a problem, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the RPR.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the RPR. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

102-3.4 Installation, maintenance and removal of fiber roll. Before installing fiber roll remove obstructions from the ground, including rocks, clods, and debris greater than 1 inch in diameter. Install fiber roll approximately parallel to the slope contour. For any 20-foot section of fiber roll, prevent the fiber roll from varying more than 5 percent from level. Fasten with notched wood stakes and rope. Drive stakes into the soil until the notch is even with the top of the fiber roll. Lace the rope between stakes and over the fiber roll. Knot the rope at each stake. Tighten the fiber roll to the surface of the slope by driving the stakes further into the soil.

Maintain fiber roll in a way that provides sediment holding capacity and reduces runoff velocities as

follows: (1) Remove sediment from behind the fiber roll if sediment is 1/3 of fiber roll height above ground. (2) Repair or adjust the fiber roll if rills or other evidence of concentrated runoff occur beneath the fiber roll. (3) Repair or replace the fiber roll if they become split, torn, or unraveled. (4) Add stakes if the fiber roll slumps or sags. (5) Replace broken or split wood stakes. (6) Remove sediment deposits, trash, and debris from fiber roll as needed. If removed sediment is deposited within project limits, it must be stabilized and not exposed to erosion by wind or water. Fiber roll shall be removed upon approval of the RPR.

METHOD OF MEASUREMENT

102-4.1 Temporary and permanent erosion and pollution control work required will be performed as scheduled or directed by the RPR. Measures and practices shall include, but not be limited to, air pollution prevention, water pollution prevention, temporary seeding, temporary mulching, construction road stabilization, dust control protecting vegetation, and erosion and sediment control practices required dues to the Contractor's means and methods of construction, and for borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites.

102-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

BASIS OF PAYMENT

102-5.1 Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the RPR and measured as provided in paragraph 102-4.1.will be paid for under:

Item C-102-5.1 Compliance with Pollution, Erosion, and Siltation Control – per lump sum

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the RPR will be paid for in accordance with Section 90, paragraph 90-05 *Payment for Extra Work*.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33 *Hazardous Wildlife Attractants on or Near Airports*

AC 150/5370-2 *Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461 *Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

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Item C-105 Mobilization

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-2 Mobilization limit. Mobilization shall be limited to 6 percent of the total project cost.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4 Engineer/RPR field office: An Engineer/RPR field office is not required.

METHOD OF MEASUREMENT

105-5 .1 Measurement for payment of mobilization will be made on a lump sum basis. Measurement for partial payment of mobilization will be made based percentage of work completed in accordance with the schedule shown in Section 6.1.

BASIS OF PAYMENT

105-6.1 Payment for mobilization will be made on a lump sum basis. Based upon the contract lump sum price for "Mobilization" partial payments will be allowed as follows:

a. With first pay request, 25%.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 40%.

d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, *Contractor Final Project Documentation,* the final 10%.

Payment will be made under:

Item C-105-6.1 Mobilization (6% max.) – per lump sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

Item C-106 Safety, Security and Maintenance of Traffic

DESCRIPTION

106-1.1 General. This work shall consist of maintaining aircraft and vehicular traffic and protecting the public from damage to person and property within the limits of and for the duration of the Contract, and as specified in the Construction Safety and Phasing Plan, Appendix A to Section 70.

Contractor is responsible for maintenance and repair of these items, regardless of cause of damage, until the project is accepted.

The following items are specifically included without limiting the generality implied by these Specifications and the Contract Drawings. Contractor is responsible for maintenance and repair of these items, regardless of cause of damage, until the project is accepted.

- Restoration of all surfaces disturbed as a result of the Contractor's Operations which are not otherwise paid for.
- Installation, maintenance, repair and removal of temporary access roads and maintenance and repair of existing access roads, including dust control measures.
- Installation, maintenance, repair and removal of temporary security fencing and gates.
- Installation, maintenance, repair and removal of temporary barricades, barricade lights, barricade flags, warning signs and hazard markings.
- Installation, maintenance, repair and removal of temporary lights and lighting circuits. Temporary above ground lighting cables shall be delineated with stakes and flagging in turf areas and barricades in paved areas.
- Installation, maintenance, repair and removal of temporary NAVAIDS.
- Installation, maintenance, repair and removal of temporary lighted closed runway markers.
- Installation, maintenance, repair and removal of temporary closed taxiway markers.
- Testing and maintenance of existing and new lighting circuitry.
- Cleaning and maintenance of all paved areas.
- Security requirements, including driver training.
- Any other items that are not mentioned above but are reasonably expected to be on site for safety.

The Owner will be responsible for moving parked aircraft which interfere with the work of this Contract. Contractor shall give the Owner adequate notice of the intended work schedule to allow the Owner time to accommodate the schedule.

METHOD OF MEASUREMENT

106-2.1 Measurement for payment of safety, security and maintenance of traffic will be made on a lump sum basis. Measurements for partial payment may be made at the discretion of the RPR as the work progresses based on contract time or percent of work completed.

BASIS OF PAYMENT

106-3.1 The lump sum price bid for safety, security and maintenance of traffic shall include all equipment, materials, labor and incidentals necessary to adequately and safely maintain and protect traffic.

In the event the contract completion date is extended, no additional payment will be made for safety, security and maintenance of traffic.

Partial payments of the lump sum price bid may be made for this item at the discretion of the RPR as the work progresses based on contract time or work completed, less any deductions for unsatisfactory safety, security and maintenance of traffic.

No payment will be made under safety, security and maintenance of traffic for each calendar day during which there are substantial deficiencies in compliance with the Specification requirements of any subsection of this Section as determined by the RPR.

The amount of such calendar day non-payment will be determined by dividing the lump sum amount bid for safety, security and maintenance of traffic by the number of calendar days between the date the Contractor commences work and the date of completion as designated in this proposal, without regard to any extension of time.

If the Contractor fails to maintain and protect traffic adequately and safely for a period of 24 hours, the Owner shall correct the adverse conditions by any means it deems appropriate and shall deduct the cost of the corrective work from any monies due the Contractor. The cost of this work shall be in addition to the liquidated damages and non-payment for safety, security and maintenance of traffic listed above.

However, where major nonconformance with the requirements of this Specification is noted by the RPR and prompt Contractor compliance is deemed not to be obtainable, all contract work may be stopped by direct order of the RPR regardless of whether corrections are made by the Owner as stated in the paragraph above.

Payment will be made under:

C-106-3.1	Safety, Security and Maintenance of Traffic - per lump sum

END OF ITEM C-106

Item P-101 Preparation/Removal of Existing Pavements

DESCRIPTION

101-1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

EQUIPMENT AND MATERIALS

101-2.1 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

101-2.2 Bituminous concrete pavement. Materials for bituminous concrete pavement shall be in accordance with Item P-403, Asphalt Mix Pavement.

101-2.3 Emulsified asphalt. The emulsified asphalt shall conform to the requirements of ASTM D 977 or ASTM D 2397.

101-2.4 Herbicide. Herbicide shall be a commercially produced product made specifically for killing plants and their root systems. Herbicides shall be packaged in standard sealed containers marked with the name of the material, the name of the manufacturer, the net quantity contained therein and shall be in accordance with the provisions of the Federal and State Rules and Regulations in effect at the time of delivery.

101-2.5 Tack coat. Tack coat shall be in accordance with Item P-603, Emulsified Asphalt Tack Coat.

101-2.6 Surface treatment. Surface treatment shall be in accordance with Item P-608, Emulsified Asphalt Seal Coat.

CONSTRUCTION

101-3.1 Removal of existing pavement.

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

a. Concrete pavement removal.

Full depth saw cuts shall be made perpendicular to the slab surface. The Contractor shall saw through the full depth of the slab including any dowels at the joint, removing the pavement. Where required, contractor shall install new dowels as shown on the plans and per the specifications. Where the perimeter of the removal limits is not located on the joint and there are no dowels present, the perimeter shall be saw cut the full depth of the pavement. The pavement inside the saw cut shall be removed by methods which will not cause distress in the pavement which is to remain in place. If the material is to be wasted on the airport site, it shall be reduced to a maximum size of 24 inches in any direction. Concrete slabs that are damaged by under breaking shall be repaired or removed and replaced as directed by the RPR.

The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Spall and underbreak repair shall be in accordance with the plans. Any underlaying

material that is to remain in place, shall be recompacted and/or replaced as shown on the plans. Adjacent areas damaged during repair shall be repaired or replaced at the Contractor's expense.

b. Asphalt pavement removal.

Asphalt pavement to be removed shall be saw cut to the full depth of the asphalt pavement around the perimeter of the area to be removed if there will be no new pavement installed abutting the cut, or if new Portland cement concrete pavement will be installed abutting the cut. If there will be new asphalt pavement installed adjacent to the cut, the pavement shall be cut to the depth of the new adjacent layer/lift such that the joint for each layer/lift of pavement replacement is offset 2 foot from the joint in the preceding layer/lift. The material shall be disposed of off airport site in accordance with paragraph 101-3.10. Every effort should be made by the Contactor to recycle or re-use the material in other projects.

c. Repair or removal of Base, Subbase, and/or Subgrade.

All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment. Remove all vegetation and debris from cracks to a minimum depth of 1 inch (25 mm). If extensive vegetation exists, treat the specific area with a concentrated solution of a water-based herbicide approved by the RPR. Fill all cracks greater than 1/4 inch (6 mm) wide with a crack sealant per ASTM D6690. The crack sealant, preparation, and application shall be compatible with the surface treatment/overlay to be used. To minimize contamination of the asphalt with the crack sealant, underfill the crack sealant a minimum of 1/8 inch (3 mm), not to exceed ¼ inch (6 mm). Any excess joint or crack sealer shall be removed from the pavement surface.

Wider cracks (over 11/2 inch wide (38 mm)), along with soft or sunken spots, indicate that the pavement or the pavement base should be repaired or replaced as stated below.

Cracks and joints may be filled with a mixture of emulsified asphalt and aggregate. The aggregate shall consist of limestone, volcanic ash, sand, or other material that will cure to form a hard substance. The combined gradation shall be as shown in the following table.

Gradation

Sieve Size	Percent Passing
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	90-100
No. 16 (1.18 mm)	65-90
No. 30 (600 µm)	40-60
No. 50 (300 µm)	25-42
No. 100 (150 µm)	15-30
No. 200 (75 µm)	10-20

Up to 3% cement can be added to accelerate the set time. The mixture shall not contain more than 20% natural sand without approval in writing from the RPR.

The proportions of asphalt emulsion and aggregate shall be determined in the field and may be varied to facilitate construction requirements. Normally, these proportions will be approximately one part asphalt emulsion to five parts aggregate by volume. The material shall be poured or placed into the joints or cracks and compacted to form a voidless mass. The joint or crack shall be filled to within +0 to -1/8 inches (+0 to

-3 mm) of the surface. Any material spilled outside the width of the joint shall be removed from the pavement surface prior to constructing the overlay. Where concrete overlays are to be constructed, only the excess joint material on the pavement surface and vegetation in the joints need to be removed.

101-3.3 Removal of Foreign Substances/contaminates prior to overlay, seal-coat or remarking.

Removal of foreign substances/contaminates from existing pavement that will affect the bond of the new treatment shall consist of removal of rubber, fuel spills, oil, crack sealer, at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction.

High-pressure water, heater scarifier (asphaltic concrete only), cold milling, rotary grinding, or sandblasting may be used. Removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch (3 mm) deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of foreign substances shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be disposed of in accordance with paragraph 101-3.10.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair.

a. Repair of concrete spalls in areas to be overlaid with asphalt. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The perimeter of the repair shall be saw cut a minimum of 4 inches (100 mm) outside the affected area and 2 inches (50 mm) deep. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphalt mixture with aggregate sized appropriately for the depth of the patch. The material shall be compacted with equipment approved by the RPR until the material is dense and no movement or marks are visible. The material shall not be placed in lifts over 4 inches (100 mm) in depth. This method of repair applies only to pavement to be overlaid.

b. Asphalt pavement repair. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. Materials and methods of construction shall comply with the applicable sections of these specifications.

101-3.5 Cold milling.

Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlaying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be removed and disposed off Airport property . If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor’s Expense.

a. Patching. The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. The RPR shall layout the area to be milled with a straightedge in increments of 1-foot (30 cm) widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn’t have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor’s Expense.

b. Profiling, grade correction, or surface correction. The milling machine shall have a minimum width of 7 feet (2 m) and it shall be equipped with electronic grade control devices that will cut the surface to the grade specified. The tolerances shall be maintained within +0 inch and -1/4 inch (+0 mm and -6mm) of the specified grade. The machine must cut vertical edges and have a positive method of dust control. The machine must have the ability to remove the millings or cuttings from the pavement and load them into a truck. All millings shall be removed and disposed of off the airport .

c. Clean-up. The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed off Airport property.

101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment. Existing asphalt pavements to be treated with a surface treatment shall be prepared as follows:

a. Patch asphalt pavement surfaces that have been softened by petroleum derivatives or have failed due to any other cause. Remove damaged pavement to the full depth of the damage and replace with new asphalt pavement similar to that of the existing pavement in accordance with paragraph 101-3.4b.

b. Repair joints and cracks in accordance with paragraph 101-3.2.

c. Remove oil or grease that has not penetrated the asphalt pavement by scrubbing with a detergent and washing thoroughly with clean water. After cleaning, treat these areas with an oil spot primer.

d. Clean pavement surface immediately prior to placing the surface treatment so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film.

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 Preparation of Joints in Rigid Pavement prior to resealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the joint and does not damage the joint.

101-3.8.1 Removal of Existing Joint Sealant. All existing joint sealants will be removed by plowing or use of hand tools. Any remaining sealant and or debris will be removed by use of wire brushes or other tools as necessary. Resew joints removing no more than 1/16 inch (2 mm) from each joint face. Immediately after sawing, flush out joint with water and other tools as necessary to completely remove the slurry.

101-3.8.2 Cleaning prior to sealing. Immediately before sealing, joints shall be cleaned by removing any remaining laitance and other foreign material. Allow sufficient time to dry out joints prior to sealing. Joint surfaces will be surface-dry prior to installation of sealant.

101-3.8.3 Joint sealant. Joint material and installation will be in accordance with Item P-605.

101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the cracks and does not damage the pavement.

101-3.9.1 Preparation of Crack. Widen crack with random crack saw by removing a minimum of 1/16 inch (2 mm) from each side of crack. Immediately before sealing, cracks will be blown out with a hot air lance combined with oil and water-free compressed air.

101-3.9.2 Removal of Existing Crack Sealant. Existing sealants will be removed by random crack saw. Following sawing any remaining debris will be removed by use of a hot lance combined with oil and water-free compressed air.

101-3.9.3 Crack Sealant. Crack sealant material and installation will be in accordance with Item P-605.

101-3.9.4 Removal of Pipe and other Buried Structures.

a. Removal of Existing Pipe Material. Not used.

b. Removal of Inlets/Manholes. Where indicated on the plans or as directed by the RPR, inlets and/or manholes shall be removed and legally disposed of off-site in a timely fashion after removal. Excavations after removal shall be backfilled with material equal or better in quality than adjacent embankment. When under paved areas must be compacted to 95% of ASTM D698, when outside of paved areas must be compacted to 95% of ASTM D698.

101-3.10 Spoil. All oversize material and any other debris exceeding 2 inches shall be removed and disposed of off airport property at the expense of the Contractor, before the addition of cement and water to the material.

Excess excavated material which cannot be incorporated in the work in accordance with Item P-152, Excavation, Subgrade and Embankment, and all other spoil material shall be disposed of off property at a location selected by the contactor.

Prior to placing spoil off airport property, Contractor shall submit a "Spoil Deposition and Release" to the RPR. A sample form is contained in Attachment A to Section 70-08 of these Specifications and shall be acceptable to the RPR prior to removing material from the work area.

No direct payment will be made for spoiling operations. The cost of spoiling material off-site shall be considered incidental to this Contract and the costs shall be included in the various pay items involved.

METHOD OF MEASUREMENT

101-4.1 Pavement removal. The unit of measurement for the pavement section removal shall be the square yard. Any portion of pavement section removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal. Dowel bar installation shall be incidental to pavement removal.

101-4.2 Preparation of Joints and cracks. The unit of measurement for joint and crack repair shall be by the linear foot.

101-4.3 Removal of Foreign Substances/contaminates. The unit of measurement for foreign Substances/contaminates removal shall be the square foot.

101-4.4 Cold milling. The unit of measure for cold milling shall be for removal of existing bump in pavement (less than 1 inch depth) per by the square yard. The location and average depth of the cold milling shall be as shown on the plans. If the initial cut does not correct the condition, the Contractor shall re-mill the area at their own expense to correct the condition.

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P 101-5.1	Filling of Cracks 1/4" to 1” Wide – per linear foot
Item P 101-5.2	Removal of Rubber – per square foot
Item P-101-5.3	Micro-mill Existing Pavement Bump (0.2” Depth) - per square yard
Item P-101-5.4	Remove Existing Asphalt Concrete Structural Section (34” Depth) – per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5380-6	Guidelines and Procedures for Maintenance of Airport Pavements.

ASTM International (ASTM)

ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

END OF ITEM P-101

Item P-152 Excavation, Subgrade, and Embankment

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

a. Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature. Material shall be disposed of off-site of the airport property. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared in accordance with Item P-101.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of off-site of the airport property.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches (100 mm), to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the

ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

Digital terrain model (DTM) files of the existing surfaces, finished surfaces and other various surfaces were used to develop the design plans.

Volumetric quantities were calculated by comparing DTM files of the applicable design surfaces and generating Triangle Volume Reports. Electronic copies of DTM files and a paper copy of the original topographic map will be issued to the successful bidder.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor shall verify the accuracy of the existing ground surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot (30 mm) of the stated elevations for ground surfaces, or within 0.04 foot (12 mm) for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All material shall be disposed of off airport site in accordance with Item P-101. Every effort should be made by the Contactor to recycle or re-use the material in other projects.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches (300 mm) below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed off the airport. The cost is incidental to this item. This excavated material shall be paid for at the contract unit price per cubic yard for unclassified excavation. The excavated

area shall be backfilled with suitable material obtained from the grading operations and compacted to specified densities. The necessary backfill will constitute a part of the embankment. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by the Contractor, as indicated on the plans. All existing foundations shall be excavated at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 Borrow excavation. Borrow areas are not required.

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 12 inches (300 mm) of subgrade shall be compacted to not less than 100 % of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm) and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches (300 mm) and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's

demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches (150 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within ±2% of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The RPR will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D698. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the RPR for every 3,000 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

On all areas outside of the pavement and soil stabilization areas, no compaction will be required on the top 4 inches (75 mm).

The in-place field density shall be determined in accordance with ASTM D1556, or ASTM 6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. The RPR shall perform all density tests. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 12 inches (300 mm) of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet (60 cm) in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet (1.2 m) below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. After compaction is completed, the subgrade area shall be proof rolled with a 20 ton (18.1 metric ton) Tandem axle Dual Wheel Dump Truck loaded to the legal limit with tires inflated to 80psi in the presence of the RPR. Apply a minimum of 75% coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch (25 mm) or show permanent deformation greater than 1 inch (25 mm) shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 12 inches (300 mm) and to a density of not less than 100 percent of the maximum dry density as determined by ASTM D698. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches (300 mm) and to a density of not less than 95 percent of the maximum density as determined by ASTM D698.

The material to be compacted shall be within ±2% of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the ¾ inch (19.0 mm) sieve, follow the methods in ASTM D698 and the procedures in AASHTO T180 Annex for correction of maximum dry density and optimum moisture for oversized particles. Tests for moisture content and compaction will be taken at a minimum of 3,000 S.Y. of subgrade. All quality assurance testing shall be done by the RPR.

The in-place field density shall be determined in accordance with ASTM D1556, or ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence

of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than +/- ½ inch (12 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Grade. The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +/- 0.05 feet (15 mm) of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to placed, grade shall not vary more than 0.10 feet (30 mm) from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. Not Used.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard shall be computed by the use of digital terrain model (DTM) surfaces used for the computation of neat line design quantities. The surfaces shall be the original ground line established by field cross-sections and the final theoretical surface shown on the plans, subject to verification by the RPR.

Prior to determination of final quantities, the Engineer will field verify that the Contractor has met grading tolerances by means of field cross sections. Field cross sections will be taken randomly at intervals not exceeding 500 feet, however, a minimum of three sections will be taken for each baseline or centerline.

If the final grades are in tolerance and acceptable to the Engineer and Owner, then no adjustments will be made to the neat line quantities.

If the final grades are not in tolerance, but the deviation is acceptable to the Engineer and Owner, then adjustments will be made to the neat line quantities based on a final topographic survey or final cross sections.

If the final grades are not in tolerance and are not acceptable to the Engineer and Owner, then the Contractor shall regrade the areas that are out of tolerance. Upon completion of regrading operations, Engineer will field verify that the Contractor has met grading tolerances as stated above.

The quantity of unclassified excavation to be paid for shall be the number of cubic yards measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

BASIS OF PAYMENT

152-4.1 Unclassified excavation payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152-4.1 Unclassified Excavation - per cubic yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2	Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66	Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

Item P-153 Controlled Low-Strength Material (CLSM)

DESCRIPTION

153-1.1 This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

153-2.1 Materials.

a. Cement. Cement shall conform to the requirements of ASTM C 150 Type I or II.

b. Fly ash. Fly ash shall conform to ASTM C618, Class C or F.

c. Fine aggregate (sand). Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch (19.0 mm)	100
No. 200 (75 µm)	0 - 12

d. Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use. Dyes and other methods of coloring the backfill material may be incorporated if desired.

MIX DESIGN

153-3.1 Proportions. The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced for payment until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

a. Compressive strength. CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi (690 to 1379 kPa) when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

b. Consistency. Design CLSM to achieve a consistency that will produce an approximate 8-inch (200 mm) diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

CONSTRUCTION METHODS

153-4.1 Placement.

a. Placement. CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

b. Contractor Quality Control. The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is consistent with 153-3.1a and 153-3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

c. Limitations of placement. CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F (2°C) and rising. Mixing and placement shall stop when the air temperature is 40°F (4°C) and falling or when the anticipated air or ground temperature will be 35°F (2°C) or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F (4°C). Conduits, pipes, and any other item which has the ability to float, must be secured to prevent floatation prior to placement of CLSM.

153-4.2 Curing and protection

a. Curing. The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F (0°C), the material may be rejected by the RPR if damage to the material is observed.

b. Protection. The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi (105 kPa) is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 153-3.1a.

153-4.3 Quality Assurance (QA) Acceptance. CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

METHOD OF MEASUREMENT

153-5.1 Measurement.

Controlled low-strength material (CLSM) shall be measured by the number of cubic yards as specified, completed, and accepted

BASIS OF PAYMENT

153-6.1 Payment.

Controlled low-strength material (CLSM) shall be paid for at the contract unit price per cubic yard. Payment shall be full compensation for all materials, equipment, labor, and incidentals required to complete the work as specified.

Payment will be made under:

Item P-153-6.1	Controlled low-strength material (CLSM) – Runway/Taxiway Edge (22" Thick) per cubic yard.
Item P-153-6.2	Controlled low-strength material (CLSM) – RSA Soil Stabilization (Variable Thickness) per cubic yard.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C33	Standard Specification for Concrete Aggregates
ASTM C150	Standard Specification for Portland Cement
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)

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Item P-209 Crushed Aggregate Base Course

DESCRIPTION

209-1.1 This item consists of a base course composed of crushed aggregate base constructed on a prepared course in accordance with these specifications and in conformity to the dimensions and typical cross-sections shown on the plans.

MATERIALS

209-2.1 Crushed aggregate base. Crushed aggregate shall consist of clean, sound, durable particles of crushed stone or crushed gravel and shall be free from coatings of clay, silt, organic material, clay lumps or balls or other deleterious materials or coatings. The method used to produce the crushed gravel shall result in the fractured particles in the finished product as consistent and uniform as practicable. Fine aggregate portion, defined as the portion passing the No. 4 (4.75 mm) sieve shall consist of fines from the coarse aggregate crushing operation. The fine aggregate shall be produced by crushing stone or crushed gravel that meet the coarse aggregate requirements for wear and soundness. Aggregate base material requirements are listed in the following table.

Crushed Aggregate Base Material Requirements

Material Test	Requirement	Standard
Coarse Aggregate		
Resistance to Degradation	Loss: 45% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Percentage of Fractured Particles	Minimum 90% by weight of particles with at least two fractured faces and 98% with at least one fractured face[1]	ASTM D5821
Flat Particles, Elongated Particles, or Flat and Elongated Particles	10% maximum, by weight, of flat, elongated, or flat and elongated particles [2]	ASTM D4791
Clay lumps and friable particles	Less than or equal to 3 percent	ASTM C142
Fine Aggregate		
Liquid limit	Less than or equal to 25	ASTM D4318
Plasticity Index	Not more than five (5)	ASTM D4318

[1] The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

[2] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

209-2.2 Gradation requirements. The gradation of the aggregate base material shall meet the requirements of the gradation given in the following table when tested per ASTM C117 and ASTM C136. The gradation shall be well graded from coarse to fine and shall not vary from the lower limit on one sieve to the high limit on an adjacent sieve or vice versa.

Gradation of Aggregate Base

Sieve Size	Design Range Percentage by Weight passing	Contractor's Final Gradation	Job Control Grading Band Tolerances[1] (Percent)
2 inch (50 mm)	100		0
1-1/2 inch (37.5 mm)	95-100		±5
1 inch (25.0 mm)	70-95		±8
3/4 inch (19.0 mm)	55-85		±8
No. 4 (4.75 mm)	30-60		±8
No. 40[2] (425 µm)	10-30		±5
No. 200[2] (75 µm)	0-10		±3

[1] The "Job Control Grading Band Tolerances for Contractor's Final Gradation" in the table shall be applied to "Contractor's Final Gradation" to establish a job control grading band. The full tolerance still applies if application of the tolerances results in a job control grading band outside the design range.

[2] The fraction of material passing the No 200 (75 µm) sieve shall not exceed two-thirds the fraction passing the No 40 (425 µm) sieve.

209-2.3 Sampling and Testing.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraph 209-2.1. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least two aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 209-2.2. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

In lieu of daily testing for Gradation Requirements, Contractor may elect to place aggregate in stockpiles prior to transporting to the project site. Construction and sampling of stockpiles shall be in accordance with ASTM D-75. The maximum stockpile size shall not exceed 4,000 c.y unless authorized by the RPR. Testing shall be in accordance with ASTM C117 and C136. A stockpile shall be considered acceptable for transportation to the project site when the samples tested meet the Gradation Requirements.

At least two weeks prior to the start of production, the Contractor shall inform the RPR of the methods which are proposed for providing aggregate to the project site so that arrangements can be made for sampling and testing aggregates.

CONSTRUCTION METHODS

209-3.1 Control strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted or removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved by the RPR.

209-3.2 Preparing underlying subgrade and/or subbase. The underlying subgrade and/or subbase shall be checked and accepted by the RPR before base course placing and spreading operations begin. Re-proof rolling of the subgrade or proof rolling of the subbase in accordance with Item P-152, at the Contractor's expense, may be required by the RPR if the Contractor fails to ensure proper drainage or protect the subgrade and/or subbase. Any ruts or soft, yielding areas due to improper drainage conditions, hauling, or any other cause, shall be corrected before the base course is placed. To ensure proper drainage, the spreading of the base shall begin along the centerline of the pavement on a crowned section or on the high side of the pavement with a one-way slope.

209-3.3 Production. The aggregate shall be uniformly blended and, when at a satisfactory moisture content per paragraph 209-3.5, the approved material may be transported directly to the placement.

209-3.4 Placement. The aggregate shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The aggregate shall meet gradation and moisture requirements prior to compaction. The base course shall be constructed in lifts as established in the control strip, but not less than 4 inches (100 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications at the Contractor's expense.

209-3.5 Compaction. Immediately after completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade.

The field density of each compacted lift of material shall be at least 100% of the maximum density of laboratory specimens prepared from samples of the base material delivered to the jobsite. The laboratory specimens shall be compacted and tested in accordance with ASTM D698. The moisture content of the material during placing operations shall be within ±2 percentage points of the optimum moisture content as

determined by ASTM D698. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified. If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of Maximum Dry Density and Optimum Moisture for Oversized Particles.

209-3.6 Weather limitations. Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.

209-3.7 Maintenance. The base course shall be maintained in a condition that will meet all specification requirements. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at the Contractor's expense.

209-3.8 Surface tolerances. After the course has been compacted, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and recompacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.

a. Smoothness. The finished surface shall not vary more than 3/8-inch (9 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Grade. The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +0 and -1/2 inch (12 mm) of the specified grade.

209-3.9 Acceptance sampling and testing. Crushed aggregate base course shall be accepted for density and thickness on an area basis. Two tests shall be made for density and thickness for each 1200 square yds. Sampling locations will be determined on a random basis per ASTM D3665.

a. Density. The RPR shall perform all density tests.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM D698. The in-place field density shall be determined per ASTM D1553 or ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. Depth tests shall be made by test holes at least 3 inches (75 mm) in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch (12 mm) of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch (12 mm), the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches (75 mm), adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

Contractor may check grade and crown by survey provided a survey is performed on the approved subgrade/subbase prior to placing base material. The survey shall be along centerline, or ridge lines at 50 foot intervals with elevations taken along sections at 50 foot intervals. In addition, elevations shall be taken at all grade breaks and vertical curves. Contractor shall survey the finished surface of the base course at the same locations that the survey was taken on the subgrade/subbase. Contractor shall provide an analysis of the difference in elevations between the two surveys to the RPR for approval.

Alternate methods of checking the fine grade may be used only when authorized by the RPR.

METHOD OF MEASUREMENT

209-4.1 The quantity of crushed aggregate base course will be determined by measurement of the number of square yards of material actually constructed and accepted by the RPR as complying with the plans and specifications. Base materials shall not be included in any other excavation quantities.

BASIS OF PAYMENT

209-5.1 Payment shall be made at the contract unit price per square yard for crushed aggregate base course. This price shall be full compensation for furnishing all materials, for preparing, placing and compacting these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-209-5.1	Crushed Aggregate Base Course (8” Thick) - per square yard
Item P-209-5.1	Crushed Aggregate Base Course - RSA Soil Stabilization (11" Thick) - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM D75	Standard Practice for Sampling Aggregates

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D2167	Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4643	Standard Test Method for Determination of Water Content of Soil and Rock by Microwave Oven Heating
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D7928	Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis

American Association of State Highway and Transportation Officials (AASHTO)

M288	Standard Specification for Geosynthetic Specification for Highway Applications

END OF ITEM P-209

Item P-403 Asphalt Mix Pavement

DESCRIPTION

403-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

MATERIALS

403-2.1 Aggregate. Aggregates shall consist of crushed stone, crushed gravel, screenings, natural sand and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 (4.75 mm) sieve. Fine aggregate is the material passing the No. 4 (4.75 mm) sieve.

a. Coarse aggregate. Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum for surface, asphalt binder, and leveling course Loss: 50% maximum for base course	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142

Material Test	Requirement	Standard
Percentage of Fractured Particles	For pavements designed for aircraft gross weights less than 60,000 pounds (27200 kg): Minimum 50% by weight of particles with at least two fractured faces and 65% with at least one fractured face[1]	ASTM D5821
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles with a value of 5:1 [2]	ASTM D4791

[1] The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

[2] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, slag, or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

Fine Aggregate Material Requirements

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142
Sand equivalent	45 minimum	ASTM D2419
Natural Sand[1]	15% maximum by weight of total aggregate	ASTM D1073

[1] The addition of natural sand to a mix containing all crushed coarse and fine aggregates will normally increase its workability and compactability. The addition of natural sand tends to decrease the stability of the mixture, therefore, it is recommended to not use natural sand. However, if natural sand is used, use the minimum amount necessary to achieve a workable mixture.

c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate, and ASTM C183 shall be used in sampling mineral filler.

403-2.2 Mineral filler. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

403-2.3 Asphalt binder. Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) PG 64-10 .

403-2.4 Anti-stripping agent. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

403-3.1 Composition of mixture. The asphalt plant mix shall be composed of a mixture of well-graded aggregate, filler and anti-strip agent if required, and asphalt binder. The several aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

403-3.2 Job mix formula (JMF) laboratory. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF, and listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the RPR prior to start of construction.

403-3.3 Job mix formula (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 403-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition. Samples shall be prepared and compacted using a Marshall compactor in accordance with ASTM D6926.

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

The JMF shall be submitted in writing by the Contractor at least 30 days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates proposed for project use.

The submitted JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 403-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 403-2.4.

- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 403-2.1 and 403-2.2.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each course and fine aggregate.
- Percent natural sand.
- Percent fractured faces.
- Percent by weight of flat particles**,** elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.
- Number of blows.
- Laboratory mixing and compaction temperatures.
- Supplier recommended mixing and compaction temperatures.
- Plot of the combined gradation on the 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.
- Tensile Strength Ratio (TSR).
- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) results.
- Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.

Table 1. Asphalt Design Criteria

Test Property	Value	Test Method
Number of blows	50	
Air voids (%)	3.5 +/-	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
TSR[1]	not less than 80 at a saturation of 70-80%	ASTM D4867

[1] Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867.

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 represent the limits that shall determine the suitability of aggregate for use from the sources of supply, be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

Table 2. Aggregate - Asphalt Pavements

Sieve Size	Percentage by Weight Passing Sieve
1 inch (25.0 mm)	--
3/4 inch (19.0 mm)	100
1/2 inch (12.5 mm)	90-100
3/8 inch (9.5 mm)	72-88
No. 4 (4.75 mm)	53-73
No. 8 (2.36 mm)	38-60
No. 16 (1.18 mm)	26-48
No. 30 (600 µm)	18-38
No. 50 (300 µm)	11-27
No. 100 (150 µm)	6-18
No. 200 (75 µm)	3-6
Minimum Voids in Mineral Aggregate (VMA)[1]	15
Asphalt Percent:	
Stone or gravel	5.0-7.5
Recommended Minimum Construction Lift Thickness	2 inch

[1]To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition.

403-3.4 Reclaimed Asphalt Pavement (RAP). RAP shall not be used.

403-3.5 Control strip. Full production shall not begin until an acceptable control strip has been constructed and accepted in writing by the RPR. The Contractor shall prepare and place a quantity of asphalt according to the JMF. The underlying grade or pavement structure upon which the control strip is to be constructed shall be the same as the remainder of the course represented by the control strip.

The Contractor will not be allowed to place the control strip until the Contractor quality control program (CQCP), showing conformance with the requirements of paragraph 403-5.1, has been accepted, in writing, by the RPR.

The control strip will consist of at least 250 tons (227 metric tons) or 1/2 sublot, whichever is greater. The control strip shall be placed in two lanes of the same width and depth to be used in production with a longitudinal cold joint. The cold joint must be cut back in accordance with paragraph 403-4.13 using the

same procedure that will be used during production. The cold joint for the control strip will be an exposed construction joint at least four (4) hours old or when the mat has cooled to less than 160°F (71°C). The equipment used in construction of the control strip shall be the same type, configuration and weight to be used on the project.

The control strip shall be evaluated for acceptance as a single lot in accordance with the acceptance criteria in paragraph 403-6.1 and 403-6.2. The control strip shall be divided into equal sublots. As a minimum, the control strip shall consist of three (3) sublots.

The control strip will be considered acceptable by the RPR if the gradation, asphalt content, and VMA are within the action limits specified in paragraph 403-5.5a; and Mat density greater than or equal to 94%, air voids 3.5% +/- 1%, and joint density greater than or equal to 92%.

If the control strip is unacceptable, necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made and another control strip shall be placed. Unacceptable control strips shall be removed at the Contractor's expense.

The control strip will be considered one lot for payment based upon the average of a minimum of 3 samples (no sublots required for control strip). Payment will only be made for an acceptable control strip in accordance with paragraph 403-8.1.

CONSTRUCTION METHODS

403-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Table 4. Surface Temperature Limitations of Underlying Course

Mat Thickness	Base Temperature (Minimum)	
	Degrees F	Degrees C
3 inches (7.5 cm) or greater	40	4
Greater than 2 inches (50 mm) but less than 3 inches (7.5 cm)	45	7

403-4.2 Asphalt plant. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items:

a. Inspection of plant. The RPR, or RPR's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

403-4.3 Aggregate stockpile management. Aggregate stockpiles shall be constructed in such a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall

be stockpiled, weighed and batched separately at the concrete batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

403-4.4 Hauling equipment. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

403-4.4.1 Material transfer vehicle (MTV). A material transfer vehicles are not required.

403-4.5 Asphalt pavers. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface. The asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued.

The paver shall be capable of paving to a minimum width specified in paragraph 401-4.11.

403-4.6 Rollers. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used.

403-4.6.1 Density device. The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall also supply a qualified technician during all paving operations to calibrate the density gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

403-4.7 Preparation of asphalt binder. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt material to the mixer at a uniform temperature. The temperature of the unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F (160°C) when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F (175°C) when added to the aggregate.

403-4.8 Preparation of mineral aggregate. The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350°F (175°C) when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

403-4.9 Preparation of asphalt mixture. The aggregates and the asphalt binder shall be weighed or metered and introduced into the mixer in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed

throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

403-4.10 Application of Prime and Tack Coat. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

403-4.11 Laydown plan, transporting, placing, and finishing. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances of paragraph 401-6.2e before the next lift can be placed.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of 25 feet except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 1 foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m).On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools. The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least one foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m). On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 401-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet (3 m) long.

403-4.12 Compaction of asphalt mixture. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor's expense.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross-section, and the required field density is obtained. To prevent adhesion of the asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed**.**

403-4.13 Joints. The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid asphalt except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be coated with an asphalt tack coat before placing any fresh asphalt against the joint.

Longitudinal joints which are have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°F (80°C); or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a cutting wheel or pavement saw a maximum of 3 inches (75 mm) to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. An asphalt tack coat or other product approved by the RPR shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

Cut back of all cold joints is required as specified above.

The Contractor may provide additional joint density QC by use of joint heaters at the Contractor's expense. Electrically powered infrared heating equipment should consist of one or more low-level radiant energy heaters to uniformly heat and soften the pavement joints. The heaters should be configured to uniformly

heat an area up to 18 inches (0.5 m) in width and 3 inches (75 mm) in depth. Infrared equipment shall be thermostatically controlled to provide a uniform, consistent temperature increase throughout the layer being heated up to a maximum temperature range of 200°F to 300°F (93°C to 150°C).

Propane powered infrared heating equipment shall be attached to the paving machine and the output of infrared energy shall be in the one to six-micron range. Converters shall be arranged end to end directly over the joint to be heated in sufficient numbers to continuously produce, when in operation, a minimum of 240,000 BTU per hour. The joint heater shall be positioned not more than one inch (25 mm) above the pavement to be heated and in front of the paver screed and shall be fully adjustable. Heaters will be required to be in operation at all times.

The heaters shall be operated so they do not produce excessive heat when the units pass over new or previously paved material.

403-4.14 Saw-cut grooving. Saw-cut grooving is not required.

403-4.15 Diamond grinding. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet (0.9 m) wide. The saw blades shall be 1/8-inch (3-mm) wide with a minimum of 55 to 60 blades per 12 inches (300 mm) of cutting head width; grooves between 0.090 and 0.130 inches (2 and 3.5 mm) wide; and peaks and ridges approximately 1/32 inch (1 mm) higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that causes ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted.

Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

403-4.16 Nighttime Paving Requirements. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

CONTRACTOR QUALITY CONTROL (CQC)

403-5.1 General. The Contractor shall develop a CQCP in accordance with Item C-100. No partial payment will be made for materials that are subject to specific QC requirements without an approved CQCP.

403-5.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

403-5.3 Quality Control (QC) testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved

CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP**.**

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with ASTM D5444 and ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content of the asphalt shall be determined once per lot in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.

f. In-place density monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot (3.7 m) "straightedge, a rolling inclinometer meeting the requirements of ASTM E2133 or rolling external reference device that can simulate a 12-foot (3.7m) straightedge approved by the RPR. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using the FAA profile program, ProFAA, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements will be taken perpendicular to the pavement centerline each 50 feet (15 m) or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests will be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when

widths of paving lanes are 20 ft (6 m) or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 403-4.15 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 401-6.1d(3) Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to the placement of the first lift and then prior to and after placement of the surface lift.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically and 0.1 feet (30 mm) laterally. The documentation will be provided by the Contractor to the RPR within 24 hours.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 403-4.15.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus ½ inch and replacing with new material. Skin patching is not allowed.

403-5.4 Sampling. When directed by the RPR, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

403-5.5 Control charts. The Contractor shall maintain linear control charts both for individual measurements and range (i.e., difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day shall be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the RPR may suspend production or acceptance of the material.

a. Individual measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation, asphalt content, and VMA. The control

charts shall use the JMF target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

Control Chart Limits for Individual Measurements

Sieve	Action Limit	Suspension Limit
3/4 inch (19.0 mm)	±6%	±9%
1/2 inch (12.5 mm)	±6%	±9%
3/8 inch (9.5 mm)	±6%	±9%
No. 4 (4.75 mm)	±6%	±9%
No. 16 (1.18 mm)	±5%	±7.5%
No. 50 (300 µm)	±3%	±4.5%
No. 200 (75 µm)	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

b. Range. Control charts for range shall be established to control process variability for the test parameters and Suspension Limits listed below. The range shall be computed for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Control Chart Limits Based on Range
(n = 2)

Sieve	Suspension Limit
1/2 inch (12.5 mm)	11%
3/8 inch (9.5 mm)	11%
No. 4 (4.75 mm)	11%
No. 16 (1.18 mm)	9%
No. 50 (300 µm)	6%
No. 200 (75 µm)	3.5%
Asphalt Content	0.8%

c. Corrective action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain sets of rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

(1) One point falls outside the Suspension Limit line for individual measurements or range; or

(2) Two points in a row fall outside the Action Limit line for individual measurements.

403-5.6 Quality control (QC) reports. The Contractor shall maintain records and shall submit reports of QC activities daily, in accordance with the CQCP described in Item C-100.

MATERIAL ACCEPTANCE

403-6.1. Quality Assurance Acceptance sampling and testing. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

a. Quality Assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot Size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a sublot basis.

(1) Sampling. Material from each sublot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF. When absorptive aggregates are used, the sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 60 minutes nor more than 90 minutes.

(2) Testing. Air voids will be determined for each sublot in accordance with ASTM D3203 for a set of three compacted specimens prepared in accordance with ASTM D6926.

d. In-place asphalt mat and joint density. Each sublot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).

(1) Sampling. The Contractor will cut minimum 5 inches (125 mm) diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.

(2) Bond. Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.

(3) Thickness. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each sublot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch (6 mm) less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or sublot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.

(4) Mat density. One core shall be taken from each sublot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot (30 cm) from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each sublot sample by the TMD for that sublot.

(5) Joint density. One core centered over the longitudinal joint shall be taken for each sublot which contains a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

403-6.2 Acceptance criteria.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, grade, and Profilograph smoothness**.**

b. Air voids. Acceptance of each lot of plant produced material for air voids will be based upon the average air void from the sublots. If the average air voids of the lot are equal to or greater than 2% and equal to or less than 5%, then the lot will be acceptable. If the average is below 2% or greater than 5%, the lot shall be removed and replaced at the Contractor's expense.

c. Mat density. Acceptance of each lot of plant produced material for mat density will be based on the average of all of the densities taken from the sublots. If the average mat density of the lot so established equals or exceeds 94%, the lot will be acceptable. If the average mat density of the lot is below 94%, the lot shall be removed and replaced at the Contractor's expense.

d. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the average of all of the joint densities taken from the sublots. If the average joint density of the lot so established equals or exceeds 92%, the lot will be acceptable. If the average joint density of the lot is less than 92%, the Contractor shall stop production and evaluate the method of compacting joints. Production may resume once the reason for poor compaction has been determined and appropriate measures have been taken to ensure proper compaction.

e. Grade. The final finished surface of the pavement of the completed project shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch (12 mm) vertically or 0.1 feet (30 mm) laterally.

Cross-sections of the pavement shall be taken at a minimum 50-foot (15-m) longitudinal spacing and at all longitudinal grade breaks. Minimum cross-section grade points shall include grade at centerline, ± 10 feet of centerline, and edge of runway or taxiway pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for lots that do not meet grade for over 25% of any sublot within the lot shall not be more than 95%.

f. Profilograph roughness for QA Acceptance. The final profilograph shall be the full length of the project to facilitate testing of roughness between lots. The Contractor, in the presence of the RPR will perform a profilograph roughness test on the completed project with a profilograph meeting the requirements of ASTM E1274 or a Class I inertial profiler meeting ASTM E950. Data and results shall be provided within 48 hrs of profilograph roughness tests.

The pavement shall have an average profile index less than 15 inches per mile per 1/10 mile. The equipment shall utilize electronic recording and automatic computerized reduction of data to indicate "must grind" bumps and the Profile Index for the pavement using a 0.2-inch (5 mm) blanking band. The bump template must span one inch (25 mm) with an offset of 0.4 inches (10 mm). The profilograph must be calibrated prior to use and operated by a factory or State DOT approved, trained operator. Profilograms shall be recorded on a longitudinal scale of one inch (25 mm) equals 25 feet (7.5 m) and a vertical scale of one inch (25 mm) equals one inch (25 mm). Profilograph shall be performed one foot right and left of project centerline and 15 feet (4.5 m) right and left of project centerline. Any areas that indicate "must grind" shall be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full

depth of surface course. as directed by the RPR. Where corrections are necessary, a second profilograph run shall be performed to verify that the corrections produced an average profile index of 15 inches per mile per 1/10 mile or less.

403-6.3 Resampling Pavement for Mat Density.

a. General. Resampling of a lot of pavement will only be allowed for mat density and then, only if the Contractor requests same in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 403-6.1. Only one resampling per lot will be permitted.

(1) A redefined mat density will be calculated for the resampled lot. The number of tests used to calculate the redefined mat density will include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

b. Payment for resampled lots. The redefined mat density for a resampled lot will be used to evaluate the acceptance of that lot in accordance with paragraph 403-6.2.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded and density determined using the remaining test values.

403-6.4 Leveling course. Not Used.

METHOD OF MEASUREMENT

403-7.1 Measurement. Plant mix asphalt mix pavement shall be measured by the number of tons of asphalt pavement used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

403-8.1 Payment. Payment for a lot of asphalt mixture meeting all acceptance criteria as specified in paragraph 403-6.2 shall be made at the contract unit price per ton for asphalt. The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-403-8.1	Asphalt Surface Course - per ton

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C183	Standard Practice for Sampling and the Amount of Testing of Hydraulic Cement
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D979	Standard Practice for Sampling Bituminous Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Bituminous Paving Mixtures
ASTM D1074	Standard Test Method for Compressive Strength of Bituminous Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Bituminous Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials

ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4125	Standard Test Methods for Asphalt Content of Bituminous mixtures by the Nuclear Method
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5581	Standard Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus (6 inch-Diameter Specimen)
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6307	Standard Test Method for Asphalt Content of Hot-Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
AASHTO T329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
AASHTO T 340	Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)

Asphalt Institute (AI)

MS-2	Mix Design Manual, 7th Edition
MS-26	Asphalt Binder Handbook AI State Binder Specification Database

FAA Orders

5300.1	Modifications to Agency Airport Design, Construction, and Equipment Standards

Federal Highway Administration (FHWA)

Long Term Pavement Performance Binder program

Software

FAARFIELD

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Item P-603 Emulsified Asphalt Tack Coat

DESCRIPTION

603-1.1 This item shall consist of preparing and treating an asphalt or concrete surface with asphalt material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

603-2.1 Asphalt materials. The asphalt material shall be an emulsified asphalt as specified in ASTM D3628, specified in ASTM D3628 as an asphalt application for tack coat appropriate to local conditions. The emulsified asphalt shall not be diluted. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the asphalt material to the Resident Project Representative (RPR) before the asphalt material is applied for review and acceptance. The furnishing of COA for the asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

603-3.1 Weather limitations. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is 50°F (10°C) or above; the temperature has not been below 35°F (2°C) for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

603-3.2 Equipment. The Contractor shall provide equipment for heating and applying the emulsified asphalt material. The emulsion shall be applied with a manufacturer-approved computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spray bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour (13 km per hour) or seven (700) feet per minute (213 m per minute).

The equipment will be tested under pressure for leaks and to ensure proper set-up before use to verify truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application, spray-bar height and pressure and pump speed, evidence of triple-overlap spray pattern, lack of leaks, and any other factors relevant to ensure the truck is in good working order before use.

The distributor truck shall be equipped with a minimum 12-foot (3.7-m) spreader spray bar with individual nozzle control with computer-controlled application rates. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

The distributor truck shall be equipped to effectively heat and mix the material to the required temperature prior to application as required. Heating and mixing shall be done in accordance with the manufacturer's recommendations. Do not overheat or over mix the material.

The distributor shall be equipped with a hand sprayer.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

A power broom and/or power blower suitable for cleaning the surfaces to which the asphalt tack coat is to be applied shall be provided.

603-3.3 Application of emulsified asphalt material. The emulsified asphalt shall not be diluted. Immediately before applying the emulsified asphalt tack coat, the full width of surface to be treated shall be swept with a power broom and/or power blower to remove all loose dirt and other objectionable material.

The emulsified asphalt material shall be uniformly applied with an asphalt distributor at the rates appropriate for the conditions and surface specified in the table below. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Emulsified Asphalt

Surface Type	Residual Rate, gal/SY (L/square meter)	Emulsion Application Bar Rate, gal/SY (L/square meter)
New asphalt	0.02-0.05 (0.09-0.23)	0.03-0.07 (0.13-0.32)
Existing asphalt	0.04-0.07 (0.18-0.32)	0.06-0.11 (0.27-0.50)
Milled Surface	0.04-0.08 (0.18-0.36)	0.06-0.12 (0.27-0.54)
Concrete	0.03-0.05 (0.13-0.23)	0.05-0.08 (0.23-0.36)

After application of the tack coat, the surface shall be allowed to cure without being disturbed for the period of time necessary to permit drying and setting of the tack coat. This period shall be determined by the RPR. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed. When the tack coat has been disturbed by the Contractor, tack coat shall be reapplied at the Contractor's expense.

603-3.4 Freight and waybills The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

603-4.1 The emulsified asphalt material for tack coat shall be measured by the gallon. Volume shall be corrected to the volume at 60°F (16°C) in accordance with ASTM D1250. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

603.5-1 Payment shall be made at the contract unit price per gallon of emulsified asphalt material. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-603-5.1	Emulsified Asphalt Tack Coat - per gallon

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END ITEM P-603

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Item P-605 Joint Sealants for Pavements

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

MATERIALS

605-2.1 Joint sealants. Joint sealant materials shall meet the requirements of the following types as indicated on the Contract Drawings:

ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

Each lot or batch of sealant shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the sealant meets the requirements of this specification.

605-2.2 Backer rod. The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be 25% ± 5 % larger in diameter than the nominal width of the joint. Type 1 backer rods shall be used for hot-applied sealants. Type 1 or Type 3 backer rods shall be used for cold-applied sealants.

605-2.3 Bond breaking tapes. Provide a bond breaking tape or separating material that is a flexible, non-shrinkable, non-absorbing, non-staining, and non-reacting adhesive-backed tape. The material shall have a melting point at least 5°F (3°C) greater than the pouring temperature of the sealant being used when tested in accordance with ASTM D789. The bond breaker tape shall be approximately 1/8 inch (3 mm) wider than the nominal width of the joint and shall not bond to the joint sealant.

CONSTRUCTION METHODS

605-3.1 Time of application. Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be 50°F (10°C) and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.

When used with P-606, such as light can installation, P-605 shall not be applied until the P-606 has fully cured.

605-3.2 Equipment. Machines, tools, and equipment used in the performance of the work required by this section shall be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data, 30 days prior to use on the project.

a. Tractor-mounted routing tool. Provide a routing tool, used for removing old sealant from the joints, of such shape and dimensions and so mounted on the tractor that it will not damage the sides of the joints. The tool shall be designed so that it can be adjusted to remove the old material to varying depths as required. The use of V-shaped tools or rotary impact routing devices will not be permitted. Hand-operated spindle routing devices may be used to clean and enlarge random cracks.

b. Concrete saw. Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting joints to the depths and widths specified.

c. Sandblasting equipment. Sandblasting is not allowed.

d. Waterblasting equipment. The Contractor must demonstrate waterblasting equipment including the pumps, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

e. Hand tools. Hand tools may be used, when approved, for removing defective sealant from a crack and repairing or cleaning the crack faces. Hand tools should be carefully evaluated for potential spalling effects prior to approval for use.

f. Hot-poured sealing equipment. The unit applicators used for heating and installing ASTM D6690 joint sealant materials shall be mobile and shall be equipped with a double-boiler, agitator-type kettle with an oil medium in the outer space for heat transfer; a direct-connected pressure-type extruding device with a nozzle shaped for inserting in the joint to be filled; positive temperature devices for controlling the temperature of the transfer oil and sealant; and a recording type thermometer for indicating the temperature of the sealant. The applicator unit shall be designed so that the sealant will circulate through the delivery hose and return to the inner kettle when not in use.

605-3.3 Preparation of joints. Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint. All existing joint sealant in joints designated to be sealed shall be removed.

a. Sawing. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. Sealing. Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning shall be accomplished by tractor-mounted routing equipment, concrete saw or water blaster as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of 1/2 inch (12 mm) from the joint edge shall be clean. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. The joint faces shall be surface dry when the seal is applied.

c. Backer Rod. When the joint opening is of a greater depth than indicated for the sealant depth, plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

d. Bond-breaking tape. Where inserts or filler materials contain bitumen, or the depth of the joint opening does not allow for the use of a backup material, insert a bond-separating tape breaker in accordance with paragraph 605-2.3 to prevent incompatibility with the filler materials and three-sided adhesion of the sealant. Securely bond the tape to the bottom of the joint opening so it will not float up into the new sealant.

605-3.4 Installation of sealants. Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the RPR before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet (15 m) ahead of the joint sealing operations, perform a final cleaning with compressed air. Fill the joints from the bottom up to 1/4 inch (6 mm) ±1/16 inch (2 mm) below the top of pavement surface; or bottom of groove for grooved pavement. Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as to prevent the formation of voids and entrapped air. In no case shall gravity methods or pouring pots be used to install the sealant material. Traffic shall not be permitted over newly sealed pavement until authorized by the RPR. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer's instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

Backer rod and bond-breaking tape shall be compatible with the sealant.

605-3.5 Inspection. The Contractor shall inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project shall be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.

605-3.6 Clean-up. Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

METHOD OF MEASUREMENT

605-4.1 No separate measurement will be made for joint sealing material.

BASIS OF PAYMENT

605-5.1 No separate payment for joint sealing material shall be made. Joint sealing is considered incidental to Item P-101 Filling of Cracks 1/4" to 1" Wide This item shall include full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D789	Standard Test Method for Determination of Relative Viscosity of Polyamide (PA)
ASTM D5249	Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt

Advisory Circulars (AC)

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

END ITEM P-605

Item P-606 Adhesive Compounds, Two-Component for Sealing Wire and Lights in Pavement

DESCRIPTION

606-1.1 This specification covers two types of material; a liquid suitable for sealing electrical wire in saw cuts in pavement and for sealing light fixtures or bases in pavement, and a paste suitable for embedding light fixtures in the pavement. Both types of material are two-component filled formulas with the characteristics specified in paragraph 606-2.4. Materials supplied for use with asphalt and/or concrete pavements must be formulated so they are compatible with the asphalt and/or concrete.

MATERIALS

606-2.1 Curing. When pre-warmed to 77°F (25°C), mixed, and placed in accordance with manufacturer's directions, the materials shall cure at temperatures of 45°F (7°C) or above without the application of external heat.

606-2.2 Storage. The adhesive components shall not be stored at temperatures over 86°F (30°C), unless otherwise specified by the manufacturer.

606-2.3 Caution. Installation and use shall be in accordance with the manufacturer's recommended procedures. Avoid prolonged or repeated contact with skin. In case of contact, wash with soap and flush with water. If taken internally, call doctor. Keep away from heat or flame. Avoid vapor. Use in well-ventilated areas. Keep in cool place. Keep away from children.

606-2.4 Characteristics. When mixed and cured in accordance with the manufacturer's directions, the materials shall have the following properties shown in Table 1.

Table 1. Property Requirements

Physical or Electrical Property	Minimum	Maximum	ASTM Method
Tensile			
Portland cement concrete	1,000 psi (70 kg/sq cm)		D 638
Asphalt concrete	500 psi (35 kg/sq cm)		
Elongation			
Portland cement concrete		See note [1]	D 638
Asphalt concrete	50%		D 638
Coef. of cub. exp. cu. cm/cu. cm/°C	0.00090	0.00120	D 1168
Coef. of lin. exp. cm/cm/°C	0.000030	0.000040	D 1168
Dielectric strength, short time test	350 volts/mil.		D 149
Arc resistance	125 sec		
Pull-off			
Adhesion to steel	1,000 psi (70 kg/sq cm)		
Adhesion to Portland cement concrete	200 psi (14 kg/sq cm)		
Adhesion to asphalt concrete	No test available.		
Adhesion to aluminum	250 psi		

[1] 20% or more (without filler) for formulations to be supplied for areas subject to freezing.

SAMPLING, INSPECTION, AND TEST PROCEDURES

606-3.1 Tensile properties. Tests for tensile strength and elongation shall be conducted in accordance with ASTM D638.

606-3.2 Expansion. Tests for coefficients of linear and cubical expansion shall be conducted in accordance with, Method B, except that mercury shall be used instead of glycerine. The test specimen shall be mixed in the proportions specified by the manufacturer, and cured in a glass tub approximately 2 inch (50 mm) long by 3/8 inch (9 mm) in diameter. The interior of the tube shall be precoated with a silicone mold release agent. The hardened sample shall be removed from the tube and aged at room temperature for one (1) week before conducting the test. The test temperature range shall be from 35°F (2°C) to 140°F (60°C).

606-3.3 Test for dielectric strength. Test for dielectric strength shall be conducted in accordance with ASTM D149 for sealing compounds to be furnished for sealing electrical wires in pavement.

606-3.4 Test for arc resistance. Test for arc resistance shall be conducted for sealing compounds to be furnished for sealing electrical wires in pavement.

606-3.5 Test for adhesion to steel. The ends of two smooth, clean, steel specimens of convenient size (1 inch by 1 inch by 6 inch) (25 mm by 25 mm by 150 mm) would be satisfactory when bonded together

with adhesive mixture and allowed to cure at room temperature for a period of time to meet formulation requirements and then tested to failure on a Riehle (or similar) tensile tester. The thickness of adhesive to be tested shall be 1/4 inch (6 mm).

606-3.6 Adhesion to Portland cement concrete

a. Concrete test block preparation. The aggregate grading shall be as shown in Table 2.

The coarse aggregate shall consist of crushed rock having a minimum of 75% of the particles with at least one fractured face and having a water absorption of not more than 1.5%. The fine aggregate shall consist of crushed sand manufactured from the same parent rock as the coarse aggregate. The concrete shall have a water-cement ratio of 5.5 gallons (21 liters) of water per bag of cement, a cement factor of 6, ±0.5, bags of cement per cubic yard (0.76 cubic meter) of concrete, and a slump of 2-1/2 inch (60 mm), ±1/2 inch (60 mm ±12 mm). The ratio of fine aggregate to total aggregate shall be approximately 40% by solid volume. The air content shall be 5.0%, ±0.5%, and it shall be obtained by the addition to the batch of an air-entraining admixture such as Vinsol® resin. The mold shall be of metal and shall be provided with a metal base plate.

Means shall be provided for securing the base plate to the mold. The assembled mold and base plate shall be watertight and shall be oiled with mineral oil before use. The inside measurement of the mold shall be such that several one inch (25 mm) by 2-inch (75 mm) by 3-inch (25 mm by 50 mm by 75 mm) test blocks can be cut from the specimen with a concrete saw having a diamond blade. The concrete shall be prepared and cured in accordance with ASTM C192.

Table 2. Aggregate for Bond Test Blocks

Type	Sieve Size	Percent Passing
Coarse Aggregate	3/4 inch (19.0 mm)	97 to 100
	1/2 inch (12.5 mm)	63 to 69
	3/8 inch (9.5 mm)	30 to 36
	No. 4 (4.75 mm)	0 to 3
Fine Aggregate	No. 4 (4.75 mm)	100
	No. 8 (2.36 mm)	82 to 88
	No. 16 (1.18 mm)	60 to 70
	No. 30 (600 µm)	40 to 50
	No. 50 (300 µm)	16 to 26
	No. 100 (150 µm)	5 to 9

b. Bond test. Prior to use, oven-dry the test blocks to constant weight at a temperature of 220°F to 230°F (104°C to 110°C), cool to room temperature, 73.4°F ±3°F (23°C ±1.6°C), in a desiccator, and clean the surface of the blocks of film or powder by vigorous brushing with a stiff-bristled fiber brush. Two test blocks shall be bonded together on the one inch by 3 inch (25 mm by 75 mm) sawed face with the adhesive mixture and allowed to cure at room temperature for a period of time to meet formulation requirements and then tested to failure in a Riehle (or similar) tensile tester. The thickness of the adhesive to be tested shall be 1/4 inch (6 mm).

606-3.7 Compatibility with asphalt mix. Test for compatibility with asphalt in accordance with ASTM D5329.

606-3.8 Adhesive compounds - Contractor's responsibility. The Contractor shall furnish the vendor's certified test reports for each batch of material delivered to the project. The report shall certify that the material meets specification requirements and is suitable for use with concrete and/or asphalt concrete pavements. The report shall be provided to and accepted by the Resident Project Representative (RPR) before use of the material. In addition, the Contractor shall obtain a statement from the supplier or manufacturer that guarantees the material for one year. The supplier or manufacturer shall furnish evidence that the material has performed satisfactorily on other projects.

606-3.9 Application. Adhesive shall be applied on a dry, clean surface, free of grease, dust, and other loose particles. The method of mixing and application shall be in strict accordance with the manufacturer's recommendations. When used with Item P-605, such as light can installation, Item P-605 shall not be applied until the Item P-606 has fully cured.

METHOD OF MEASUREMENT

606-4.1 No measurement will be made for direct payment of adhesive compound as the cost of furnishing and installing shall be considered as a subsidiary obligation in the completion of the work.

BASIS OF PAYMENT

606-5.1 No payment will be made separately or directly for this item on any part of the work unless otherwise listed in the various pay items. All adhesive compound shall be considered a necessary and incidental part of the work and its cost shall be considered by the Contractor and included in the Contract price for the pay items of work involved.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM D149	Standard Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
ASTM D638	Standard Test Method for Tensile Properties of Plastics
ASTM D5329	Standard Test Methods for Sealants and Fillers, Hot-applied, for Joints and Cracks in Asphaltic and Portland Cement Concrete Pavements

END OF ITEM P-606

Item P-608 Emulsified Asphalt Seal Coat

DESCRIPTION

608-1.1 This item shall consist of the application of a emulsified asphalt surface treatment composed of an emulsion of natural and refined asphalt materials, water and a polymer additive, for taxiways and runways with the application of a suitable aggregate to maintain adequate surface friction; and airfield secondary and tertiary pavements including low-speed taxiways, shoulders, overruns, roads, parking areas, and other general applications with or without aggregate applied as designated on the plans. The terms seal coat, asphalt sealer, and asphalt material are interchangeable throughout this specification. The term emulsified asphalt means an emulsion of natural and refined asphalt materials.

MATERIALS

608-2.1 Aggregate. The aggregate material shall be a dry, clean, dust and dirt free, sound, durable, angular shaped manufactured specialty sand, such as that used as an abrasive, with a Mohs hardness of 6 to 8. The Contractor shall submit the specialty sand manufacturer's technical data and a manufacturer's Certificate of Analysis (COA) indicating that the specialty sand meets the requirements of the specification to the RPR prior to start of construction. The sand must be approved for use by the RPR and shall meet the following gradation limits when tested in accordance with ASTM C136 and ASTM C117:

Aggregate Material Gradation Requirements[1]

Sieve Designation (square openings)	Individual Percentage Retained by Weight
No. 10 (2.00 mm)	0
No. 14 (1.41 mm)	0-4
No. 16 (1.18 mm)	0-8
No. 20 (850 µm)	0-35
No. 30 (600 µm)	20-50
No. 40 (425 µm)	10-45
No. 50 (300 µm)	0-20
No. 70 (212 µm)	0-5
No. 100 (150 µm)	0-2
No. 200 (75 µm)	0-2

[1] Locally available sand or abrasive material that is slightly outside of the gradation requirements may be approved by the RPR with concurrence by the seal coat manufacturer for the use of locally available sand or abrasive material. The RPR and manufacturer's field representative should verify acceptance during application of Control strips indicated under paragraph 608-3.2.

The Contractor shall provide a certification showing particle size analysis and properties of the material delivered for use on the project. The Contractor's certification may be subject to verification by testing the material delivered for use on the project.

608-2.2 Asphalt Emulsion. The asphalt emulsion shall meet the properties in the following table:

Concentrated Asphalt Emulsion Properties

Properties	Specification	Limits
Viscosity, Saybolt Furol at 77°F (25°C)	ASTM D7496	20 – 100 seconds
Residue by Distillation or Evaporation	ASTM D6997 or ASTM D6934	57% minimum
Sieve Test	ASTM D6933	0.1% maximum
24-hour Stability	ASTM D6930	1% maximum
5-day Settlement Test	ASTM D6930	5.0% maximum
Particle Charge [1]	ASTM D7402	Positive 6.5 maximum pH

[1] pH may be used in lieu of the particle charge test which is sometimes inconclusive in slow setting, asphalt emulsions.

The asphalt material base residue shall contain not less than 20% gilsonite, or uintaite and shall not contain any tall oil pitch or coal tar material and shall contain no less than one percent (1%) polymer.

Tests on Residue from Distillation or Evaporation

Properties	Specification	Limits
Viscosity at 275°F (135°C)	ASTM D4402	1750 cts maximum
Solubility in 1, 1, 1 trichloroethylene	ASTM D2042	97.5% minimum
Penetration	ASTM D5	50 dmm maximum
Asphaltenes	ASTM D2007	15% minimum
Saturates	ASTM D2007	15% maximum
Polar Compounds	ASTM D2007	25% minimum
Aromatics	ASTM D2007	15% minimum

The asphalt emulsion, when diluted in the volumetric proportion of one part concentrated asphalt material to one part hot water shall have the following properties:

One-to-One Dilution Emulsion Properties

Properties	Specification	Limits
In Ready-to-Apply Form, one part concentrate to one part water, by volume		
Viscosity, Saybolt Furol at 77°F (25°C)	ASTM D7496	5 – 50 seconds
Residue by Distillation or Evaporation	ASTM D6997 or ASTM D6934	28.5% minimum
Pumping Stability [1]		Pass

[1] Pumping stability is tested by pumping one-pint (475 ml) of seal coat diluted one (1) part concentrate to one (1) part water, at 77°F (25°C), through a 1/4-inch (6 mm) gear pump operating 1750 rpm for 10 minutes with no significant separation or coagulation.

The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the emulsified asphalt delivered to the project. If the asphalt emulsion is diluted at other than the manufacturer's facility, the Contractor shall provide a supplemental COA from an independent laboratory verifying the asphalt emulsion properties.

The COA shall be provided to and approved by the RPR before the emulsified asphalt is applied. The furnishing of the vendor's certified test report for the asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

The asphalt material storage and handling temperature shall be between 50°F - 160°F (10°C - 70°C) and the material shall be protected from freezing, or whenever outside temperature drops below 40°F (4°C) for prolonged time periods.

Contractor shall provide a list of airport pavement projects, exposed to similar climate conditions, where this product has been successfully applied within at least 5 years of the project.

608-2.3 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use. Water used in making and diluting the emulsion shall be potable, with a maximum hardness of 90ppm calcium and 15ppm magnesium; deleterious iron, sulfates, and phosphates maximum 7ppm, and less than 1ppm of organic byproducts. Water shall be a minimum of 140°F (60°C) prior to adding to emulsion.

608-2.4 Polymer. The polymer shall meet the properties in the following table:

Polymer Properties

Properties	Limits
Solids Content	47% to 65%, Percent by Weight
Weight	8.0 to 9.0 pounds/gallon (1.07 to 1.17 kg/L)
pH	3.0 to 8.0
Particle Charge	Nonionic/Cationic
Mechanical Stability	Excellent
Film Forming Temperature, °C	+5°C, minimum
Tg, °C	22°C, maximum

The manufacturer shall provide a copy of the Certificate of Analysis (COA) for the polymer used in the seal coat; and the Contractor shall include the COA with the emulsified asphalt COA when submitting to the RPR.

608-2.5 Seal Coat with Aggregate. The Contractor shall submit friction test data from no less than one of the airport projects identified under 608-2.2. The test data must be from the same project and include technical details on application rates, aggregate rates, and point of contact at the airport to confirm use and success of sealer with aggregate.

Friction test data in accordance with AC 150/5320-12, at 40 or 60 mph (65 or 95 km/h) wet, must include as a minimum; the friction value prior to sealant application; two values, between 24 and 96 hours after

application, with a minimum of 24 hours between tests; and one value between 180 days and 360 days after the application. The results of the tests between 24 and 96 hours shall indicate friction is increasing at a rate to obtain similar friction value of the pavement surface prior to application, and the long-term test shall indicate no apparent adverse effect with time relative to friction values and existing pavement surface.

Seal coat material submittal without required friction performance will not be approved. Friction tests performed on this project cannot be used as a substitute of this requirement.

COMPOSITION AND APPLICATION RATE

608-3.1 Application Rate. The approximate amounts of materials per square yard (square meter) for the asphalt surface treatment shall be as provided in the table for the treatment area(s) at the specified dilution rate(s) as noted on the plans. The actual application rates will vary within the range specified to suit field conditions and will be recommended by the manufacturer's representative and approved by the RPR from the test area/sections evaluation.

Application Rate

Dilution Rate	Quantity of Emulsion gal/yd^2 (l/m^2)	Quantity of Aggregate lb/yd^2 (kg/m^2)
1:1	0.10-0.17 (0.45-0.77)	0.20-0.50 (0.11-0.27)

608-3.2 Control areas and control strips. Prior to full application, the control strip must be accepted by the RPR. The surface preparation, personnel, equipment, and method of operation used on the test area(s) and control strip(s) shall be the same as used on the remainder of the work.

A qualified manufacturer's representative shall be present in the field to assist the Contractor in applying control areas and/or control strips to determine the appropriate application rate of both emulsion and aggregate to be approved by the RPR.

A test area(s) and control strip(s) shall be applied for each differing asphalt pavement surface identified in the project. The test area(s) and control strip(s) shall be used to determine the material application rate(s) of both emulsion and sand prior to full production.

a. For taxiway, taxilane and apron surfaces. Prior to full application, the Contractor shall place test areas at varying application rates as recommended by the Contractor's manufacturer's representative to determine appropriate application rate(s). The test areas will be located on representative section(s) of the pavement to receive the asphalt surface treatment designated by the RPR.

b. For runway and high-speed exit taxiway surfaces. Prior to full application, the Contractor shall place a series of control strips a minimum of 300 feet (90 m) long by 12 feet (3.6 m) wide, or width of anticipated application, whichever is greater, at varying application rates as recommended by the manufacturer's representative and acceptable to the RPR to determine appropriate application rate(s). The control strips should be separated by a minimum of 200 feet between control strips. The area to be tested will be located on a representative section of the pavement to receive the asphalt surface treatment designated by the RPR. The control strips should be placed under similar field conditions as anticipated for the actual application. The skid resistance of the existing pavement shall be determined for each control strip with a continuous friction measuring equipment (CFME). The skid resistance of existing pavement can be immediately adjacent to the control strip or at the same location as the control strip if testing prior to application. The Contractor may begin testing the skid resistance of runway and high-speed exit taxiway control strips after application of the asphalt surface treatment has fully cured, generally 8 to 36 hours after

application of the control strips depending on site and environmental conditions. Aircraft shall not be permitted on the runway or high speed exit taxiway control strips until such time as the Contractor validates that its surface friction meets the maintenance planning friction levels in AC 150/5320-12, Table 3-2 when tested at speeds of 40 and 60 mph (65 and 95 km/h) wet with approved CFME.

If the control strip should prove to be unsatisfactory, necessary adjustments to the application rate, placement operations, and equipment shall be made. Additional control strips shall be placed and additional skid resistance tests performed and evaluated. Full production shall not begin without the RPR's approval of an appropriate application rate(s). Acceptable control strips shall be paid for in accordance with paragraph 608-8.1.

If operational conditions preclude placement of a control strip on the pavement to be sealed, it may be applied on a pavement with similar surface texture.

CONSTRUCTION METHODS

608-4.1 Worker safety. The Contractor shall obtain a Safety Data Sheet (SDS) for both the asphalt emulsion product and sand and require workmen to follow the manufacturer's recommended safety precautions.

608-4.2 Weather limitations. The asphalt emulsion shall be applied only when the existing pavement surface is dry and when the weather is not foggy, rainy, or when the wind velocity will prevent the uniform application of the material. No material shall be applied in strong winds that interfere with the uniform application of the material(s), or when dust or sand is blowing or when rain is anticipated within eight (8) hours of application completion. The atmospheric temperature and the pavement surface temperature shall both be at, or above 60°F (16°C) and rising. Seal coat shall not be applied when pavement temperatures are expected to exceed 130ºF within the subsequent 72 hours if traffic will be opened on pavement within those 72 hours. During application, account for wind drift. Cover existing buildings, structures, runway edge lights, taxiway edge lights, informational signs, retro-reflective marking and in-pavement duct markers as necessary to protect against overspray before applying the emulsion. Should emulsion get on any light or marker fixture, promptly clean the fixture. If cleaning is not satisfactory to the RPR, the Contractor shall replace any light, sign or marker with equivalent equipment at no cost to the Owner.

608-4.3 Equipment and tools. The Contractor shall furnish all equipment, tools, and machinery necessary for the performance of the work.

a. Pressure distributor. The emulsion shall be applied with a manufacturer-approved computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spray bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour (13 km per hour) or seven hundred (700) feet per minute (213 m per minute). The equipment will be tested under pressure for leaks and to ensure proper set-up before use. The Contractor will provide verification of truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application per nozzle manufacturer, spray-bar height and pressure and pump speed appropriate for the viscosity and temperature of sealer material, evidence of triple-overlap spray pattern, lack of leaks, and any other factors relevant to ensure the truck is in good working order before use.

The distributor truck shall be equipped with a 12-foot (3.7-m), minimum, spray bar with individual nozzle control. The distributor truck shall be capable of specific application rates in the range of 0.05 to 0.25 gallons per square yard (0.15 to 0.80 liters per square meter). These rates shall be computer-controlled rather than mechanical. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy.

The distributor truck shall effectively heat and mix the material to the required temperature prior to application in accordance with the manufacturer's recommendations.

The distributor shall be equipped with a hand sprayer to spray the emulsion in areas not accessible to the distributor truck.

b. Aggregate spreader. The asphalt distributor truck will be equipped with an aggregate spreader mounted to the distributor truck that can apply sand to the emulsion in a single pass operation without driving through wet emulsion. The aggregate spreader shall be equipped with a variable control system capable of uniformly distributing the sand at the specified rate at varying application widths and speeds. The aggregate spreader must be adjusted to produce an even and accurate application of specified aggregate. Prior to any seal coat application, the aggregate spreader will be calibrated onsite to ensure acceptable uniformity of spread. The RPR will observe the calibration and verify the results. The aggregate spreader will be re-calibrated each time the aggregate rate is changed either during the application of test strips or production. The Contractor may consult the seal coat manufacturer representative for procedure and guidance. The sander shall have a minimum hopper capacity of 3,000 pounds (1361 kg) of sand. Push-type hand sanders will be allowed for use around lights, signs and other obstructions, if necessary.

c. Power broom/blower. A power broom and/or blower shall be provided for removing loose material from the surface to be treated.

d. Equipment calibration. Asphalt distributors must be calibrated within the same construction season in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

608-4.4 Preparation of asphalt pavement surfaces. Clean pavement surface immediately prior to placing the seal coat so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film. Remove oil or grease from the asphalt pavement by scrubbing with a detergent, washing thoroughly with clean water, and then treat these areas with a spot primer. Any additional surface preparation, such as crack repair, shall be in accordance with Item P-101, paragraph 101-3.6.

a. New asphalt pavement surfaces. Allow new asphalt pavement surfaces to cure so that there is no concentration of oils on the surface.

Perform a water-break-free test to confirm that the surface oils have degraded and dissipated. (Cast approximately one gallon (4 liters) of clean water out over the surface. The water should sheet out and wet the surface uniformly without crawling or showing oil rings.) If signs of crawling or oil rings are apparent on the pavement surface, additional time must be allowed for additional curing and retesting of the pavement surface prior to treatment.

608-4.5 Emulsion mixing. The application emulsion shall be obtained by blending asphalt material concentrate, water and polymer, if specified. Always add heated water to the asphalt material concentrate, never add asphalt material concentrate to heated water. Mix one part heated water to one part or two parts asphalt material concentrate, by volume.

Add 1% polymer, by volume, to the emulsion mix. If the polymer is added to the emulsion mix at the plant, submit weight scale tickets to the RPR. As an option, the polymer may be added to the emulsion mix at the job site provided the polymer is added slowly while the asphalt distributor truck circulating pump is running. The mix must be agitated for a minimum of 15 minutes or until the polymer is mixed to the satisfaction of the RPR.

608-4.6 Application of asphalt emulsion. The asphalt emulsion shall be applied using a pressure distributor upon the properly prepared, clean and dry surface at the application rate recommended by the manufacturer's representative and approved by the RPR from the test area/sections evaluation for each designated treatment area. The asphalt emulsion should be applied at a temperature between 130°F (54°C) and 160°F (70°C) or in accordance with the manufacturer's recommendation.

If low spots and depressions greater than 1/2 inch (12 mm) in depth in the pavement surface cause ponding or puddling of the applied materials, the pavement surface shall be lightly broomed with a broom or brush type squeegee until the pavement surface is free of any pools of excess material.

During all applications, the surfaces of adjacent structures shall be protected to prevent their being spattered or marred.

608-4.7 Application of aggregate material. Immediately following the application of the asphalt emulsion, friction sand at the rate recommended by the manufacturer's representative and approved by the RPR from the test area/sections evaluation for each designated application area, shall be spread uniformly over the asphalt emulsion in a single-pass operation simultaneous with the sealer application. The aggregate shall be spread to the same width of application as the asphalt material and shall not be applied in such thickness as to cause blanketing.

Sprinkling of additional aggregate material, and spraying additional asphalt material over areas that show up having insufficient cover or bitumen, shall be done by hand whenever necessary. In areas where hand work is necessitated, the sand shall be applied before the sealant begins to break.

Minimize aggregate from being broadcast and accumulating on the untreated pavement adjacent to an application pass. Prior to the next application pass, the Contractor shall clean areas of excess or loose aggregate and remove from project site.

QUALITY CONTROL (QC)

608-5.1 Manufacturer's representation. The manufacturer's representative knowledgeable of the material, procedures, and equipment described in the specification is responsible to assist the Contractor and RPR in determining the appropriate application rates of the emulsion and aggregate, as well as recommendations for proper preparation and start-up of seal coat application. Documentation of the manufacturer representative's experience and knowledge for applying the seal coat product shall be furnished to the RPR a minimum of 10 work days prior to placement of the control strips. The cost of the manufacturer's representative shall be included in the Contractor's bid price.

608-5.2 Contractor qualifications. The Contractor shall provide documentation to the RPR that the seal coat Contractor is qualified to apply the seal coat, including personnel, and equipment, and has made at least three (3) applications similar to this project in the past two (2) years.

MATERIAL ACCEPTANCE

608-6.1 Application rate. The rate of application of the asphalt emulsion shall be verified at least twice per day.

608-6.2 Friction tests. Friction tests in accordance with AC 150/5320-12, Measurement, Construction, and Maintenance of Skid-Resistant Airport Pavement Surfaces, shall be performed on all runway and high-speed taxiways that received a seal coat. Each test includes performing friction tests at 40 mph and 60 mph (65 or 95 km/h) both wet, 15 feet (4.5 m) to each side of runway centerline with approved continuous friction measuring equipment (CFME). The Contractor shall coordinate testing with the RPR and provide the RPR a written report of friction test results. The RPR shall be present for testing.

METHOD OF MEASUREMENT

608-7.1 Asphalt surface treatment. The quantity of asphalt surface treatment shall be measured by the square yards of material applied in accordance with the plans and specifications and accepted by the RPR.

The Contractor must furnish the RPR with the certified weigh bills when materials are received for the asphalt material used under this contract. The Contractor must not remove material from the tank car or storage tank until initial amounts and temperature measurements have been verified.

BASIS OF PAYMENT

608-8.1 Payment shall be made at the contract unit price per square yard for the asphalt surface treatment applied and accepted by the RPR, and the contract unit price per lump sum for runway friction testing. This price shall be full compensation for all surface preparation, furnishing all materials, delivery and application of these materials, for all labor, equipment, tools, and incidentals necessary to complete the item, including the friction testing and all work required to meet AC 150/5320-12, and any costs associated with furnishing a qualified manufacturer's representative to assist with control strips.

Payment will be made under:

Item P-608-8.1	Asphalt Surface Treatment – per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D5	Standard Test Method for Penetration of Asphalt Materials
ASTM D244	Standard Test Methods and Practices for Emulsified Asphalts
ASTM D2007	Standard Test Method for Characteristic Groups in Rubber Extender and Processing Oils and Other Petroleum-Derived Oils by the Clay-Gel Absorption Chromatographic Method
ASTM D2042	Standard Test Method for Solubility of Asphalt Materials in Trichloroethylene
ASTM D2995	Standard Practice for Estimating Application Rate of Bituminous Distributors
ASTM D4402	Standard Test Method for Viscosity Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer
ASTM D5340	Standard Test Method for Airport Pavement Condition Index Surveys

Advisory Circulars (AC)

AC 150/5320-12	Measurement, Construction, and Maintenance of Skid-Resistant Airport Pavement Surfaces
AC 150/5320-17	Airfield Pavement Surface Evaluation and Rating (PASER) Manuals
AC 150/5380-6	Guidelines and Procedures for Maintenance of Airport Pavements

END OF ITEM P-608

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20%, the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 1/2 inch (37.5 mm)	467 or 4 and 67
1 inch (25 mm)	57
¾ inch (19 mm)	67
½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Not used.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type I, IA, II, IIA, III, IIIA or V. The chemical requirements for all cement types specified should meet suitable criteria for deleterious activity. Low alkali cements shall be less than 0.6% equivalent alkalis. Total alkalis (Na2O and K2O) of the cement secured for the production of concrete shall be independently verified in accordance with ASTM C114 or ASTM C1365.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751**.**

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of reinforcing steel conforming to the requirements of ASTM A615, Grade 60. Epoxy coated reinforcing steel shall conform to the requirements of ASTM A775.

610-2.11 Materials for curing concrete. Curing materials shall conform to one of the following:

Materials for Curing

Waterproof paper	ASTM C171
Clear or white Polyethylene Sheeting	ASTM C171
White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B	ASTM C309

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard (280 kg per cubic meter). The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (1.5 m). Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85ºF (30 ºC), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental and no separate measurement shall be made.

BASIS OF PAYMENT

610-6.1 Concrete shall be considered incidental and no separate payment shall be made.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement

ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

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Item P-615 Structural Geogrid Reinforcement

DESCRIPTION

615-1.1 This work shall consist of furnishing and installing structural geogrid reinforcement. Work consists of furnishing, storing and placing structural geogrid reinforcement as specified herein and as shown on the contract drawings.

MATERIALS

615-2.1 Structural geogrid. The geogrid shall be composed of multiple layers of a high strength polypropylene mesh. Each layer shall be manufactured using an extrusion and biaxial orientation process and are stitched or welded together without superimposing the mesh. The geogrid shall have aperture geometry and rib thickness that permits significant mechanical interlock with the soil or aggregate being reinforced. The geogrid shall conform to the following physical characteristics and mechanical properties:

Structural Geogrid shall be: Tensar Triax TX-160 Heavy Duty Geogrid, or approved equal.

CONSTRUCTION METHODS

615-3.1 Delivery, storage and handling. The structural geogrid reinforcement shall be stored to prevent excessive mud, wet concrete, epoxy, or other deleterious materials from coming in contact with and affixing to the geogrid materials. Geogrid materials shall be protected from adverse temperatures greater than 140°F or less than 30°. Rolled materials may be laid flat or stood on end. Prevent deleterious materials from coming in contact with and affixing to the geogrid materials. Geogrid materials should not be left directly and shall be protected from long-term exposure to direct sunlight.

615-3.2 Examination. The Contractor shall check the geogrid upon delivery to verify that the proper material has been received. The geogrid shall be inspected by the Contractor to be free of flaws or damage occurring during manufacturing, shipping, or handling.

615-3.3 Preparation. The subgrade soil shall be prepared as indicated on the construction drawings or as directed by the Designer. Foundation soil shall be excavated to the lines and grades as shown on the drawings or as directed by the Designer.

615-3.4 Installation. Geogrid shall be laid at the proper elevation and orientation as shown on the construction drawings or as directed by the Designer. Unroll geogrids on the subgrade and apply tension by hand to eliminate wrinkles. Geogrid panel overlap requirements, either side by side, or end to end, shall be 3 feet. Adjacent geogrid rolls should be overlapped in the direction of anticipated fill spreading. The front edges of each roll should be pinned so wrinkles developed during construction are eliminated.

615-3.5 Fill placement over geogrid. Backfill material shall be placed in lifts and compacted as directed under Section P-152 or P-209. Backfill shall be placed, spread, and compacted in such a manner that minimizes the development of wrinkles in and/or movement of the geogrid.

No equipment can drive directly across geogrid. The specified fill material shall be placed and spread utilizing vehicles with a ground pressure of less than 4 pounds per square inch. The placement of the specified fill material should take place from the edge of the geogrid. The placement of fill onto the geogrid prior to spreading should be from trucks riding on the total finished thickness of the specified fill layer. The equipment utilized for spreading the geogrid should take care to lift the blade as the equipment moves forward in order to roll the fill onto the grid. A minimum of 4 inches of fill is required between the geogrid and the operating equipment tracks utilized for spreading. Tight turns, sudden stops, or spinning of tracks is prohibited.

Any ruts developed during spreading or compacting must be filled with additional fill material to reach the design thickness.

615-3.6 Repair. Any geogrid damaged during installation shall be replaced by the Contractor at no additional cost to the Owner.

Coated geogrid shall not be used if the coating is torn, shedding, cracked, punctured, flawed or cut, unless a repair procedure is carried out as approved by the Designer. The repair procedure shall include placing a suitable patch overlapped by three (3) feet on all sides and secured with the plastic ties over the defective area or applying a coating solution identical to the original coating.

615-3.7 Protection. Follow the Manufacturer's recommendations regarding protection from exposure to sunlight.

METHOD OF MEASUREMENT

615-4.1 The quantity to be measured shall be the number of square yards of structural geogrid installed excluding transverse and longitudinal laps.

BASIS OF PAYMENT

615-5.1 The unit bid price per square yard shall include the cost of furnishing all labor, materials and equipment to complete the work.

Payment will be made under:

Item P-615-6.1 Tensar Triax TX-160 Heavy Duty Geogrid - per Square Yard.

SUBMITTALS AND CERTIFICATIONS

615-6.1 Submittals of "Shop and Setting Drawings", "Working Drawings", "Catalogue Data" and "Certifications" for review shall be submitted in accordance with appropriate sections of the General Provisions. Submittals and Certifications required are as follows:

- Catalog data and certification showing that the structural geogrid reinforcement meets the specified requirements.
- Manufacturers installation instructions and general recommendations.

END OF ITEM P-615

Item P-620 Runway and Taxiway Marking

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms "paint" and "marking material" as well as "painting" and "application of markings" are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer's certified test reports for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer's surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

a. Paint. Paint shall be waterborne, Type II in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Paint Color	Fed Std. No 595 Color Number
White	37925
Red	31136
Yellow	33538 or 33655
Black	37038

Waterborne or solvent base black paint should be used to outline a border at least 6 inches (150 mm) wide around markings on all light-colored pavements. Preformed thermoplastic markings shall have a non-reflectorized black border integral to the marking.

Application Rates for Paint and Glass Beads for Table 1

Paint		Glass Beads
Type	Application Rate Maximum	Type III Minimum
Waterborne Type I or II	115 ft^2/gal (2.8 m^2/l)	10 lb/gal (1.2 kg/l)

Waterborne paint. Waterborne paint shall meet the requirements of Federal Specification TT-P-1952F, Type II,. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis. The acrylic resin used for Type III shall be 100% cross linking acrylic as evidenced by infrared peaks at wavelengths 1568, 1624, and 1672 cm-l with intensities equal to those produced by an acrylic resin known to be 100% cross linking.

b. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type III.

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black, red and green paint.

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminates that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufactures application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 Application. A period of 30 days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings.

Preformed thermoplastic pavement markings not used.

620-3.7 Control strip. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. Reflectance shall be measured with a portable retro-reflectometer meeting ASTM E1710 (or equivalent). A total of 6 reading shall be taken over a 6 square foot area with 3 readings taken from each direction. The average shall be equal to or above the minimum levels of all readings which are within 30% of each other.

Minimum Retro-Reflectance Values

Material	**Retro-reflectance mcd/m^2/lux**		
	White	**Yellow**	**Red**
Initial Type I	300	175	35

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1 The quantity of marking removal shall be measured by the number of square feet for the markings removed.

620-4.2 The quantity of markings shall be paid for shall be measured by the number of square feet of painting**.**

620-4.3 The quantity of reflective media shall be paid for by lump sum of reflective media.

620-4.4 The quantity of temporary markings to be paid for shall be the number of square feet of painting performed in accordance with the specifications and accepted by the RPR. Temporary marking includes surface preparation, application and complete removal of the temporary marking.

BASIS OF PAYMENT

620-5.1 Payment for marking removals shall be made at the contract price for the number of square feet of marking removal specified in paragraph 620-3.3 per square feet. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.2 Payment for markings shall be made at the contract price for the number of square feet of painting. These prices shall be full compensation for furnishing all materials and for all labor, equipment, tools, and

incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.3 No separate payment for reflective media shall be made. All reflective media required on the project shall be considered incidental to the paint markings.

620-5.4 Payment for temporary markings shall be made at the contract price for the number of square feet of painting. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

Payment will be made under:

Item P-620-5.1	Removal of Pavement Markings - per square foot
Item P-620-5.2	Interim Runway Markings - per square foot
Item P-620-5.3	Paintstriping (White, Reflectorized) - per square foot
Item 620-5.4	Paintstriping (Yellow, Reflectorized) - per square foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24
Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings

29 CFR Part 1910.1200 Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D	Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F	Paint, Traffic and Airfield Marking, Waterborne
FED STD 595	Colors used in Government Procurement

Commercial Item Description

A-A-2886B	Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1	Standards for Airport Markings
AC 150/5320-12	Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

END OF ITEM P-620

Item D-701 Pipe for Storm Drains and Culverts

DESCRIPTION

701-1.1 This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

701-2.2 Pipe. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

American Association of State Highway and Transportation Officials

ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

701-2.3 Concrete. Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi (13.8 MPa) at 28 days and conform to the requirements of ASTM C94.

701-2.4 Rubber gaskets. Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the requirements of ASTM D1056, for the "RE" closed cell grades. Rubber gaskets for steel reinforced thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

701-2.5 Joint mortar. Pipe joint mortar shall consist of one part Portland cement and two parts sand. The Portland cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

701-2.6 Joint fillers. Poured filler for joints shall conform to the requirements of ASTM D6690.

701-2.7 Plastic gaskets. Plastic gaskets shall conform to the requirements of ASTM C990.

701-2.8. Controlled low-strength material (CLSM). Controlled low-strength material shall conform to the requirements of Item P-153. When CLSM is used, all joints shall have gaskets.

701-2.9 Precast box culverts. Not used.

701-2.10 Precast concrete pipe. Not used.

CONSTRUCTION METHODS

701-3.1 Excavation. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus 12 inches (300 mm) on each side. The trench walls shall be approximately vertical.

The Contractor shall comply with all current federal, state and local rules and regulations governing the safety of men and materials during the excavation, installation and backfilling operations. Specifically, the Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA) relating to excavations, trenching and shoring are strictly adhered to. The width of the trench shall be sufficient to permit satisfactorily jointing of the pipe and thorough compaction of the bedding material under the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans trench detail.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 8 inch (200 mm) or 1/2 inch (12 mm) for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 Bedding. The bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

a. Rigid pipe. The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 inch when the bedding thickness is less than 6 inches, and 1-1/2 inch when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.

b. Flexible pipe. For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket of sand or fine granular material shall be provided as follows:

Flexible Pipe Bedding

Pipe Corrugation Depth		Minimum Bedding Depth	
inch	**mm**	**inch**	**mm**
1/2	12	1	25
1	25	2	50
2	50	3	75
2-1/2	60	3-1/2	90

c. Other pipe materials. For PVC, polyethylene, polypropylene, or fiberglass pipe, the bedding material shall consist of coarse sands and gravels with a maximum particle size of 3/4 inches (19 mm). For pipes installed under paved areas, no more than 12% of the material shall pass the No. 200 (0.075 mm) sieve. For all other areas, no more than 50% of the material shall pass the No. 200 (0.075 mm) sieve. The bedding shall have a thickness of at least 6 inches (150 mm) below the bottom of the pipe and extend up around the pipe for a depth of not less than 50% of the pipe's vertical outside diameter.

701-3.3 Laying pipe. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or

groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 Joining pipe. Joints shall be made with (1) cement mortar, (2) cement grout, (3) rubber gaskets, (4) plastic gaskets, (5) coupling bands.

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

a. Concrete pipe. Concrete pipe may be either bell and spigot or tongue and groove. Pipe sections at joints shall be fully seated and the inner surfaces flush and even. Concrete pipe joints shall be sealed with rubber gaskets meeting ASTM C443 when leak resistant joints are required.

b. Metal pipe. Not used.

c. PVC, Polyethylene, or Polypropylene pipe. Not used.

d. Fiberglass pipe. Not Used.

701-3.5 Embedment and Overfill. Pipes shall be inspected before any fill material is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at the Contractor's expense.

701-3.5-1 Embedment Material Requirements

a. Concrete Pipe. Embedment material and compaction requirements shall be in accordance with the applicable Type of Standard Installation (Types 1, 2, 3, or 4) per ASTM C1479. If a concrete cradle or CLSM embedment material is used, it shall conform to the plan details.

b. Plastic and fiberglass Pipe. Not Used.

c. Metal Pipe. Not Used.

701-3.5-2 Placement of Embedment Material

The embedment material shall be compacted in layers not exceeding 6 inches (150 mm) on each side of the pipe and shall be brought up one foot (30 cm) above the top of the pipe or to natural ground level, whichever is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers not exceeding 6 inches (150 mm) and shall be brought up evenly on each side of the pipe to one foot (30 cm) above the top of the pipe. All embedment material shall be compacted to a density required under Item P-152.

Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints, weighing, or placement technique.

It shall be the Contractor's responsibility to protect installed pipes and culverts from damage due to construction equipment operations. The Contractor shall be responsible for installation of any extra strutting or backfill required to protect pipes from the construction equipment.

701-3.6 Overfill

Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense. Evaluation of any damage to RCP shall be evaluated based on AASHTO R73.

Overfill material shall be place and compacted in layers as required to achieve compaction to at least 95 percent standard proctor per ASTM D698. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

701-3.7 Inspection Requirements

An initial post installation inspection shall be performed by the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

Use a camera with lighting suitable to allow a clear picture of the entire periphery of the pipe interior. Center the camera in the pipe both vertically and horizontally and be able to pan and tilt to a 90 degree angle with the axis of the pipe rotating 360 degrees. Use equipment to move the camera through the pipe that will not obstruct the camera's view or interfere with proper documentation of the pipe's condition. The video image shall be clear, focused, and relatively free from roll, static, or other image distortion qualities that would prevent the reviewer from evaluating the condition of the pipe.

Reinforced concrete pipe shall be inspected, evaluated, and reported on in accordance with ASTM C1840, "Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe." Any issues reported shall include still photo and video documentation. The zoom ratio shall be provided for all still or video images that document any issues of concern by the inspection firm.

701-3.8 Connections. Where the Contract Drawings call for connections to existing or proposed structures, these connections shall be watertight and made so that a smooth uniform flow line will be obtained throughout the drainage system.

701-3.9 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. Suitable material may be deposited in embankment or shoulders areas. Unsuitable material shall be disposed of off airport property or as ordered by the Engineer.

Areas disturbed by the Contractor's operation shall be restored to their original condition. Restoration of surfaces shall be performed in accordance with the details shown on the plans.

Where pipes are installed or removed outside of the general grading limits, or in areas that would not otherwise be disturbed, restoration shall be considered necessary and incidental to the work of this item and the costs shall be included in the associated pay items for pipe installation or pipe removal.

Where pipes are installed or removed within the general grading limits, restoration of the area will not be necessary as payment for establishment of turf or pavement will be included in the various pay items of work involved.

The Contractor shall be responsible for maintaining all disturbed surfaces and restorations until final acceptance.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. Each class, types and size of pipe shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured. All trenching, excavation, pipe removals in the same trench, backfill, sheeting and bracing, restoration of surfaces, dewatering, structure modifications, connections, fittings and pressure tests shall be included in the footage as typical pipe sections in the pipe being measured.

BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

701-5.1 Payment will be made at the contract unit price per linear foot for each class, type and size of pipe.

Payment will be made under:

Item D-701-5.1	12” inch RCP, Class IV - per linear foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C94	Standard Specification for Ready Mixed Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes

ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

National Fire Protection Association (NFPA)

NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

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Item D-751 Manholes, Catch Basins, Inlets and Inspection Holes

DESCRIPTION

751-1.1 This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

This item shall also include all associated excavation, backfilling with on-site materials, modification of existing manholes or catch basins, sheeting and bracing, concrete, reinforcing steel, steps, frames and covers, appurtenances, dewatering and restoration of surfaces to the satisfaction of the RPR.

MATERIALS

751-2.1 Brick. Not Used.

751-2.2 Mortar. Mortar shall consist of one part Portland cement and two parts sand. The cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

751-2.3 Concrete. Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610.

751-2.4 Precast concrete pipe manhole rings. Precast concrete pipe manhole rings shall conform to the requirements of ASTM C478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36 inches (90 cm) nor more than 48 inches (120 cm). There shall be a gasket between individual sections and sections cemented together with mortar on the inside of the manhole. Gaskets shall conform to the requirements of ASTM C443.

751-2.5 Corrugated metal. Corrugated metal shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M36.

751-2.6 Frames, covers, and grates. The castings shall conform to one of the following requirements:

a. ASTM A48, Class 35B: Gray iron castings

b. ASTM A47: Malleable iron castings

c. ASTM A27: Steel castings

d. ASTM A283, Grade D: Structural steel for grates and frames

e. ASTM A536, Grade 65-45-12: Ductile iron castings

f. ASTM A897: Austempered ductile iron castings

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

751-2.7 Steps. Not Used.

751-2.8 Precast concrete structures. Provide precast concrete structures where shown on the plans. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program and shall be manufactured in accordance with and conforming to ASTM C913 and ASTM C478. Precast structures shall have bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand AASHTO HS-25 (min.) loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans. Precast structures with multiple sections shall have bitumastic sealer placed between all joints to make them watertight.

CONSTRUCTION METHODS

751-3.1 Unclassified excavation.

a. The Contractor shall excavate for structures and footings to the lines and grades or elevations, shown on the plans, or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximately only; and the RPR may direct, in writing, changes in dimensions or elevations of footings necessary for a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. Where concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for the structure.

d. All bracing, sheathing, or shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage finished masonry. The bracing, sheeting or shoring shall not be removed in one operation, but shall be done in successive stages as determined by the RPR to prevent overloading of the structure during backfilling operations. That portion of the sheeting extending below the top of the structure bed shall be withdrawn, unless otherwise directed, before more than six inches of backfill material is placed and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose, or otherwise as may be approved. The RPR may order the Contractor to delay the removal of sheeting and bracing, if, in his judgement, the installed work has not attained the necessary strength to permit placing of backfill. The cost of removal shall be included in the unit price bid for the structure.

e. After excavation is completed for each structure, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

f. Where structures are to be connected to existing pipes, Contractor shall maintain flow in the sewer system. This work shall be accomplished by pumping around the structure, pumping aboveground from upstream structure to downstream structure, or by other methods acceptable to the Engineer. Contractor shall make pipe connections using materials matching the existing pipes. Connections to existing pipes shall be watertight and made so that a smooth uniform flow line will be obtained throughout the drainage system.

g. The Contractor is responsible for removal of water regardless of its source. Measures shall be taken to protect the excavation from surface water runoff as well as for dewatering the excavation from any water which has entered the excavation. The cost for removal of water shall be considered a subsidiary obligation of the Contractor and included in the contract price for the pay items of work involved.

751-3.2 Brick structures. Not Used.

751-3.3 Concrete structures. Concrete structures which are to be cast-in-place within the project boundaries shall be built on prepared foundations, conforming to the dimensions and shape indicated on the plans. Bedding below the concrete structure shall be compacted to 95% maximum density for non-cohesive soils and 90% maximum density for cohesive soils in accordance with ASTM D 698. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

All invert channels shall be constructed and shaped accurately to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped to the outlet.

751-3.4 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program.

Precast concrete structures shall conform to ASTM C478. Precast concrete structures shall be constructed on prepared or previously placed slab foundations conforming to the dimensions and locations shown on the plans. All precast concrete sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily. Joints between precast concrete risers and tops shall be full-bedded in cement mortar and shall: (1) be smoothed to a uniform surface on both interior and exterior of the structure or (2) utilize a rubber gasket per ASTM C443. The top of the upper precast concrete section shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required. Provision shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal or metal encapsulated steps that are embedded or built into the side walls shall be aligned and placed in accordance to ASTM C478. When a metal ladder replaces the steps, it shall be securely fastened into position.

751-3.5 Corrugated metal structures. Corrugated metal structures shall be prefabricated. All standard or special fittings shall be furnished to provide pipe connections or branches with the correct dimensions and of sufficient length to accommodate connecting bands. The fittings shall be welded in place to the metal structures. The top of the metal structure shall be designed so that either a concrete slab or metal collar may be attached to allow the fastening of a standard metal frame and grate or cover. Steps or ladders shall be furnished as shown on the plans. Corrugated metal structures shall be constructed on prepared foundations, conforming to the dimensions and locations as shown on the plans. When indicated, the structures shall be placed on a reinforced concrete base.

751-3.6 Inlet and outlet pipes. Inlet and outlet pipes shall extend through the walls of the structures a sufficient distance beyond the outside surface to allow for connections. They shall be cut off flush with the wall on the inside surface of the structure, unless otherwise directed. For concrete or brick structures, mortar shall be placed around these pipes to form a tight, neat connection.

751-3.7 Placement and treatment of castings, frames, and fittings. All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the RPR, and shall be set true to line and elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are placed on previously constructed masonry, the bearing surface of the masonry shall be brought true to line and grade and shall present an even bearing surface so the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar beds and anchored to the masonry as indicated on the plans or as directed by the RPR. All units shall set firm and secure.

After the frames or fittings have been set in final position, the concrete or mortar shall be allowed to harden for seven (7) days before the grates or covers are placed and fastened down.

751-3.8 Installation of steps. Not Used.

751-3.9 Backfilling.

a. After a structure has been completed, the area around it shall be backfilled with approved material, in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited evenly around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

b. Backfill shall not be placed against any structure until approved by the RPR. For concrete structures, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill and placing methods.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered an obligation of the Contractor covered under the contract unit price for the structure involved.

751-3.10 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition. Where no other work or soil disturbance is required, restoration shall be considered incidental to the respective D-751 pay item.

Manholes and catch basins in areas of existing special surface treatment, such as aprons, taxiways, runways, shoulders, roads, sidewalks, or similar stabilized surfaces shall be restored using materials comparable to original materials, and at depths matching existing layers. Payment for restoration shall be considered a subsidiary and incidental part of the completion of this item and as such, the Contractor shall include all costs associated with restoration in the various pay items involved.

Manholes and catch basins in proposed turf areas shall be restored in accordance with the topsoil, seeding and mulching specifications of this contract. Topsoil, seeding and mulching will be paid for at the contract unit price for the pay items involved. All other work associated with restoration shall be considered a subsidiary and incidental part of the completion of this item and as such, the Contractor shall include the costs associated with restoration in the various pay items involved.

Manholes and catch basins in areas of proposed pavement such as aprons, taxiways, runways, shoulders, roads, sidewalks, or other similar stabilized surfaces shall be restored using the materials specified or as shown on the plans. Payment for restoration up to the bottom of the proposed pavement section shall be considered a subsidiary and incidental part of the completion of this item and as such, the Contractor shall include all costs associated with restoration in the various pay items involved.

After all work is completed, the Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

751-3.11 Inspection. Prior to final approval, each structure shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship or obstruction to flow in the structure or pipe system shall be further investigated and corrected. Defects shall be corrected by the Contractor as directed by the Engineer, and without additional compensation.

751-3.12 Modification of existing structures. The Contractor shall modify structures at locations designated on the plans to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise the top of each structure to the new elevations. The existing top elevation of each structure to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation. Extensions provided for structure modification shall meet the strength requirements of Section 2.7 above. Modification of existing structures shall be performed in accordance with details shown on the plans.

METHOD OF MEASUREMENT

751-4.1 Manholes, catch basins, inlets, inspection holes, drywells, and modification of structures shall be measured by each unit completed and accepted including all required excavation, dewatering, sheeting & bracing, backfill, restoration, and connections.

BASIS OF PAYMENT

751-5.1 The accepted quantities of manholes, catch basins, inlets, inspection holes, drywells, and modification of structures will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item D-751-5.1	Catch Basin	- per each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM Iqnternational (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C32	Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale)
ASTM C144	Standard Specification for Aggregate for Masonry Mortar

ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
ASTM C478	Standard Specification for Precast Reinforced Concrete Manhole Sections
ASTM C913	Standard Specification for Precast Concrete Water and Wastewater Structures.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M36	Standard Specification for Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains

END OF ITEM D-751

Item L-108 Underground Power Cable for Airports

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables that are direct buried and furnishing and/or installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the RPR. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of cable for FAA owned/operated facilities.

EQUIPMENT AND MATERIALS

108-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be approved under the Airport Lighting Equipment Certification Program per AC 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials, or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. The Contractor shall maintain a minimum insulation

resistance in accordance with paragraph 108-3.10e with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period when tested in accordance with AC 150/5340-26, *Maintenance Airport Visual Aid Facilities*, paragraph 5.1.3.1, Insulation Resistance Test.

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #8 American wire gauge (AWG), L-824 Type C, 5,000 volts, non-shielded, with cross-linked polyethylene insulation. L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Commercial Item Description A-A-59544A and shall be type THWN-2, 75°C for installation in conduit and RHW-2, 75°C for direct burial installations. Conductors for parallel (voltage) circuits shall be type and size and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, THWN-2, 600-volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of THWN-2, 600-volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up adapters, terminal blocks and splicing materials necessary to complete the cable termination/splice shall be considered incidental to the respective pay items provided.

Cable type, size, number of conductors, strand and service voltage shall be as specified in the Contract Document.

108-2.3 Bare copper wire (counterpoise, bare copper wire ground and ground rods). Wire for counterpoise installations for airfield lighting systems shall be No. 6 AWG bare solid copper wire per ASTM B3. For voltage powered circuits, the equipment grounding conductor shall comply with NEC Article 250.

Ground rods shall be copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 8 feet (2.4 m) long and 5/8 inch (16 mm) in diameter.

108-2.4 Cable connections. In-line connections or splices of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

a. The cast splice. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M™ Company, "Scotchcast" Kit No. 82-B, or an approved equivalent, used for potting the splice is acceptable.

b. The field-attached plug-in splice. Field attached plug-in splices shall be installed as shown on the plans. The Contractor shall determine the outside diameter of the cable to be spliced and furnish appropriately sized connector kits and/or adapters. Tape or heat shrink tubing with integral sealant shall be

in accordance with the manufacturer's requirements. Primary Connector Kits manufactured by Amerace, "Super Kit", Integro "Complete Kit", or approved equal is acceptable.

c. The factory-molded plug-in splice. Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

d. The taped or heat-shrink splice. Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D4388 and the plastic tape should comply with Military Specification MIL-I-24391 or Commercial Item Description A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and armored cables shall be factory kits that are designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the RPR proof of the qualifications of each proposed cable splicer for the airport cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

108-2.7 Flowable backfill. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

108-2.8 Cable identification tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2 inch (38 mm) wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the existing circuit's insulation resistance shall be tested, in the presence of the RPR. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing circuit to bring the second

reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

108-2.12 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) Red (electrical power lines, cables, conduit and lighting cable) with continuous legend tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item. Detectable warning tape for communication cables shall be orange. Detectable warning tape color code shall comply with the APWA Uniform Color Code.

CONSTRUCTION METHODS

108-3.1 General. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Cable shall be run without splices, from fixture to fixture.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections unless otherwise authorized in writing by the RPR or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans, but in no case shall they be further apart than 1,000 feet of cable run. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed and on both sides of slack loops where a future connector would be installed.

Provide not less than 3 feet (1 m) of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot (30 cm) vertically above the top of the access structure. This requirement also applies where primary cable passes through empty light bases, junction boxes, and access structures to allow for future connections, or as designated by the RPR.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, hand holes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than 1/4 inch (6 mm) in size. The cable circuit identification shall match the circuits noted on the construction plans.

108-3.2 Installation in duct banks or conduits. This item includes the installation of the cable in duct banks or conduit per the following paragraphs. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be per the latest version of the National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and that any potential interference is avoided.

Duct banks or conduits shall be installed as a separate item per Item L-110, Airport Underground Electrical Duct Banks and Conduit. The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to ensure that the duct bank or conduit is open, continuous and clear of debris. The mandrel size shall be compatible with the conduit size. The Contractor shall swab out all conduits/ducts and clean light bases, manholes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed, the light bases and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, light bases, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be re-cleaned at the Contractor's expense. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

The cable shall be installed in a manner that prevents harmful stretching of the conductor, damage to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall not exceed the cable manufacturer's recommendations. A non-hardening cable-pulling lubricant recommended for the type of cable being installed shall be used where required.

The Contractor shall submit the recommended pulling tension values to the RPR prior to any cable installation. If required by the RPR, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the RPR. Cable pull tensions shall be recorded by the Contractor and reviewed by the RPR. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or NEC requirements (whichever is more restrictive) shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the RPR, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

108-3.3 Installation of direct-buried cable in trenches. All cables in this project are scheduled to be installed in conduit, except the bare copper counterpoise wire which is direct buried above the conduit runs.

Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted.

Where cables must cross over each other, a minimum of 3 inches (75 mm) vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

a. Trenching. Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially

smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 inches (0.5 m) below finished grade per NEC Table 300.5, except as follows:

- When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 inches (91 cm) unless otherwise specified.
- Minimum cable depth when crossing under a railroad track, shall be 42 inches (1 m) unless otherwise specified.

The Contractor shall excavate all cable trenches to a width not less than 6 inches (150 mm). Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required cable depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill material may alternatively be used.

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.

b. Backfilling. After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall encompass all cables; be 3 inches (75 mm) deep, loose measurement; and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. This layer shall not be compacted. The second layer shall be 5 inches (125 mm) deep, loose measurement, and shall contain no particles that would be retained on a one-inch (25.0 mm) sieve. The remaining third and subsequent layers of backfill shall not exceed 8 inches (20 cm) of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 inches (100 mm) maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent material. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be to a minimum of 100 percent of ASTM D698 or backfill with controlled low strength material (CLSM) in accordance with P-153.

Trenches shall not contain pools of water during backfilling operations. The trench shall be completely backfilled and tamped level with the adjacent surface, except that when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the type of turfing operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of per the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the RPR. If not shown on the plans, the warning tape shall be located 6 inches (150 mm) above the direct-buried cable or the counterpoise wire if present. A 3-6 inch (75 - 150 mm) wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 inches (200 mm) minimum below finished grade.

c. Restoration. Following restoration of all trenching near airport movement surfaces, the Contractor shall visually inspect the area for foreign object debris (FOD) and remove any that is found. Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the topsoiling, fertilizing and liming, seeding, and mulching, as shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be to a minimum of 100 percent of ASTM D698 or backfill with controlled low strength material (CLSM) in accordance with P-153. Restoration shall be considered incidental to the pay item of which it is a component part.

108-3.4 Cable markers for direct-buried cable. The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet (60 cm) square and 4-6 inch (10 - 15 cm) thick, extending approximately one inch (25 mm) above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet (61 m) along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word "CABLE" and directional arrows on each cable marking slab. The letters shall be approximately 4 inches (100 mm) high and 3 inches (75 mm) wide, with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep. Stencils shall be used for cable marker lettering; no hand lettering shall be permitted.

At the location of each underground cable connection/splice, except at lighting units, or isolation transformers, a concrete marker slab shall be installed to mark the location of the connection/splice. The Contractor shall impress the word "SPLICE" on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the RPR. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. After placement, all cable or splice markers shall be given one coat of high-visibility aviation orange paint as approved by the RPR. Furnishing and installation of cable markers is incidental to the respective cable pay item.

108-3.5 Splicing. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. Cast splices. These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured per the manufacturer's instructions and to the satisfaction of the RPR.

b. Field-attached plug-in splices. These shall be assembled per the manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint or (3) On connector kits equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

c. Factory-molded plug-in splices. These shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) Wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint. (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint. or (3) On connector kits so equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

d. Taped or heat-shrink splices. A taped splice shall be made in the following manner:

Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 inch (6 mm) of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 inches (75 mm) on each end) is clean. After scraping, wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. The manufacturer's recommendation for stretching tape during splicing shall be followed. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately one inch (25 mm) over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer’s instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminates prior to application.

e. Assembly. Surfaces of equipment or conductors being terminated or connected shall be prepared in accordance with industry standard practice and manufacturer’s recommendations. All surfaces to be connected shall be thoroughly cleaned to remove all dirt, grease, oxides, nonconductive films, or other foreign material. Paints and other nonconductive coatings shall be removed to expose base metal. Clean all surfaces at least 1/4 inch (6.4 mm) beyond all sides of the larger bonded area on all mating surfaces. Use a joint compound suitable for the materials used in the connection. Repair painted/coated surface to original condition after completing the connection.

108-3.6 Bare counterpoise wire installation for lightning protection and grounding. If shown on the plans or included in the job specifications, bare solid #6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The RPR shall select one of two methods of lightning protection for the airfield lighting circuit based upon sound engineering practice and lightning strike density.

a. Equipotential. The counterpoise size is as shown on the plans. The equipotential method is applicable to all airfield lighting systems; i.e. runway, taxiway, apron – touchdown zone, centerline, edge, threshold and approach lighting systems. The equipotential method is also successfully applied to provide lightning protection for power, signal and communication systems. The light bases, counterpoise, etc – all components - are bonded together and bonded to the vault power system ground loop/electrode.

Counterpoise wire shall be installed in the same trench for the entire length of buried cable, conduits and duct banks that are installed to contain airfield cables. The counterpoise is centered over the cable/conduit/duct to be protected.

The counterpoise conductor shall be installed no less than 8 inches (200 mm) minimum or 12 inches (300 mm) maximum above the raceway or cable to be protected, except as permitted below:

(1) The minimum counterpoise conductor height above the raceway or cable to be protected shall be permitted to be adjusted subject to coordination with the airfield lighting and pavement designs.

(2) The counterpoise conductor height above the protected raceway(s) or cable(s) shall be calculated to ensure that the raceway or cable is within a 45-degree area of protection, (45 degrees on each side of vertical creating a 90 degree angle).

The counterpoise conductor shall be bonded to each metallic light base, mounting stake, and metallic airfield lighting component.

All metallic airfield lighting components in the field circuit on the output side of the constant current regulator (CCR) or other power source shall be bonded to the airfield lighting counterpoise system.

All components rise and fall at the same potential; with no potential difference, no damaging arcing and no damaging current flow.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Equipotential Method of lightning protection.

Reference FAA STD-019E, Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment, Part 4.1.1.7.

b. Isolation. Not used.

c. Common Installation requirements. When a metallic light base is used, the grounding electrode shall be bonded to the metallic light base or mounting stake with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

When a nonmetallic light base is used, the grounding electrode shall be bonded to the metallic light fixture or metallic base plate with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

Grounding electrodes may be rods, ground dissipation plates, radials, or other electrodes listed in the NFPA 70 (NEC) or NFPA 780.

Where raceway is installed by the directional bore, jack and bore, or other drilling method, the counterpoise conductor shall be permitted to be installed concurrently with the directional bore, jack and bore, or other drilling method raceway, external to the raceway or sleeve.

The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 feet (150 m) apart around the entire circuit. The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode-grounding system. The connections shall be made as shown on the plans and in the specifications.

Where an existing airfield lighting system is being extended or modified, the new counterpoise conductors shall be interconnected to existing counterpoise conductors at each intersection of the new and existing airfield lighting counterpoise systems.

d. Parallel Voltage Systems. Provide grounding and bonding in accordance with NFPA 70, National Electrical Code.

108-3.7 Counterpoise installation above multiple conduits and duct banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete area of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete area of protection measured 45 degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

108-3.8 Counterpoise installation at existing duct banks. When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.9 Exothermic bonding. Bonding of counterpoise wire shall be by the exothermic welding process or equivalent method accepted by the RPR. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the RPR, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. Using an exothermic weld to bond the counterpoise to a lug on a galvanized light base is not recommended unless the base has been specially modified. Consult the manufacturer's installation directions for proper methods of bonding copper wire to the light base. See AC 150/5340-30 for galvanized light base exception.

c. If called for in the plans, all buried copper and weld material at weld connections shall be thoroughly coated with 6 mm of 3M™ Scotchkote™, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

108-3.10 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the RPR. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The RPR shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the RPR the following:

a. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

b. That all affected circuits (existing and new) are free from unspecified grounds.

c. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than 50 megohms. Verify continuity of all series airfield lighting circuits prior to energization.

d. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 megohms.

e. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

f. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

g. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

108-4.2 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet installed and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall not include additional quantities required for slack. Cable and counterpoise slack is considered incidental to this item and is included in the Contractor's unit price.

108-4.3 No separate payment will be made for ground rods.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

Payment will be made under:

Item L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit - per liner foot

Item L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire Installed in Trench - per linear foot

SUBMITTALS AND CERTIFICATIONS

The following "Shop and Setting Drawings", "Working Drawings", Catalogue Data" and "Certifications" shall be submitted for review:

- Catalogue data for each size and type of cable.
- Catalogue data for counterpoise wire.
- Catalogue data for ground wire.
- Catalogue data for ground rods.
- Catalogue data for cable connections.
- Catalogue data for ID tags.
- Catalogue data for electrical tape.
- Catalogue data for heat-shrink tubing.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

ASTM International (ASTM)

ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes

Mil Spec

MIL-PRF-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical

MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems

American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

END OF ITEM L-108

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Item L-109 Airport Electric Building Equipment

DESCRIPTION

109-1.1 This item shall consist of the furnishing and installation of all electric building equipment, equipment installed in remote buildings, electric service entrances, wiring, electrical buses, cable, conduit, potheads, and grounding systems as shown on the plans or specified herein. This work shall also include the painting of equipment and conduit; the marking and labeling of equipment and the labeling or tagging of wires; the testing of the installation; and the furnishing of all incidentals necessary to place it in operating condition as a completed unit to the satisfaction of the RPR. Also included is the removal of existing airport electric building equipment, including the repair of conduit terminations, and the patching and painting of walls where equipment and hangers, studs, etc. are removed.

EQUIPMENT AND MATERIALS

109-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be certified in AC 150/5345-53, Airport Lighting Equipment Certification Program (ALECP) and listed in the ALECP Addendum.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by

the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

109-2.2 PVC **coated rigid galvanized steel conduit.** Conduit shall be rigid steel conduit as specified below. Coating shall be 0.040-inch PVC factory applied, meeting NEMA Standard No. RN1-1980 (Type 40). Fittings shall have same treatment.

109-2.3 Liquid-tight flexible metal conduit. Liquid-tight flexible metal conduit shall be zinc coated steel conforming to the requirements of Federal Specification WW-C-566. The liquid-tight flexible metal conduit shall have a PVC jacket. Fittings and conduit bodies shall conform to ANSI/NEMA FB 1. The liquid-tight flexible metal conduit shall have the same inside diameter as the rigid steel or PVC conduit.

109-2.4 Electrical metallic tubing (EMT). Conduits shall conform to ANSI Standard C80.3. Fittings, connections and couplings shall be specifically approved for use with EMT.

109-2.5 Grounding System. The system neutral shall be bonded as per the National Electrical Code, latest edition. A complete "green wire" ground system shall be installed bonding all cabinets, enclosures and raceways to the same. Conductor size shall be in accordance with the National Electrical Code.

109-2.6 Rigid steel conduit. Rigid steel conduit and fittings shall be per Underwriters Laboratories Standards 6 and 514B.

109-2.7 Plastic Conduit and fittings. Plastic Conduit and fittings shall conform to the requirements of UL-651 and UL-654 schedule 40 polyvinyl chloride (PVC) suitable for use above or below ground.

109-2.8 Contactors. Contactors shall be defined purpose lighting contactors sized as required for the circuits shown.

109-2.9 Circuit breakers. Circuit breakers shall be of the bolt-on type, molded case, thermal magnetic indicating handle operated of common trip type. Rating shall be visible from front of the circuit breaker, either on the handle or trip unit. All branch circuit breakers shall have a minimum 10,000 Amps RMS Symmetrical Interrupting Capacity short circuit rating with Amp ratings as shown on the plans. Circuit breakers shall be UL listed.

109-2.10 Square duct. Duct shall be square similar to that manufactured by the Square D Company (or equivalent), or the Trumbull Electric Manufacturing Company (or equivalent). The entire front of the duct on each section shall consist of hinged or removable cover for ready access to the interior. The cross-section of the duct shall be not less than 4×4 inch except where otherwise shown in the plans.

109-2.11 FAA-approved equipment. Certain items of airport lighting equipment installed in electric buildings are covered by individual ACs listed below:

AC 150/5345-10 Specification for Constant Current Regulators and Regulator Monitors

109-2.12 Other electrical equipment. Distribution transformers, cutouts, relays, terminal blocks, transfer relays, circuit breakers, and all other regularly used commercial items of electrical equipment not covered by FAA equipment specifications and ACs shall conform to the applicable rulings and standards of the Institute of Electrical and Electronic Engineers (IEEE) or the National Electrical Manufacturers Association (NEMA). When specified, test reports from a testing laboratory indicating that the equipment meets the specifications shall be supplied. In all cases, equipment shall be new and a first-grade product. This equipment shall be supplied in the quantities required for the specific project and shall incorporate the electrical and mechanical characteristics specified in the proposal and plans. Equipment selected and installed by the Contractor shall maintain the interrupting current rating of the existing systems or specified rating whichever is greater.

109-2.13 Wire. Wire (in conduit) rated up to 5,000 volts shall be per AC 150/5345-7, Specification for L-824 Underground Electrical Cables for Airport Lighting Circuits. For ratings up to 600 volts, moisture and

heat resistant thermoplastic wire conforming to Commercial Item Description A-A-59544A Type THWN-2 shall be used. The wires shall be of the type, size, number of conductors, and voltage shown in the plans or in the proposal.

a. Control circuits. Unless otherwise indicated on the plans, wire shall be not less than No. 12 American wire gauge (AWG) and shall be insulated for 600 volts. If telephone control cable is specified, No. 19 AWG telephone cable per ANSI/Insulated Cable Engineers Association (ICEA) S-85-625 specifications shall be used.

b. Power circuits.

(1) 600 volts maximum – Wire shall be No. 6 AWG or larger and insulated for at least 600 volts.

(2) 3,000 volts maximum – Wire shall be No. 6 AWG or larger and insulated for at least 3,000 volts.

(3) Over 3,000 volts-Wire shall be No. 6 AWG or larger and insulated for at least the circuit voltage.

109-2.14 Short circuit / coordination / device evaluation / arc flash analysis. The Contractor shall, based upon the equipment provided, include as a part of the submittal process the electrical system "Short Circuit / Coordination / Device evaluation / Arc Flash Analysis". The analysis shall be performed by the equipment manufacturer and submitted in a written report. The analysis shall be signed and sealed by a registered professional Engineer from the state in which the project is located. The analysis shall comply with NFPA-70E and IEEE 1584.

The analysis will include: one line diagrams, short circuit analysis, coordination analysis, equipment evaluation, arc flash analysis and arc flash labels containing at a minimum, equipment name, voltage/current rating, available incident energy and flash protection boundary.

The selected firms field service Engineer shall perform data gathering for analysis completion and device settings, perform device setting as recommended by the analysis and will furnish and install the arc flash labels. The components worst case incident energy will be considered the available arc flash energy at that specific point in the system. Submit three written copies and one electronic copy of the report.

109-2.15 Circuit breaker panel boards (MDP & EDP). Shall have size and ratings as shown on Contract Drawings with copper busing, UL listed. Square D I line series, Type HCN or approved equal.

CONSTRUCTION OF VAULT AND PREFABRICATED METAL HOUSING

109-3.1 Not used.

CONSTRUCTION METHODS

CONSTRUCTION OF VAULT AND PREFABRICATED METAL HOUSING

109-4.1 Not used.

INSTALLATION OF EQUIPMENT IN AIRPORT ELECTRIC BUILDING

109-5.1 General. The Contractor shall furnish, install, and connect all equipment, equipment accessories, conduit, cables, wires, buses, grounds, and support necessary to ensure a complete and operable electrical distribution center for the airport lighting system as specified herein and shown in the plans. When specified, an emergency power supply and transfer switch shall be provided and installed.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and local code agency having jurisdiction. All electrical work shall comply with the NEC and local code agency having jurisdiction including the separation of under 600V work from 5,000V work.

109-5.2 Power supply equipment. Transformers, regulators, booster transformers, and other power supply equipment items shall be furnished and installed at the location shown in the plans or as directed by the RPR. The power supply equipment shall be set on steel "H" sections, "I" beams, channels, or concrete blocks to provide a minimum space of 1-1/2 inch (38 mm) between the equipment and the floor. The equipment shall be placed so as not to obstruct the oil-sampling plugs of the oil-filled units; and name-plates shall, so far as possible, not be obscured.

109-5.3 Switchgear and panels. Oil switches, fused cutouts, relays, transfer switches, panels, panel boards, and other similar items shall be furnished and installed at the location shown in the plans or as directed by the RPR. Wall or ceiling mounted items shall be attached to the wall or ceiling with galvanized bolts of not less than 3/8-inch (9 mm) diameter engaging metal expansion shields or anchors in masonry or concrete buildings.

109-5.4 Duct and conduit. The Contractor shall furnish and install square-type exposed metallic ducts with hinged covers for the control circuits in the airport electric building. These shall be mounted along the walls behind all floor-mounted equipment and immediately below all wall-mounted equipment. The hinged covers shall be placed to open from the front side with the hinges at the front bottom.

Wall brackets for square ducts shall be installed at all joints 2 feet (60 cm) or more apart with intermediate brackets as specified. Conduit shall be used between square ducts and equipment or between different items of equipment when the equipment is designed for conduit connection. When the equipment is not designed for conduit connection, conductors shall enter the square-type control duct through insulating bushings in the duct or on the conduit risers.

109-5.5 Wiring and connections. The Contractor shall make all necessary electrical connections in the airport electric building per the wiring diagrams furnished and as directed by the RPR. In wiring to the terminal blocks, the Contractor shall leave sufficient extra length on each control lead to make future changes in connections at the terminal block. This shall be accomplished by running each control lead the longest way around the box to the proper terminal. Leads shall be neatly laced in place.

109-5.6 Marking and labeling. All equipment, control wires, terminal blocks, etc., shall be tagged, marked, or labeled as specified below:

a. Wire identification. The Contractor shall furnish and install self-sticking wire labels or identifying tags on all control wires at the point where they connect to the control equipment or to the terminal blocks. Wire labels, if used, shall be of the self-sticking preprinted type and of the manufacturer's recommended size for the wire involved. Identification -markings designated in the plans shall be followed. Tags, if used, shall be of fiber not less than 3/4 inch (19 mm) in diameter and not less than 1/32 inch (1 mm) thick. Identification markings designated in the plans shall be stamped on tags by means of small tool dies. Each tag shall be securely tied to the proper wire by a nonmetallic cord.

b. Labels. The Contractor shall stencil identifying labels on the cases of regulators, breakers, and distribution and control relay cases with white oil paint as designated by the RPR. The letters and numerals shall be not less than one inch (25 mm) in height and shall be of proportionate width. The Contractor shall also mark the correct circuit designations per the wiring diagram on the terminal marking strips, which are a part of each terminal block.

109-5.7 Cable entrance and high-voltage bus system. Incoming underground cable from field circuits will be installed outside the walls of the airport electric building as a separate item under Item L-108. The Contractor installing the airport electric building equipment shall bring the cables from the trench or duct through the entrance conduits into the airport electric building and make the necessary electrical

connections. For the incoming and outgoing high voltage load circuits, the Contractor shall furnish and install rigid metallic conduit risers, surmounted by potheads, from floor level to the level as shown in the plans.

The incoming high-voltage power supply service shall be installed as shown on the plans. The high-voltage power supply service shall use the materials specified and shall be mounted and installed in accordance with the requirements of the National Electrical Code or the local code agency having jurisdiction.

109-5.8 Airfield lighting control operation. Airfield lighting control shall be as shown on the plans. The installation shall be fully tested as a completed unit prior to acceptance. Testing shall include the operation of each control not less than 10 times. Lighting systems on constant current regulators shall be tested on all steps. All tests shall be performed in the presence of the RPR.

109-5.9 Airport shutdowns. The airport shall be notified as least 48 hours prior to any power interruptions. Service must be maintained to the existing airport electric building and airfield. Power outages shall not occur during inclement weather.

109-5.10 Record drawings. Submit one copy of record drawings depicting the control wiring for the airfield lighting circuits. Identify and show all wired terminals. Include the wiring of each control panel as well as the interconnecting wiring. Interconnecting wiring shall show the tagged numbers as installed and colors if applicable.

METHOD OF MEASUREMENT

109-6.1 The quantity of equipment to be paid for under this item shall consist of all equipment installed, connected and accepted as a complete units, ready for operation, for the various building equipment installations will be measured on lump sum bases.

BASIS OF PAYMENT

109-7.1 Payment will be made at the lump sum prices for the various building equipment installations completed and accepted . These prices shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item. Partial payments of the lump sum prices bid may be made for these items as the work progresses, at the discretion of the RPR, in accordance with the approved schedule of values.

Airport Electric Building Equipment generally includes all work within the airfield electrical building including demolition, constant current regulators, cable, conduit, circuit breakers, connections, start-up and testing as shown on Contract Drawing EL-601.

Payment will be made under:

Item L-109-7.1 Airport Electric Building Equipment - per lump sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-10	Specification for Constant Current Regulators and Regulator Monitors
AC 150/5345-53	Airport Lighting Equipment Certification Program

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/ICEA S-85-625	Standard for Telecommunications Cable Aircore, Polyolefin Insulated, Copper Conductor Technical Requirements

Commercial Item Description (CID)

A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation) Institute of Electrical and Electronic Engineers (IEEE)
IEEE 1584	Guide for Performing Arc-Flash Hazard Calculations

Master Painter's Institute (MPI)

MPI Reference #9	Alkyd, Exterior, Gloss (MPI Gloss Level 6)

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit – Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
NFPA-70E	Standard for Electrical Safety in the Workplace
NFPA-780	Standard for the Installation of Lightning Protection Systems

END OF ITEM L-109

Item L-110 Airport Underground Electrical Duct Banks and Conduits

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits and removal of existing duct banks. It shall also include all trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in project that accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

110-2.2 Steel conduit. Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mils of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth.

110-2.3 Plastic conduit. Plastic conduit and fittings-shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

a. Type I–Schedule 40 and Schedule 80 PVC suitable for underground use either direct-buried or encased in concrete.

b. Type II–Schedule 40 PVC suitable for either above ground or underground use.

c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.

d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split conduit. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 Conduit spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

110-2.8 Flowable backfill. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item. The legend shall read "CAUTION: BURIED ELECTRIC LINE BELOW", or similar language which includes the words "CAUTION" and "ELECTRIC".

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches (50 mm) inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the duct bank shall not be less than 18 inches (0.5 m) below the subgrade; in other locations, the top of the duct bank or underground conduit shall be not less than 18 inches (0.5 m) below finished grade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank, and applies to both new and existing to be reused conduits. An iron-shod mandrel, not more than 1/4 inch (6 mm) smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound (90 kg) test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet (1.5 m).

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill may alternatively be used

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet (60 cm).

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

a. Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

b. Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair. In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches (0.5 m) below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches (0.5 m) below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet (1 m) beyond the edges of the pavement or 3 feet (1 m) beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches (75 mm) thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches (75 mm) apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches (75 mm) thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot (1.5-m) intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches (75 to 150 mm) wide tape, 8 inches (200 mm) minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch (75-mm) wide tape only for single conduit runs. Utilize the 6-inch (150-mm) wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches (600 mm) in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the RPR shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

110-3.3 Conduits without concrete encasement. Trenches for single-conduit lines shall be not less than 6 inches (150 mm) nor more than 12 inches (300 mm) wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches (100 mm) thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch (6.3 mm) sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches (0.5 m) below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches (60 cm) below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and lot less than 6 inches (150 mm) apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet (60 cm) square and 4 - 6 inches (100 - 150 mm) thick extending approximately one inch (25 mm) above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet (61 m) along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word “DUCT” or “CONDUIT” on each marker slab. Impression of letters shall be done in a manner, approved by the RPR, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches (100 mm) high and 3 inches (75 mm) wide with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for conduits. For conduits, 8 inches (200 mm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 except that material used for back fill shall be select material not larger than 4 inches (100 mm) in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.6 Backfilling for duct banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 “Excavation and Embankment” except that the material used for backfill shall be select material not larger than 4 inches (100 mm) in diameter. In addition to the requirements of Item P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet (76 m) of duct bank or one work period’s construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include sodding, topsoiling, fertilizing and liming, seeding, sprigging, and mulching shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

110-3.8 Cable Removal. All abandoned cable shall be removed from duct banks and conduits in cases where the duct bank or conduit is scheduled to remain and be abandoned in place. Abandoned cable is considered both cables abandoned as part of this project as well as previously abandoned and verified inactive/ dead cables. Cable removal is measured per the length of electrical conduit, regardless of how many cables are contained within the conduit.

It is the overall intent of the design to remove all previously abandoned cables as well as cables scheduled to be abandoned as part of this project in the existing duct bank system. Any duct banks shown on the plans to have abandoned cable removed shall be thoroughly inspected by the contractor in the presence of the RPR. Any and all abandoned cable to be removed shall be approved by the RPR prior to removal. The methods for removal of abandoned cable shall also be approved by the RPR.

The process used to remove existing cables shall not damage existing cables to remain. In the event of damage to existing utilities, operating cables, electrical manholes or duct banks the Engineer is to be notified immediately. The Contractor shall repair all damage, as directed by the RPR, immediately and at the Contractor's expense.

All cable removed shall become the property of the Contractor and shall be disposed of in a manner which is in accordance with all Federal, State and Local regulations. In no case, shall any removed cables be left within the airport limits. Contractor shall make every effort to recycle the used cable at an approved recycling center. When the Contractor chooses to dispose of cable off the airport property, the Contractor shall obtain and file with the RPR permission in writing from the property owner for the use of private property for this purpose.

No direct payment will be made for spoiling operations. The cost of spoiling material off-site shall be considered incidental to this Contract and the costs shall be included in the various pay items involved.

110-3.9 Conduit and duct bank removal. Where existing conduits and duct banks are to be removed in the same trench as proposed conduits and duct banks, or fall within the general pavement section excavation limits, the Contractor shall consider such removal as an incidental part of construction and include the costs thereof in the various pay items involved. Where existing conduits and duct banks are to be removed outside of proposed trenching limits, or outside the pavement section box out excavation, they shall be paid for separately. The cost of such removal shall include excavation, conduit and duct bank removal, disposal, and backfill. Restoration shall be as specified below in the section titled "Restoration". Backfill shall be with suitable on-site material unless otherwise shown or specified. Backfill under paved areas shall be as shown on the plans. Conduit and duct banks shall be removed as shown on the plans and as directed by the Engineer. When conduit and duct banks are removed and disconnected from existing structures, the

openings in the structure shall be closed watertight with brick and mortar. When conduits and duct banks are to be replaced, any structure modifications required to accept the proposed conduit and duct bank shall be done with all connections grouted watertight.

Where conduits or duct banks are installed or removed outside of the general grading limits, or in areas that would not otherwise be disturbed, restoration shall be considered necessary and incidental to the work of this item and the costs shall be included in the associated pay items of work involved.

Where conduits or duct banks are installed or removed within the general grading limits, restoration of the area will not be necessary as payment for establishment of turf or pavement will be included in the various pay items of work involved.

110-3.10 Grouting conduits in pavement. Conduit trenches in pavement to receive concrete grout material shall be thoroughly cleaned to the satisfaction of the Engineer prior to placement of grout material. Trench sides shall be saw cut to a vertical face with no surface spalling. Grout material shall be placed to the depths shown on the Contract Drawings. Grouting conduits in pavement shall be considered necessary and incidental to the work of this item and the costs shall be included in the various pay items involved.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear feet of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, and restoration, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for removal and disposal of existing duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1	Non-Encased Electrical Conduit, 1 Way - 2 Inch PVC Conduit in Turf – per linear foot
Item L-110-5.2	Concrete Encased Electrical Conduit, 1 Way – 2 Inch PVC Conduit, In Pavement – per linear foot
Item L-110-5.3	CLSM Encased Electrical Conduit, 1 Way – 2 Inch PVC Conduit, In RSA Soil Stabilization– per linear foot
Item L-110-5.4	CLSM Encased Electrical Conduit, 1 Way – 3 Inch HDPE Conduit, In RSA Soil Stabilization– per linear foot
Item L-110-5.5	Concrete Encased Electrical Duct Bank Extension, 2 Way – 3 Inch PVC Conduit, In Pavement – per linear foot
Item L-110-5.6	Concrete Encased Electrical Duct Bank Extension, 3 Way – 3 Inch PVC Conduit, In Pavement – per linear foot
Item L-110-5.7	Cable Removal In Existing Duct Bank or Conduit – per linear foot

Item L-110-5.8 Electrical Drainage Gravel Sump – per each

SUBMITTALS AND CERTIFICATIONS

The following "Shop and Setting Drawings", "Working Drawings", Catalogue Data" and "Certifications" shall be submitted for review:

- Catalogue data for rigid galvanized steel conduit.
- Catalogue data for PVC coated rigid steel conduit.
- Catalogue data for PVC conduit.
- Catalogue data for conduit spacers.
- Concrete mix design.
- Catalogue data for detectable warning tape.
- Catalogue data for flexible conduit.
- Material certification and gradation sieve analysis for bedding.
- Submittal for concrete grouting material meeting the requirements specified.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circular (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit - Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 1242	Electrical Intermediate Metal Conduit Steel
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings

END OF ITEM L-110

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Item L-113 Installation of Conduits by Directional Drilling

DESCRIPTION

113-1.1. This item shall consist of the installation of conduits of the types and sizes shown by directional drilling, furnished and installed in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the Contract Drawings. This item includes procurement and installation of conduits, excavation and backfill necessary for construction of boring and receiving pits, connections to conduit with fittings as required, cleanup, restoration, and all incidentals necessary for a complete installation.

MATERIALS

113-2.1 DRILLING FLUID. Drilling fluid shall be provided by the Contractor and shall be selected based on soil conditions at the site of the work. The Contractor shall submit the drilling fluid for information only. Waste oil or environmentally non-compatible polymers shall not be part of the composition.

113-2.2 WATER. Water shall be clean, fresh and free of impurities which would alter the effectiveness of the drilling fluid to be used. The Contractor shall be responsible for procuring water for use during the directional drilling operation.

113-2.3 CONDUIT. The conduit shall meet the requirements of Underwriters Laboratories Standards UL-651A and NEMA TC7 and ASTM standards F2160-10 & 1962-11. Smooth wall conduit shall be minimum schedule 80 HDPE pipe. Material used for the manufacture of the pipe and fittings shall have a cell classification of 345444C according to ASTM D 3350. The pipe shall be stamped by the manufacturer with a designation of PE3408/4710 or PE4710.

The diameter of the conduit and the number of conduits shall be as shown on the plans. The diameters referenced are the nominal conduit diameters. Conduit bundles shall be made up of the number of conduits required as shown on the Contract Drawings.

113-2.4 SUBMITTALS FROM THE INSTALLER. The Contractor shall submit evidence that the installer performing the directional drilling has at least 5 years of experience planning and installing directionally drilled utilities of a diameter, length and complexity similar to this project.

Work Experience: Contractor shall have installed HDD pipe at least as large as 24 inches in diameter, and have performed installations at least 2,000 feet in length. Contractor to provide work experience information to include projects of similar magnitude and conditions. Contractor must have experience working on active airfields.

Furnish list of references upon request.

Field supervisory personnel: Experienced in the performance of the work and tasks as stated herein for a minimum of 5 years.

Design HDD installation and load bearing falsework under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of California.

The Contractor shall submit, for information only, catalog data for all equipment proposed for use in completing the directional drill. The Contractor is responsible for selection of equipment necessary to complete the work of this item and shall augment or replace equipment as necessary to complete the work of this item in accordance with this specification, at no additional cost to the Owner.

The Contractor shall submit scaled diagrams of the intended path of each bore. The diagrams shall show a plan view and a profile view.

1. Include details of sheeting, and other shoring and falsework for trenches and pits, field sketches, and other details, to complete the work.
2. Show relation of proposed installation to existing highway facility and natural features over installation, angle of installation, right-of-way lines and general layout of built facilities.
3. Show cross section or sections from field survey, showing installation in relation to actual profile of existing grade.

The Contractor shall submit a detailed procedure of each representative boring operation. The following shall be considered in each package:

1. Estimation of maximum mud pressure during directional drilling.
2. Show where the boring contractor will have utility potholes open during each bore.
3. Show the existing utility crossings and the utility types need to be identified.
4. Show drill entry point, angle of attack, drill depth and drill radius.
5. Confirm proposed pipe will withstand pressures and pull back tensile requirements.
6. Provide drilling calculations.
7. Size, capacity and arrangement of equipment.
8. Location and size of drilling and receiving pits.
9. Method of removing drilling spoils.
10. Method of installing pipe, including pullback procedure, ballasting, use of rollers, side booms and side rollers, coating protection, internal cleaning, internal gauging, hydrostatic tests, dewatering, and purging.
11. Type, location and method of installing locator station.
12. Method of fusion pipe segment and type of equipment.
13. Type of cutting head.
14. Method of monitoring and controlling line and grade.
15. Detection of surface movement.
16. Method of mixing and application.
17. Cleaning and recycling equipment.
18. Estimated flow rates.
19. Procedures for minimizing drilling fluid escape.

Submit Risk Management Plan specific to the site of operation. The plan should address but not be limited to the following:

1. Cleaning and monitoring methods and procedure
2. Obstruction encountered during drilling operation or inability to advance drill stem or pipe
3. Pipe collapse
4. Containment and cleanout plan dealing with frac out in pavement and turf
5. Waste disposal plans
6. Emergency contact

113-2.5 TRACER WIRE. The tracer wire shall be a No. 12 AWG copper wire, 600 volt green jacket insulation, type THWN-2.

CONSTRUCTION METHODS

113-3.1 GENERAL. Subsurface test borings have been performed at the site and are available upon request. Additional subsurface explorations may be made by the Contractor, but shall be performed at no additional cost to the Owner. Contractor shall notify the Owner prior to scheduling any subsurface explorations. The Contractor shall comply with all local, state and federal requirements.
Coordinate work with the Airfield Operations staff and RPR.

113-3.1A DELIVERY, STORAGE, AND HANDLING:

A. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
B. Protect piping systems from entry of foreign materials and water by temporary covers, completing sections of work, and isolating parts of completed system.
C. Accept system components on site in manufacturer's original containers or configuration. Inspect for damage.
D. Use wooden shipping braces between layers of stacked pipe. Stack piping lengths no more than 3 layers high.
E. Store field joint materials indoors in dry area in original shipping containers. Maintain storage temperature of 60 to 85 degrees F.
F. Support casing and carrier pipes with nylon slings during handling.

113-3.2 DIRECTIONAL DRILLING. Prior to directional drilling, the proposed drilling route shall be staked out and the location approved by the RPR.

Directional drilling shall be performed with equipment of sufficient capacity and power to place the conduit under the existing surface into a position true to required line and grade as shown on the Contract Drawings.

Drilling fluids shall be used in all directional drills. Drilling fluids shall be proportioned, mixed and used per the manufacturer's specifications. Drilling pressures in the borehole shall not exceed that which can be supported by the foundation soils with a reasonable factor of safety. Calculation of maximum allowable pressures shall be done for all points along the drill path, taking into account the shear strength of the foundation soils, the depth of drill path, the bore diameter, and the elevation of the groundwater table. Any blow-out or collapse of the surface shall be repaired by the Contractor at his expense and in accordance with the contract details and specifications.

The manufacturer's recommended maximum pulling tension shall not be exceeded. The Contractor shall calculate the pulling tension of each directional drilling operation taking into consideration the HDPE conduits size and type, bend radii of the installation, elevation changes, and vertical and horizontal path deviations. Ovalization of the conduit shall not exceed 5 percent. A breakaway device shall be used at the leading edge of the conduit to protect the conduit from damage if the pulling load gets too high. The breakaway device shall be set so that the maximum pulling tension of the conduit cannot be exceeded. A breakaway device is not necessary when the pulling equipment is incapable of exceeding the maximum pulling tension of the conduit.

The Contractor shall not exceed the manufacturer's maximum bend radius for the conduit being installed. All drilling corrections shall be made as gradual as possible.

HDPE conduit shall be joined by butt heat fusion welding or electrofusion welding.

The actual location of the drill head shall be checked and recorded at intervals not exceeding 10 feet horizontally during the pilot bore to ensure that alignment and profile are in accordance with the planned route with an accuracy of 1 inch. Deviations in excess of 1 foot from the planned route are subject to rejection, at the discretion of RPR. Corrections, if required, shall be made by Contractor at no additional cost to the Owner.

Depth of drilling throughout its length shall be as shown on the Contract Drawings. In no case shall the final position of the installed conduit be shallower than the stated minimum depth at any point along the route of the conduit nor shall it enter the pavement subbase materials. Adding backfill above the route of the conduit in order to achieve minimum depth is not acceptable.

The maximum borehole size shall not exceed 1.5 times the outside diameter of the conduit or conduit bundle to be installed unless approved by the RPR. The back reamer selected shall be compatible with the soil type.

Drilling fluid shall be carefully managed during pull back to ensure the bore hole remains established and the conduit being installed is floated and lubricated to the maximum extent possible. The use of a pulling swivel is mandatory during pullback to prevent rotation of the conduit being installed. If the conduit being installed begins to rotate or twist, pullback operations shall be stopped. The Contractor shall pull the conduit back so that the swivel can be serviced, repaired or replaced. Any damaged conduit shall be replaced prior to attempting a new pull back.

The drilling fluid shall be used to fill the void between the conduit and the bore hole during pull back. No voids will be allowed as they would pose potential settlement issues.

The conduit shall be installed in one continuous operation. The conduit shall be pulled 3 percent to 5 percent past the exit point, and the Contractor shall leave 3 percent to 5 percent extra conduit at the entry point. The conduit shall be allowed to "relax" for a period of at least 24 hours prior to cutting it for a termination or connection.

All slurries and waste materials generated by the directional drilling process and during the installation of the conduit shall be contained and disposed of off-site in an acceptable manner.

If an obstruction is encountered, such as rock, the Contractor shall pull back and re-drill in an offset location. The abandoned bore hole shall be backfilled with grout or bentonite to prevent future subsidence. The Contractor shall start pumping from the farthest point of progression of the abandoned drill hole to the surface to eliminate encapsulating voids. The cost of extra and/or partial bores and grout placement shall be incurred by the Contractor. The location of the new bore hole shall be approved by the RPR prior to advancement. No additional payment shall be made in excess of the payment length indicated on the Contract Drawings.

Where conduits do not terminate in a structure, or when the structures will be installed at a later date, the Contractor shall physically monument the end points of the conduits. Monuments shall be as indicated on the Contract Drawings.

Install one continuous length of tracer wire for each single conduit or conduit bundle for the full length of the directional drill. Terminate the tracer wire inside the electrical pull boxes at each end of the HDPE conduit in a manner acceptable to the RPR. The trace wire shall be terminated near the top of the structure, easily accessible for tracing and shall be marked "HDPE duct bank tracer wire" on a non-corrosive metal ID tag.

113-3.3 EXISTING UTILITIES. The sizes, locations, and depths of all existing structures and utilities shown on the Contract Drawings are approximate only. It is the Contractor's responsibility to verify the locations of all utilities prior to the start of work using a private utility locating service. The Contractor's shall verify the type, size and location of all underground utilities and structures in the area of the work, whether they are shown in the Contract Documents or not.

Where it is necessary to interrupt water or other public utility service to remove, realign, or change a subsurface structure, the work shall proceed with expedience and shall be continuous during the interruption of service until completion of the removal, realignment or change and the utility service is returned to its normal state.

113-3.4 PROTECTION OF EXISTING UTILITIES. All utilities whose facilities may be affected by the work of this Contract shall be notified in writing by the Contractor at least 7 days in advance of the start of operations which might affect such facilities. Copies of each such notice will be sent to the RPR and the Owner.

All utility crossings outside the airfield pavements should be exposed using a hydro-excavation, hand excavation (potholing) or other approved method to confirm depth. Exposed utility crossings shall be recorded by the Contractor prior to backfilling the open excavation.

Provide equipment to guard against electrocution and an alarm system on drilling equipment capable of detecting electrical current as it approaches electric lines.

The Contractor shall not permit nor cause any hindrance to or interference with any individual, municipal department, public service corporation or any other company or companies in protecting its or their mains, pipes, poles, posts or other structures, nor in shifting, removing or replacing the same. The Contractor shall allow said individual, department, company or companies to take all such measures, as they may deem prudent to protect their structures.

113-3.5 CARE AND REPAIR. Contractor shall physically locate existing underground utilities by careful hand excavation. Utilities that are to remain in place shall be protected from damage during construction operations. Should uncharted or incorrectly charted utilities or any subsurface structure be encountered during excavation, consult the RPR immediately for direction as to how to proceed. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to the satisfaction of utility owner at no additional cost to the Owner.

113-3.6 RESTORATION. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. All drilling fluid and water shall be removed from the boring pit and receiving pit prior to backfilling. Surplus dirt may be incorporated into embankments on the project site provided it is suitable material. The Contractor shall restore all disturbed areas equivalent to or better than their original condition.

Directional drilling operations in areas of existing special surface treatment, such as aprons, taxiways, runways, shoulders, roads, sidewalks, or similar stabilized surfaces shall be restored using materials comparable to original materials, and at depths matching existing layers.

The Contractor shall take extreme precautions not to undermine or jeopardize the pavement integrity. If the pavement surface is damaged or may be compromised, immediate repairs shall be implemented to restore the pavement section so it can be returned to service at the end of the work shift. All pavement repairs shall be as directed by the RPR and in accordance with the details provided on the drawings. The Contractor shall be prepared with the necessary materials to make the pavement repairs as needed.

All excavations within runway or taxiway safety areas shall be restored prior to the end of the work day or before the pavements are re-opened.

113-3.7 RECORD DRAWINGS. The Contractor shall submit scaled record drawings showing the actual final location of the conduit in both plan and profile. These drawings shall be based on periodic measurements taken during the drilling operation. The plan view shall indicate the actual piping alignment using dimensioned distances left or right of a straight line drawn between the monumented endpoints of the directionally drilled conduit. Offset dimensions shall be provided at intervals not exceeding 10 feet along the conduit. The accuracy of the dimensions shall be within 1 foot and shall be obtained by means of a surface sensing device.

The profile view shall indicate conduit depth below existing grade at intervals not exceeding 10 feet. The accuracy of the depth measurements shall be within 1 foot of the actual location.

The horizontal offset dimensions and the depth measurements shall be obtained at the same location along the conduit.

METHOD OF MEASUREMENT

113-4.1 Conduits installed by directional drilling shall be measured by the number of linear feet of conduit, ready for operation, and accepted as satisfactory. Measurement shall be made along the ground surface along the length of pipe installed, or as indicated on the Contract Drawings. Separate measurement shall be made for each conduit or conduit bundle installed in a bore hole. Additional quantities of conduit extending beyond the termination points shown on the Contract Drawings shall not be measured for payment.

Note: Item L-113 is not shown on the Contract Drawings as has been included as a reserve item in case existing duct banks that are scheduled for reuse are found to be compromised and unusable. HDD shall only be used after consultation and approval by the RPR and records are received regarding the existing conduit or duct bank condition.

BASIS OF PAYMENT

113-5.1 Payment will be made at the contract unit price for linear feet of conduit, or conduit bundle installed underground by the Contractor and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item L-113-5.1	2-Inch Schedule 80 HDPE Conduit Installed by Directional Drilling -per Linear Foot

SUBMITTALS AND CERTIFICATIONS

113-6.1 The following "Shop and Setting Drawings", "Working Drawings", Catalogue Data" and "Certifications" shall be submitted for review:

- Submittal for drilling fluid.
- Catalogue data showing that conduit meets the requirements specified.
- Submittal of experience for directional driller.

- Catalogue data for directional drilling equipment.
- Scaled diagrams of plan views and profiles.
- Detailed procedure for each representative boring operation.

REFERENCES

A. ASTM International:

1. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
2. ASTM D1248 – Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable.
3. ASTM D2412 – Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
4. ASTM D3261 - Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
5. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
6. ASTM F714 – Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
7. ASTM F1962- Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings

B. National Utility Contractors Association (NUCA): Trenchless Excavation Construction Equipment & Methods Manual

C. Plastic Pipe Institute

1. Handbook of Polyethylene (PE) pipe
   a. Chapter 12 - Polyethylene Pipe for Horizontal Directional Drilling

D. Online reference documents:

https://www.tandfonline.com/doi/abs/10.1080/17486020600604024

https://www.netwasgroup.us/horizontal-directional/hdd-risk-identification.html

https://docuri.com/download/104_59a8d747f581719e12adeaa0_pdf

END OF ITEM L-113

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Item L-115 Electrical Manholes and Junction Structures

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the RPR. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR including removal of existing manholes and junction structures as shown on the plans.

This item shall also include the modification or removal of existing electrical manholes and junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

115-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications**.** The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from the date of final

acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

115-2.2 Concrete structures. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. Cast-in-place concrete structures shall be as shown on the plans.

115-2.3 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. Provide precast concrete structures where shown on the plans and shall be considered a delegated design to the Contractor. As each precast plant uses different reinforcing steel and concrete designs, only the general dimensions are shown on the Contract Drawings. Although not specifically shown on the details, reinforcing steel is required and must be designed by the precast plant to meet the design loads.

Precast concrete structures shall be an approved design of the manufacturer. The structure shall be designed to withstand Beechcraft Super King Air 200 series aircraft (dual wheel rear gear, maximum takeoff weight 16,500 lbs) and AASHTO HS-25 (min.) loads, unless otherwise shown on the plans. The structure shall support the heaviest wheel set that can physically fit on the structure's surface. On aircraft, normally 95% of the aircraft's weight falls on the rear wheel wheels, which is then divided equally to determine the loading on each gear set. The designer shall assume groundwater elevation at the surface for buoyancy calculations.

Signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The precast structure design calculations and shop drawings shall be signed and stamped by a Professional Engineer licensed in the state of California.

Openings or knockouts shall be provided in the structure as detailed on the plans. Threaded inserts and pulling eyes shall be cast in as shown on the plans. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight.

115-2.4 Junction boxes. Junction boxes shall be L-867 Class 1A (non-load bearing, hot dipped galvanized steel) or L-868 Class 1A (load bearing, hot dipped galvanized steel) airport light bases that are encased in concrete. The light bases shall have a L-894 blank cover, gasket, and stainless-steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel. If 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch (9-mm) thickness for L-867 and 3/4-inch (19-mm) thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.

115-2.5 Mortar. The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

115-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

115-2.7 Frames and covers. The frames shall conform to one of the following requirements:

a. ASTM A48 Gray iron castings

b. ASTM A47 Malleable iron castings

c. ASTM A27 Steel castings

d. ASTM A283, Grade D Structural steel for grates and frames

e. ASTM A536 Ductile iron castings

f. ASTM A897 Austempered ductile iron castings

Castings shall withstand a maximum tire pressure of 250 psi and maximum wheel load of 100,000 lbs., or AASHTO-25 loads, as shown on the plans.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

Each cover shall have the word "ELECTRIC" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

Each manhole shall be provided with a "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" safety warning sign as detailed in the Contract Documents and in accordance with OSHA 1910.146 (c)(2).

115-2.8 Ladders. Not used.

115-2.9 Reinforcing steel. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.

115-2.10 Bedding/special backfill. Bedding or special backfill shall be as shown on the plans. Bedding or special backfill shall be as shown on the plans.

115-2.11 Flowable backfill. Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low Strength Material.

115-2.12 Cable trays. Cable trays shall be heavy duty non-metallic hook and loop style, unless otherwise shown. Cable trays shall be located as shown on the plans and anchored to the structure walls using stainless steel fasteners.

115-2.13 Plastic conduit. Plastic conduit shall comply with Item L-110, Airport Underground Electrical Duct Banks and Conduits.

115-2.14 Conduit terminators. Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

115-2.15 Pulling-in irons. Pulling-in irons shall be manufactured with 7/8-inch diameter hot-dipped galvanized steel or stainless steel.

115-2.16 Ground rods. Ground rods shall be copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 8 feet (2.4 m) long and 5/8 inch (16 mm) in diameter.

CONSTRUCTION METHODS

115-3.1 Unclassified excavation. It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the RPR without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to Item L-115. Dewatering necessary for structure installation and erosion per federal, state, and local requirements is incidental to Item L-115.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the RPR. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be affected in a manner that will not disturb or mar finished masonry. The bracing, sheeting or shoring shall not be removed in one operation, but shall be done in successive stages of backfill to prevent overloading of the pipe during backfilling operations. The cost of bracing, sheeting and shoring, and its removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the RPR. Structures shall be placed after the RPR has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches (150 mm) of sand or a material approved by the RPR as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

115-3.2 Concrete structures. Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

115-3.3 Precast unit installations. Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

115-3.4 Placement and treatment of castings, frames and fittings. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the RPR and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written approval is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the RPR and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

115-3.5 Installation of ladders. Not Used.

115-3.6 Removal of sheeting and bracing. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches (150 mm) of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The RPR may direct the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

115-3.7 Backfilling. After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches (150 mm) in thickness measured after compaction to the density requirements in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

Backfill shall not be placed against any structure until approval is given by the RPR. In the case of concrete, such approval shall not be given until tests made by the laboratory under supervision of the RPR establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the RPR may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to conduits, duct banks, structures, property or persons due to improper placing or compacting of backfill.

115-3.8 Connection of duct banks. To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

115-3.9 Grounding. A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches (150 mm) above the floor. The ground rod shall be installed within one foot (30 cm) of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall drill a 4-inch (100 mm) diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through bottom slab and installing the ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.

A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of one foot (30 cm) above the floor of the structure and separate from other cables. No. 2 American wire gauge (AWG) bare copper pigtails shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. Hardware connections may be mechanical, using a lug designed for that purpose.

115-3.10 Cleanup and repair. After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound per US Military Specification MIL-P-21035. Surfaces shall be prepared and compound applied per the manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

115-3.11 Restoration. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, grading and restoration shall be considered incidental to the respective Item L-115 pay item.

The Contractor shall grade around structures as required to provide positive drainage away from the structure.

Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.12 Inspection. Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested using the fall-of-potential ground impedance test per American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

115-3.13 Manhole elevation adjustments. Not used.

115-3.14 Duct extension to existing ducts. Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall be standard manufactured connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.

115-3.15 Removal of existing structures. Existing structures shall be removed at the locations shown on the plans and as directed by the Engineer. Where existing structures are to be removed in the same location as proposed structures, the Contractor shall consider such removal including excavation, removal, backfilling and disposal of existing structures as an incidental part of construction and include the costs thereof in the various pay items involved. Where existing structures are to be removed outside the limits of proposed structures, they shall be paid for separately. The cost of such removal shall include excavation, removal, backfilling and disposal of existing structures. Restoration shall be as specified above in the section titled "Restoration". Backfill shall be with suitable on-site material unless otherwise shown or specified. Backfill under paved areas shall be as shown on the plans.

METHOD OF MEASUREMENT

115-4.1 Electrical manholes, junction structures, junction can plazas, modification of existing structures, and removal of existing structures shall be measured by each unit completed in place and accepted, or removed. The following items shall be included in the price of each unit: All required excavation and dewatering; sheeting and bracing; all required backfilling with on-site materials; restoration of all surfaces

and finished grading and turfing; all required connections; temporary cables and connections; and ground rod testing

BASIS OF PAYMENT

115-5.1 The accepted quantity of electrical manholes, junction structures, junction can plazas, modification of existing structures, and removal of existing structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item L-115-5.1	Removal of Electrical Pull Box – per each
Item L-115-5.2	Removal of Electrical Junction Can – per each
Item L-115-5.3	Electrical Junction Can, L-867 Size D – per each
Item L-115-5.4	Electrical Junction Can Plaza, 2-Way – per each

SUBMITTALS AND CERTIFICATIONS

The following "Shop and Setting Drawings", "Working Drawings", Catalogue Data" and "Certifications" shall be submitted for review:

- Submittal of shop drawings and certifications for pre-cast structures.
- Submittal of shop drawings and strength design calculations (stamped by CA PE)
- Catalogue data for junction cans meeting the requirements specified.
- Catalogue data for grounding components meeting the requirements specified.
- Submittals for concrete.
- Catalogue data for covers meeting the requirements specified.
- Certification that reinforcing steel meets the requirements specified.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular (AC)

AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description (CID)

A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation)

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C206	Standard Specification for Finishing Hydrated Lime

FAA Engineering Brief (EB)

EB #83	In Pavement Light Fixture Bolts

Mil Spec

MIL-P-21035	Paint High Zinc Dust Content, Galvanizing Repair

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

END OF ITEM L-115

Item L-125 Installation of Airport Lighting Systems

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

125-1.2 Qualifications. Airfield lighting circuits differ greatly from standard commercial and industrial lighting by using constant current series circuits. The prime contractor shall submit the electrical subcontractors qualifications for review and approval during the pre-construction activities. The RPR, Airport Sponsor and Airport Operations will review and make a determination on the electrical contractor's qualifications.

The following minimum qualifications are required:

1. The contractor shall have a CA licensed master electrician on staff.
2. The contractor shall have a minimum of 5 years of aviation electrical experience, with work aspects matching the electrical scope of work under this project. Provide the project name and location, brief scope of work, contact reference and construction value (electrical items only) of at least 5 similar projects completed in the 5-year timeframe. This project includes the installation of semi-flush in-pavement lights, constant current regulators and airfield lighting and signage.
3. Documented experience in the installation of semi-flush in-pavement lights, achieving the 1/16-inch vertical elevation tolerance, precise alignment and locations specified.
4. Contractor shall submit method of installation for approval that provides a detailed step-by-step sequence of operations including, but not limited to, survey and layout, coring and trenching, light base, conduit, counterpoise, grounding, reinforcement and concrete placement. Include intended procedures for achieving the required vertical tolerances, how top section light bases will be procured for the varying heights required, methods for accommodating the pavement surface paving tolerances and riser ring installation.
5. Equipment data sheet on the intended pavement coring machine.
6. Contractor shall demonstrate L-823 connector installation procedures by the actual person(s) designated to perform the work during construction to the Airport electrician and the RPR prior to the installation of any kits. Demonstration shall include all necessary tools and supplies as required.
7. Catalog data and calibration test reports for all electrical testing equipment including grounding and electrical circuit test equipment.
8. Lock out/ tag out procedures. Must incorporate Airport regulations.

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not performs as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in a neatly bound, properly sized 3-ring binder, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR’s opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. All LED light fixtures, with the exception of obstruction lighting (AC 150/5345-43) must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics.

125-2.2 Conduit/Duct. Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

125-2.3 Cable and Counterpoise. Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

125-2.4 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

125-2.5 Cable Connections. Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

125-2.6 Retroreflective Markers. Not required.

125-2.7 Runway and Taxiway Lights. Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Fixtures shall be of size and type indicated on the Contract Drawings, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44 and shall be of the size and type as shown on the Contract Drawings.

125-2.9 Runway End Identifier Light (REIL). Not required.

125-2.10 Precision Approach Path Indicator (PAPI). Not required.

125-2.11 Circuit Selector Cabinet. Not required.

125-2.12 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be Type L-867 for non-load bearing locations or L-868 for load bearing locations, Class 1A (hot dipped galvanized steel), Size B (12-inch diameter) shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

125-2.13 Isolation Transformers. Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47.

125-2.14 Power adapter. Not used.

125-2.15 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

125-2.16 Reinforcing steel. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A 615, Grade 60.

125-2.17 Anchor bolts and concrete anchor studs. Anchor bolts and concrete anchor studs shall be sized in accordance with the equipment manufacturer's requirements. Anchor bolts and studs less than 3/4 inch in diameter shall be stainless steel.

125-2.18 Water tight termination. Water tight terminations for conduits, ducts, nipples, equipment and bases shall be mechanical compression type and shall be sized for the application and number of conductors.

125-2.19 Landscape fabric. The landscape fabric shall be non-woven conforming to the physical properties listed below. All property values, except apparent opening size, represent the minimum average roll value in the weaker principal direction.

Properties	**Test Method**	**Requirement**
Grab Strength @ 50% or greater elongation	ASTM D 4632	110 pounds (Min.)
OR		
Grab Strength @ less than 50% elongation	ASTM D 4632	180 pounds (Min.)
Trapezoid Tear Strength	ASTM D 4533	40 pounds (Min.)
Puncture Strength	ASTM D 6241	222 pounds (Min.)
Permittivity	ASTM D 4491	0.10 sec^{-1} (Min.)
Apparent Opening Size	ASTM D 4751	0.60 mm (No. 30) (max avg. roll value)

125-2.20 Bedding. Bedding shall meet the requirements of ASTM C 33, fine aggregate for concrete. gradation shall be in accordance with the table below:

	Percentage By Weight
Sieve Designations	**Passing Sieves**
3/8 Inch	100
No. 4	95-100

No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	5-30
No. 100	0-10

125-2.21 Identification tags. Identification tags shall be a 2 inch diameter disk of non-corrosive copper based metal with numbers permanently stamped or engraved on the surface.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

Equipment installation shall be as shown on the plans.

125-3.1.1 EXCERPTS FROM AC 150/5340-30J, APPENDIX E

E.1 Electrical Notes.

E.1.1 General.

1. The electrical installation, at a minimum, must meet the NEC and local regulations.
2. The contractor must ascertain that all lighting system components furnished (including FAA approved equipment) are compatible in all respects with each other and the remainder of the new/existing system. Any non-compatible components furnished by the contractor must be replaced at no additional cost to the airport sponsor with a similar unit that is approved by the RPR and compatible with the remainder of the airport lighting system.
3. In case the contractor elects to furnish and install airport lighting equipment requiring additional wiring, transformers, adapters, mountings, etc., to those shown on the drawings and/or listed in the specifications, any cost for these items must be incidental to the equipment cost.
4. The contractor-installed equipment (including FAA approved) must not generate any EMI in the existing and/or new communications, weather, air navigation, and ATC equipment. Any equipment generating such interference must be replaced by the contractor at no additional cost with equipment meeting the applicable specifications.
5. When a specific type, style, class, etc., of FAA approved equipment is specified only that type, style, class, etc., will be acceptable, though equipment of other types, style, class, etc., may be FAA approved.
6. Any and all instructions from the RPR to the contractor regarding changes in, or deviations from, the plans and specifications must be in writing with copies sent to the airport sponsor and the FAA field office (Airports District Office (ADO)/Airports Field Office (AFO)). The contractor must not accept any verbal instructions from the RPR regarding any changes from the plans and specifications.

7. A minimum of three copies of instruction books must be supplied with each type of equipment. For more sophisticated types of equipment, such as regulators, PAPI, REIL, etc., the instruction book must contain the following:

a. A detailed description of the overall equipment and its individual components.

b. Theory of operation including the function of each component.

c. Installation instructions.

d. Start-up instructions.

e. Preventative maintenance requirements.

f. Chart for troubleshooting.

g. Complete power and control detailed wiring diagram(s), showing each conductor/connection/component; "black" boxes are not acceptable. The diagram or the narrative must show voltages/currents/wave shapes at strategic locations to be used when checking and/or troubleshooting the equipment. When the equipment has several brightness steps, these parameters must be indicated for all the different modes.

h. Parts list will include all major and minor components, such as resistors, diodes, etc. It must include a complete nomenclature of each component and, if applicable, the name of its manufacturer and the catalog number.

i. Safety instructions.

E.1.2 Power and Control.

1. Stencil all electrical equipment to identify function, circuit voltage and phase. Where the equipment contains fuses, also stencil the fuse or fuse link ampere rating. Where the equipment does not have sufficient stenciling area, the stenciling must be done on the wall next to the unit. The letters must be one inch (25 mm) high and painted in white or black paint to provide the highest contrast with the background. Engraved plastic nameplates may also be used with one inch (25 mm) white (black background) or black (white background) characters. All markings must be of sufficient durability to withstand the environment.

2. Color code all phase wiring by the use of colored wire insulation and/or colored tape. Where tape is used, the wire insulation must be black. Black and red must be used for single-phase, three wire systems and black, red and blue must be used for three-phase systems. Neutral conductors, size No. 6 AWG or smaller, must be identified by a continuous white or natural outer finish. Conductors larger than No. 6 AWG must be identified either by a continuous white or natural gray outer finish along its entire length or by the use of white tape at its terminations and inside accessible wireways.

3. All branch circuit conductors connected to a particular phase must be identified with the same color. The color coding must extend to the point of utilization.

4. In control wiring, the same color must be used throughout the system for the same function, such as 10%, 30%, 100% brightness control, etc.

5. All power and control circuit conductors must be copper; aluminum must not be accepted. This includes wire, cable, busses, terminals, switch/panel components, etc.

6. Low voltage (600 V) and high voltage (5000 V) conductors must be installed in separate wireways.

7. Neatly lace wiring in distribution panels, wireways, switches and pull/junction boxes.

8. The minimum size of pull/junction boxes, regardless of the quantity and the size of the conductors shown, must be as follows:

a. In straight pulls, the length of the box must not be less than eight times the trade diameter of the larger conduit. The total area (including the conduit cross-sectional area) of a box end must be at least three times greater than the total trade cross-sectional area of the conduits terminating at the end.

b. In angle or u-pulls, the distance between each conduit entry inside the box and the opposite wall of the box must not be less than six times the trade diameter of the largest conduit. This distance must be increased for additional entries by the amount of the sum of the diameters of all other conduit entries on the same wall of the box. The distance between conduit entries enclosing the same conductor must of not be less than six times the trade diameter of the largest conduit.

9. A run of conduit between terminations at equipment enclosures, square ducts and pull/junction boxes, must not contain more than the equivalent of four quarter bends (360 degrees total), including bends located immediately at the terminations. Cast, conduit type outlets must not be treated as pull/junction boxes.

10. Equipment cabinets must not be used as pull/junction boxes. Only wiring terminating at the equipment must be brought into these enclosures.

11. Splices and junction points must be permitted only in junction boxes, ducts equipped with removable covers, and at easily accessible locations.

12. Circuit breakers in power distribution panel(s) must be thermal-magnetic, molded case, permanent trip with 100-ampere, minimum, frame.

13. Dual lugs must be used where two wires, size No. 6 or larger, are to be connected to the same terminal.

14. Not used.

15. Not used.

16. Rigid steel conduit must be used throughout the installation unless otherwise specified. The minimum trade size must be 3/4 inch (19 mm).

17. All rigid conduit must be terminated at CCRs with a section (10 inch (254 mm) minimum) of flexible conduit.

18. Unless otherwise shown all exposed conduits must be run parallel to, or at right angles with, the lines of the structure.

19. All steel conduits, fittings, nuts, bolts, etc., must be galvanized.

20. Use conduit bushings at each conduit termination. Where No. 4 AWG or larger ungrounded wire is installed, use insulated bushings.

21. Use double lock nuts at each conduit termination. Use weather tight hubs in damp and wet locations. Sealing locknuts must not be used.

22. Wrap all primary and secondary power transformer connections with sufficient layers of insulating tape and cover with insulating varnish for full value of cable insulation voltage.

23. Unless otherwise noted, all indoor single conductor control wiring must be No. 12 AWG.

24. Both ends of each control conductor must be terminated at a terminal block. The terminal block must be of proper rating and size for the function intended and must be located in equipment enclosures or special terminal cabinets.

25. All control conductor terminators must be of the open-eye connector/screw type. Soldered, closed-eyed terminators, or terminators without connectors are not acceptable.

26. In terminal block cabinets, the minimum spacing between parallel terminal blocks must be 6 inches (152 mm). The minimum spacing between terminal block sides/ends and cabinet sides/bottom/top must be 5 inches (127 mm). The minimum spacing will be increased as required by the number of conductors. Additional spacing must be provided at conductor entrances.
27. Both ends of all control conductors must be identified as to the circuit, terminal, block, and terminal number. Only stick-on labels must be used.
28. A separate and continuous neutral conductor must be installed and connected for each breaker circuit in the power panel(s) from the neutral bar to each power/control circuit.
29. The following must apply to relay/contactor panel/enclosures:
    a. All components must be mounted in dust proof enclosures with vertically hinged covers.
    b. The enclosures must have ample space for the circuit components, terminal blocks, and incoming internal wiring.
    c. All incoming/outgoing wiring must be terminated at terminal blocks.
    d. Each terminal on terminal blocks and on circuit components must be clearly identified.
    e. All control conductor terminations must be of the open-eye connector/screw type. Soldered, closed-eye connectors, or terminations without connectors are not acceptable.
    f. When the enclosure cover is opened, all circuit components, wiring, and terminals must be exposed and accessible without any removal of any panels, covers, etc., except those covering high voltage components.
    g. Access to, or removal of, a circuit component or terminal block will not require the removal of any other circuit component or terminal block.
    h. Each circuit component must be clearly identified indicating its corresponding number shown on the drawing and its function.
    i. A complete wiring diagram (not a block or schematic diagram) must be mounted on the inside of the cover. The diagram must represent each conductor by a separate line.
    j. The diagram must identify each circuit component and the number and color of each internal conductor and terminal.
    k. All wiring must be neatly trained and laced.
    l. Minimum wire size must be No. 12 AWG.

E.1.3 Field Lighting.

1. Unless otherwise stated, all underground field power multiple and series circuit conductors must be FAA approved Type L-824. Insulation voltage and size must be as specified.
2. No components of the primary circuit such as cable, connectors and transformers must be brought above ground at edge lights, signs, etc.
3. There must be no exposed power/control cables between the point where they leave the underground (L-867 bases) and where they enter the equipment (such as taxiway signs, etc.). enclosures. These cables must be enclosed in rigid conduit or in flexible water-tight conduit with frangible coupling(s) at the grade or the housing cover, as shown in applicable details.
4. The joints of the L-823 primary connectors must be wrapped with one layer of rubber or synthetic rubber tape and one layer of plastic tape, one half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint, as shown in Figure E-9.

5. The cable entrance into the field attached L-823 connectors must be enclosed by heat-shrinkable tubing with continuous internal adhesive as shown in Figure E-9.
6. The ID of the primary L-823 field attached connectors must match the cable OD to provide a watertight cable entrance. The entrance must be encapsulated in heat shrinkable tubing with continuous factory applied internal adhesive, as shown in Figure E-9.
7. L-823 type 11, two-conductor secondary connector must be class "A" (factory molded).
8. There must be no splices in the secondary cable(s) within the stems of a runway/taxiway edge/threshold lighting fixtures and the wireways leading to taxiway signs.
9. Electrical insulating grease must be applied within the L-823, secondary, two conductor connectors to prevent water entrance. The connectors must not be taped.
10. Not used.
11. Not used.
12. A slack of 3 ft. (0.9 m), minimum, must be provided in each primary cable at each transformer/connector termination.
13. Direction of primary cables must be identified by color coding as follows when facing light with back facing pavement: cable to the left is coded red and cable to the right is coded blue, this applies to base-mounted lights where the base has only one entrance.
14. L-867 bases must be size B, 24" (610 mm) deep Class 1A unless otherwise noted.
15. Base-mounted frangible couplings must not have weep holes to the outside. Plugged holes are not acceptable. The coupling must have a 1/4" (6 mm) diameter minimum or equivalent opening for drainage from the space around the secondary connector into the L-867 base.
16. The elevation of the frangible coupling groove must not exceed 1-1/2" (38 mm) above the edge of the cover for base-mounted couplings or the top of the stake for stake-mounted couplings.
17. Where the frangible coupling is not an integral part of the light fixture stem or mounting leg, a bead of silicone rubber seal must be applied completely around the light stem or wireway at the frangible coupling to provide a watertight seal.
18. Not used.
19. Plastic lighting fixture components, such as lamp heads, stems, frangible couplings, base covers, brackets, are not acceptable. L-867 plastic transformer housings are acceptable. A metal threaded fitting must be set in flange during casting process. Base cover bolts must be fabricated from 18-8 stainless steel.
20. The tolerance for the height of runway/taxiway edge lights must be ±1 inch (25 mm). For base-mounted lights, the specified lighting fixture height must be measured between the top of the base flange and the top of the lens, and includes the base cover, the frangible coupling, the stem, the lamp housing and the lens.
21. The tolerance for the lateral spacing (light lane to runway/taxiway centerline) of runway/taxiway edge lights must be ±1 inch (25.4 mm). This also applies at intersections to lateral spacing between lights of a runway/taxiway and the intersecting runway/taxiway.
22. L-867 bases may be precast. Entrances into L-867 bases must be plugged from the inside with duct seal.
23. Galvanized/painted equipment/component surfaces must not be damaged by drilling, filing, etc. – this includes drain holes in metal transformer housings.

24. Edge light numbering tags must be facing the pavement.
25. Cable/splice/duct markers must be pre-cast concrete of the size shown. Letters/numbers/arrows for the legend to be impressed into the tops of the markers must be pre-assembled and secured in the mold before the concrete is poured. Legends inscribed by hand in wet concrete are not acceptable.
26. Not used.
27. Not used.
28. Not used.
29. Locations of ends of all underground ducts and conduits which do not terminate at a structure, must be identified by duct markers.
30. The preferred mounting method of runway and taxiway signs is by the use of single row of legs. However, two rows will be acceptable.
31. Reference Figure E-13 and Figure E-14 for an example of a lighted sign installation.
    a. Power to the sign must be provided through breakaway cable connectors installed within the frangible point portion of the sign's mounting legs.
    b. There must be no above ground electrical connection between signs in a sign array.
32. Not used.
33. Not used.
34. All power and control cables in man/hand holes must be tagged. Use embossed stainless steel strips or tags attached at both ends to the cable by the use of UV resistant plastic straps. A minimum of two tags must be provided on each cable in a man/hand hole - one at the cable entrance, and one at the cable exit.
35. Apply a corrosion inhibiting, anti-seize compound to all screws, nuts and frangible coupling threads. If coated bolts are used per EB #83, do not apply anti-seize compound.
36. There must be no splices between the isolation transformers. L-823 connectors are allowed at transformer connections only, unless shown otherwise.

E.1.4 Equipment Grounding.

1. Ground all non-current-carrying metal parts of electrical equipment by using conductors sized and routed per NEC Handbook, Article 250.
2. All ground connections to ground rods, busses, panels, etc., must be made with pressure type solderless lugs and ground clamps. Soldered or bolt and washer type connections are not acceptable. Clean all metal surfaces before making ground connections. Exothermic welds are the preferred method of connection to a ground rod
3. Tops of ground rods must be 6 inches (152 mm) below grade.
4. The resistance to ground of the vault grounding system with the commercial power line neutral disconnected must not exceed 10 ohms.
5. The resistance to ground of the counterpoise system, or at isolation locations, such as airport beacon must not exceed 10 ohms.

125-3.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

125-3.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

125-3.4 Elevated and In-pavement Lights. Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline, unless otherwise required, and facing in the required direction. Light bases in pavement shall be installed such that the light base is level and the top of the base plate or light unit is even with the downhill slope of the pavement. Surplus sealant or flexible embedding material shall be removed. Sealant which leaks into the light base shall be removed before it sets. The holding device shall remain in place until sealant has reached its initial set.

The airport lights, signs or approach lighting aids shall be installed at the approximate location indicated in the Contract Drawings. The exact location shall be as directed by the RPR. The lights, signs or shall be installed in accordance with the Contract Drawings and the manufacturer's recommendations.

Contractor's surveyor shall be on-site during installation of approach lighting aids to verify elevations, alignment and sighting angles of approach lighting aids prior to energizing the equipment. Any deviations shall be corrected by the Contractor and verified by the surveyor before the equipment is put to service.

Contractor shall have experience installing approach lighting aids, or the manufacturer's representative shall be onsite during installation. Experience shall be documented by the Contractor by providing the RPR with a list of three previous installations of the equipment being installed.

Tolerances for light fixtures shall be as follows:

A. The lateral tolerance, both station and offset, for the center point of light units shall be +/- 1-inch of the distance or location specified.

B. All lights in a tangent segment shall be within +/- 1-inch of each other.

C. The top elevation of the leading edge of semi-flush light units shall be no higher than the pavement surface nor less than 1/16-inch below the pavement surface, measured on the low side of the pavement. [+0", - 1/16"]. Lights placed above grade that allow for damage caused by snow plow blades shall not be acceptable.

D. All light units shall be orientated on the correct azimuth for the intended use within a tolerance of +/- 1 degree.

125-3.5 Removal of lights, signs and approach lighting aids. Where existing lights, signs and approach lighting aids are to be removed in the same location as proposed fixtures, the Contractor shall consider such removal as an incidental part of construction and include the costs thereof in the various pay items of work involved. Where existing lights, signs and approach lighting aids are to be removed at locations where a new fixture is not being placed, removal shall be paid for separately. The cost of such removal shall include excavation, removal of fixture and foundation, backfilling, disposal of existing fixture, and restoration. Lights, signs and approach lighting aids shall be removed from the locations shown on the Contract Drawings, unless otherwise directed by the RPR.

125-3.6 Restoration. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. Suitable material may be deposited in embankment or shoulders areas. Unsuitable material shall be disposed of off airport property or as ordered by the RPR.

Areas disturbed by the Contractor's operation shall be restored to their original condition. Restoration of surfaces shall be performed in accordance with the details of the Contract Drawings.

Where airport lights, signs or approach lighting aids are installed or removed outside of the general grading limits, or in areas that would not otherwise be disturbed, restoration shall be considered necessary and incidental to the work of this item and the costs shall be included in the associated pay items for airport lights, signs or approach lighting aids installed or removed.

Where airport lights, signs or approach lighting aids are installed or removed within the general grading limits, restoration of the area will not be necessary as payment for establishment of turf or pavement will be included in the various pay items of work involved.

The Contractor shall be responsible for maintaining all disturbed surfaces and restorations until final acceptance.

125-3.7 Spoil material. Airport Operations reserves the right to salvage any portion of the existing lighting system components scheduled for demolition. Airport Operations will mark and inform the Contractor of what equipment they wish to salvage prior to construction, with a preference on that in best operating condition. There is no guarantee on the quantity of equipment or material requested for salvage. The Contractors demolition pricing shall include cost provisions to cover spoiling everything off site, carefully removing and stockpiling everything for salvage, or a composite blend of the two circumstances.

Airport Operations may elect to salvage the following equipment: constant current regulators, edge light assemblies (light unit, light post, transformer, light base cover), guidance sign assemblies (sign housing, panels, legs, floor flanges), cable, electrical power and control equipment.

The Contractor shall separate useable equipment from unusable equipment. The equipment to be salvaged shall be carefully removed by the Contractor, transported and stockpiled at a location designated by Airport Operations in proper working condition. All other materials shall be spoiled off airport property at a proper disposal site at the Contractor expense.

125-3.8 Brightness adjustments for internally lighted guidance signs. Upon completion of the sign installation, the contractor shall make necessary brightness adjustment for each sign unit. The contractor shall make the required adjustments in accordance with the manufacturer's printed instructions.

METHOD OF MEASUREMENT

125-4.1. Runway and taxiway lights will be measured by the number of each type installed as completed units in place, ready for operation, or removed, and accepted by the RPR. Guidance signs will be measured by the number of each type and size installed as completed units, in place, ready for operation, or removed, and accepted by the RPR.

Light fixture payment items shall include the light fixture, isolation transformer, L-823 connectors, gaskets, bolts and ground cable.

Light base payment items shall include the light base (top and bottom sections), conduit connections, ground rod, lugs and safety ground jumper, concrete encasement, pavement coring, spacer rings and adaptors, sealants and bolts.

125-4.2 Spare lighting parts shall be provided as listed in the Contract Drawings. The cost of the spare parts shall not exceed $10,000, not 10% of the total value of the light fixtures. Spare lighting parts shall be measured on a Lump Sum basis.

BASIS OF PAYMENT

125-5.1 Payment will be made at the Contract unit price for each complete runway or taxiway light, guidance sign installed by the Contractor, or removed, and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.2 Payment will be made as a lump sum for the spare lighting parts indicated on the Contract Drawings and provided to the Owner. The total bid price shall not exceed $10,000, nor 10% of the cost of the light fixtures.

Payment will be made under:

Item L 125-5.1	Medium Intensity Taxiway Edge Light Fixture, LED, Elevated - per each
Item L 125-5.2	Medium Intensity Taxiway Edge Light Fixture, LED, Semi-Flush - per each
Item L 125-5.3	Medium Intensity Runway Edge Light Fixture, LED, Semi-Flush- per each
Item L 125-5.4	Medium Intensity Runway Edge Light Fixture, LED, Elevated- per each
Item L 125-5.5	L-868B Load Bearing Light Base, In Pavement- per each
Item L 125-5.6	L-867B Non-Load Bearing Light Base, In RSA Soil Stabilization - per each
Item L-125-5.7	Removal of Existing Light Fixture and Appurtenances, All Types – per each
Item L-125-5.8	Removal of Existing Light Base, All Types – per each
Item L-125-5.9	Airfield Guidance Sign, LED, 2 Module – per each
Item L-125-5.10	Airfield Guidance Sign, LED, 3 Module – per each
Item L-125-5.11	Airfield Guidance Sign, LED, 4 Module – per each
Item L-125-5.12	Removal of Existing Airfield Guidance Sign and Foundation – per each
Item L-125-5.13	Spare Light and Sign Parts (Not to Exceed $10,000)– per Lump Sum

SUBMITTALS AND CERTIFICATIONS

The following "Shop and Setting Drawings", "Working Drawings", Catalogue Data" and "Certifications" shall be submitted for review:

- Evidence of Contractor's experience installing lighting and approach lighting aids, see section 1.2.
- Catalog data showing the light units, including all components which are used to assemble the equipment, meets the requirements specified.
- Concrete Mix Design.
- Certification that reinforcing steel meets the requirements specified.
- Certification that bedding meets the requirements specified.
- Gradation sieve analysis for bedding.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-53	Airport Lighting Equipment Certification Program

Engineering Brief (EB)

EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures

END OF ITEM L-125

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Special Provisions to the FAA Technical Specifications

SP-1 GENERAL DESCRIPTION. These Special Provisions with accompanying drawings, Specifications, and related documents as hereinafter listed cover the requirements of the Owner for construction of the Runway 12-30 & Connector Taxiways Rehabilitation project at the San Carlos Airport. The following items are in addition to the technical specifications:

SP-2 EQUIPMENT NOISE. All equipment powered by an internal combustion engine shall utilize a properly maintained muffler and truck loading, unloading, and hauling activities shall be conducted so that noise is kept to a minimum. No separate measurement or payment shall be made for this item, the cost of which shall be considered incidental to other items of work.

SP-3 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND BEST MANAGEMENT PLAN. The contractor shall be responsible for furnishing all materials, labor and equipment necessary to comply with all National Pollutant Discharge Elimination System (NPDES) requirements for erosion control during construction including the installation of all construction BMP's as shown on the contract documents and the preparation and filing of a Notice of Intent, Inspection and Maintenance Reports and a Notice of Termination. All work and methods shall comply with the best management practices contained in the "California Storm Water Best Management Practice Handbook." and the requirements of the County of San Mateo.

This work shall include preparing and revising as necessary a comprehensive stormwater pollution prevention plan, including descriptions of proposed measures to be implemented, a schedule detailing the proposed coordination for accomplishing the erosion control features in a timely and appropriate manner, and site-specific diagrams indicating proposed locations where erosion control devices or measures may be required during successive construction stages.

A. Permit Requirements:

The Contractor shall be designated as permittee. The Contractor shall obtain log-in information and upload the permit application to the State Water Resources Control Board website for **Storm Water Multiple Application and Report Tracking System (SMARTS). The Owner or Legally Responsible Person (LRP) shall set up the project in SMARTS and authorize the Contractor as approved for data entry. The Contractor shall upload the SWPPP as well as any and all other documents and data entries within SMARTS to obtain a Waste Discharger Identification (WDID) number.**

All subcontractors shall comply with the requirements of the NPDES under the supervision of the General Contractor.

The Contractor shall complete the following documents.

a. Stormwater Pollution Prevention Plan (SWPPP) for the Project, including certification of compliance form. The SWPPP must be prepared by a Qualified SWPPP Developer.

b. Notice of Intent (NOI) to be covered by NPDES General Permit, if authorized by the Legally Responsible Person.

c. Inspection and Maintenance Reports. The reports must be prepared by a Qualified SWPPP Preparer.

d. Notice of Termination (NOT) of coverage under NPDES General Permit, if authorized by the Legally Responsible Person.

The Contractor shall submit the SWPPP to the Engineer for approval at the preconstruction conference. The Contractor shall also transmit preliminary copies of the NOI, as indicated on the NOI form, at the preconstruction conference. Owner or Engineer approval of the SWPPP does not relieve the Contractor of the responsibility to comply with the NPDES permit or other County and State permit requirements. **Regardless of Owner or Engineer approval of the SWPPP, the Contractor shall not disturb any ground until a WDID number is obtained.**

B. Construction Requirements:

The Contractor shall be prepared to implement the SWPPP at the onset of any rainfall, such that construction-related sediment which is generated from stormwater runoff with the Project is eliminated.

The Contractor shall maintain all related construction elements in proper working order, including cleaning and repair. No separate payment will be made for such inspections, cleaning or repair.

The Contractor shall review the SWPPP and revise it as necessary throughout the duration of the contract, in order to assure compliance with the SFRWQCB permit requirements. The Contractor shall submit all revisions to the SWPPP to the Engineer for approval prior to implementation.

The Contractor's QSP shall perform weekly and qualifying rainfall event inspections/testing in accordance with the requirements of the SWPPP and/or SFRWQCB and document the findings.

The Engineer will inspect the condition of all measures listed in SWPPP. The Contractor shall provide the Engineer with all documents in accordance with the record keeping requirements of the SFRWQCB.

All SWPPP reports required under this contract shall be available to the public in accordance with the requirements of section 308(b) of the Clean Water Act.

No condition of the SWPPP shall release the Contractor from any responsibilities or requirements under other environmental statutes or regulations.

The final SWPPP shall be kept on the Project site at all times, and shall be retained by the permittee for three years following the final acceptance. Upon final stabilization of the construction site, and demobilization, the contractor shall submit his completed signed NOT form to the SFRWQCB, with copies to the Engineer, and Agencies who received a copy of NOI, thereby terminating all NPDES permit coverage for the Project.

No separate measurement or payment shall be made for this item, the cost of which shall be considered incidental to Technical Specifications Section C-102, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control.

SP-4 REMOVAL OF WATER. The Contractor shall at all times during construction, provide and maintain proper and satisfactory means and devices for the removal of all water entering the

excavations, and shall remove all such water as fast as it may collect, in such manner as shall not interfere with the prosecution of the work or the proper placing of materials or other work.

Removal of water includes the construction and removal of cofferdams, sheeting and bracing, the furnishing of materials and labor necessary therefore, the excavation and maintenance of ditches and sluiceways and the furnishing and operation of pumps, wellpoints and appliances needed to maintain thorough drainage of the work in a satisfactory manner.

Water shall not be allowed to rise over or come in contact with any masonry, concrete or mortar, until at least twenty-four (24) hours after placement and no stream of water shall be allowed to flow over such work until such time as the Engineer may permit.

Unless otherwise specified, all excavations which extend down to or below the static groundwater elevations at the sites of structures shall be dewatered by lowering and maintaining the groundwater beneath such excavations at an elevation not less than that specified herein at all times when work thereon is in progress, during subgrade preparation and the placing of the structure or other materials thereon.

Where the presence of fine granular subsurface materials and a high groundwater table may cause the upward flow of water into the excavation with a resulting quick condition, the Contractor shall install and operate a suitable dewatering system to prevent the upward flow of water during construction.

When the water table is within the capillary rise of silt/clay subsurface material, the Contractor shall select and operate his equipment in a manner to prevent the deterioration of the working surface due to the upward flow of water during construction.

The effluent pumped from the dewatering system shall be examined periodically by qualified personnel to determine if the system is operating satisfactorily without the removal of fines.

Unless otherwise directed by the Engineer or shown on the Contract Documents, the water level shall not be permitted to rise until construction in the immediate area is completed and the excavation backfilled to the original grade or proposed grade.

Water pumped or drained from excavations, or any sewers, drains, or water courses encountered in the work, shall be disposed of in a suitable manner without injury to adjacent property, the work under construction, or to pavements, roads and drives. No water shall be discharged to sanitary sewers. Sanitary sewage shall be pumped to sanitary sewers or shall be disposed of by an approved method.

Any damage caused by improper handling of water shall be repaired by the Contractor at his/her own expense.

Removal of water is a non-payment item and shall be considered incidental to other items of work.

SP-5 WOVEN GEOTEXTILE. This item shall consist of installing a filter cloth shall be woven fabric of only continuous chain polymeric filaments or yarns of polyester. Acceptable materials is Mirafi 600X or approved equal. The fabric shall be inert to commonly encountered chemicals,

hydrocarbons, mildew; rot resistant and conform to the fabric properties listed below:

Fabric Properties	Rough Grade	Test Method
Grab Tensile Strength (lbs)	220	ASTM D1682
Elongation at Failure (%)	60	ASTM D1682
Mullen Burst Strength (lbs)	430	ASTM D3786
Puncture Strength (lbs)	125	ASTM D751modified
Equivalent Opening Size	40-80	US St Sieve CW-00215

Measurement and payment for this item will be made at the contract unit price per square yard for woven fabric installed and accepted by the Engineer. This price shall be full compensation for all labor, equipment, and materials to complete this item. Measurement and payment will be made under:

Mirafi 600X Fabric - - per square yard

SP-6 PAVING NOTES.

a. Contractor will not be paid greater than 100 percent of the product of the contract unit price and the total number of tons of bituminous mixtures used in the accepted work.

b. Joints. The roller shall not pass over the unprotected end of a freshly laid mixture except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be given a tack coat of bituminous material before placing any fresh mixture against the joint. The application of this bituminous tack coat shall be considered incidental to other items of work and is not a separate pay item.

Longitudinal joints which are irregular, damaged, un-compacted or otherwise defective or which have been left exposed for more than four (4) hours, or whose surface temperature has cooled to less than 160˚ F shall be cut back a minimum of six (6) inches by saw-cutting to form a vertical face exposing a clean, sound surface for the full depth of the course. All contact surfaces shall be given a tack coat of bituminous material prior to placing any fresh mixture against the joint. The cost of this work and tack coat shall be considered incidental to the cost of the bituminous course.

Upon completion of paving operations, the joint between the taxiway and reconstructed apron shall be sawed and sealed in accordance with detail B3 Sheet CP501 and as directed by the Engineer.

a. The paver shall have a receiving hopper of sufficient capacity to permit a uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed without segregation. The screed shall effectively produce a finished surface of the required evenness and texture without tearing, shoving or gouging the mixture.

The paver shall be equipped with a grade control system capable of automatically maintaining the specified screed elevation. The control system shall be automatically actuated from either a reference line and/or through a system of mechanical sensors or sensor directed mechanisms or devices that will maintain the paver screed at a predetermined transverse slope and at the proper elevation to obtain the required surface. The transverse slope controller shall be capable of maintaining the screed at the desired slope within plus or minus 0.1 percent.

The controls shall be capable of working in conjunction with any of the following attachments when authorized by the Engineer:

1. Ski-type device of not less than 30 feet in length or as directed by the Engineer.
2. Taut stringline (wire) set to grade.
3. Short ski or shoe.
4. Laser control.

If, during construction, it is found that the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued and satisfactory equipment shall be provided by the Contractor.

Contractor shall provide a 16-foot straightedge. Straightedge shall be box aluminum approximately 2" x 4' and shall be available to the Construction Observer during all paving operations.

The items referenced in this section shall be considered incidental to Specification Section P-403, Hot Mix Asphalt Pavements, and no separate measurement or payment shall be made.

SP-7 SAWCUTTING. This item shall consist of sawcutting existing pavement at the locations shown on the plans and in accordance with the Engineer. This is a non-pay item and is considered incidental to other items of work. The inclusion of this item in these specifications is merely to establish a standard of performance and shall not be construed as creating a separate pay item.

SP-8 H20 LOADING. All existing to be adjusted and new handholes, pull boxes, vaults, manholes, catch basins, etc. shall be H20 traffic rated unless noted on plans.

SP-9 WASTE MANAGEMENT TRACKING FORM. Contractor shall review, update, and maintain an ongoing Construction, Demolition, and Land clearing Waste Management Tracking Form for the construction. Form shall be submitted to Engineer weekly. No separate measurement or payment shall be made for this item, the cost of which shall be considered incidental to other items of work.

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