

# ***Request for Proposals***

## ***CMR Services San Mateo Health System Campus Upgrade Project***



## ***County of San Mateo Project Development Unit***

**Issued: February 14, 2018**  
**Responses due: March 26, 2018 at 2:30pm**

Sam Lin, Manager  
County of San Mateo Project Development Unit  
1402 Maple Street  
Redwood City, CA 94063  
Email: [slin@smcgov.org](mailto:slin@smcgov.org)

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**END OF DOCUMENT 00 0111**

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**DOCUMENT 00 1001**

**NOTICE INVITING PROPOSALS**

**ARTICLE I – INVITATION TO SUBMIT PROPOSAL**

**1.01. Notice Inviting Proposals**

- A. Proposer must submit one (1) original, signed Proposal, together with ten (10) additional bound copies, and one (1) electronic copy on a flash drive to be delivered in a sealed package labeled on the cover “Proposal for Construction Manager at Risk Services for the San Mateo Health System Campus Upgrade Project” no later than **2:30pm on March 26, 2018** to Sam Lin, Manager, San Mateo County Project Development Unit, 1402 Maple Street, Redwood City, CA 94063, Email: slin@smcgov.org.
- B. Proposals received late will not be opened or given any consideration and will be returned to Proposer(s) unopened. It is the responsibility of the Proposers to ensure submittals are received at the specified address by the specified deadline noted in this proposal request. All proposals will be date and time stamped upon receipt. The County will not be responsible for late or incomplete responses due to weather or mistakes or delays of the Proposer or its carrier.
- C. Proposers should read the entire RFP and all enclosures before preparing proposals. Proposers should seek clarification of requirements they do not fully understand. Respondents should submit in writing any issue or question **no later than March 2, 2018 at 5pm** via email to Sam Lin, Manager at slin@smcgov.org.

**1.02 Project Description**

- A. The Project comprises construction and renovation at the San Mateo Health System Campus in San Mateo California. The Project includes, but is not limited to, completion of components 1-9 shown in the table below (Project Components), within a **\$70 Million budget** (hard cost). This target scope and cost is preliminary and subject to adjustment during design.

Project Component	Project Component Groups	Component/Location**	Scope**	Anticipated Start Date	Substantial Completion	Lead AHJ**	Approx. Area (GSF)**
1	Group A	Nursing Wing Ground Floor	Renovation	10/1/2018	8/16/2019	OSHPD 1	27,000
2		Facilities Engineering Office and Shop Relocation	Renovation	7/2/2018	9/7/2018	County of San Mateo Planning and Building Dept.	3,000
3		Central Plant	Renovation	10/1/2018	8/16/2019	OSHPD 1	6,000
		Fire Alarm Annunciator Panel	New Installation	10/1/2018	12/7/2018	OSHPD 1	-
4		MRI Trailer and Dental Van	Relocation	10/1/2018	12/21/2018	County of San Mateo Planning and Building Dept. (OSHPD 3)	-
5	Group B	Administration Office Building	New Construction	1/21/2019	3/13/2020	County of San Mateo Planning and Building Dept.	50,000
6		North Addition Rehab Department	Renovation	10/28/2019	12/20/2019	OSHPD 1	5,000
7	Group C	1954 Building	Demolition	6/29/2020	12/11/2020	OSHPD 1	109,000
8		Link Building	New Construction	12/14/2020	11/12/2021	County of San Mateo Planning and Building Dept.	20,000
		Health Services Building	Demolition	6/23/2021	12/7/2021	County of San Mateo Planning and Building Dept.	70,000
		Site Work	New Construction			County of San Mateo Planning and Building Dept.	200,000 (4.5 acres)
** See Section 1.03 for the Project Components Summary of Work.							

\*\* See Section 1.03 for the Project Components Summary of Work.

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- B. The Health System campus, which encompasses a full city block, is comprised of multiple buildings including the "1954 Building" (aka Administration Building), Nursing Wing, Diagnostic and Treatment Center, Clinics, Central Plant, North Addition, and Health Services Building. (See Exhibit 01 for the Existing Campus Site Plan.) The Project site is primarily surrounded by single-family residences with some multi-family dwelling units to the north of the site (See Exhibit 02 Project Vicinity). The campus is situated at the base of an uphill slope with the south end along 39<sup>th</sup> Avenue higher in elevation. There is an approximately 90-foot elevational difference between the lower portions of the site, at 37<sup>th</sup> Avenue and Edison Street, and the higher portions along 39<sup>th</sup> Avenue near Hacienda Street (Exhibit 03 for 1994 Existing Site Topo Survey).
- C. The Project Components have been grouped for the purposes of this Request for Proposals.
1. Group A consists of Project Components 1-4
  2. Group B consists of Project Components 5-6
  3. Group C consists of Project Components 7-8
- D. The targeted completion date for the overall Project is end of 2021. Refer to Exhibit 04 for the tentative Project timeline, including timeline for each Project Component. Timeline provided is for reference only and it shall be responsibility of CMR to develop the final detailed project schedule which is in-line with the owner's completion dates.
- E. The Work for each Project Component Group will have two phases: Phase 1 (Preconstruction Services) and Phase 2 (Construction Services).
1. CMR shall achieve Substantial Completion of Phase I within two hundred-eighty (280) calendar days from the date when pre-construction phase Contract Time commences to run, all as provided in the Contract Documents. Additional one hundred-fifty (150) calendar days shall be required for subs buyout for Project Component Group C. Phase 1 services will be performed in following sequence:  
Part 1:  
Anticipated Start Date – April 24, 2018  
Anticipated Completion Date – January 25, 2019  
Part 2 (Project Component Group C for subs buyout only):  
Anticipated Start Date – January 7, 2020  
Anticipated Completion Date – June 9, 2020  
  
Please refer to Exhibit 04 Tentative Project timeline for start and completion dates for individual Project Components.
  2. Construction duration for Group A, Group B and Group C is described below:
    - (a) Group A construction phase portion of the Work (Phase II) shall be substantially completed within three hundred-twenty (320) calendar days from the date when construction phase Contract Time commences to run, all as provided in the Contract Documents. Please refer to Exhibit 04 Tentative Project timeline for start and completion dates for individual Project Components.
    - (b) Group B construction phase portion of the Work (Phase II) shall be substantially completed within four hundred-twenty (420) calendar days from the date when construction phase Contract Time commences to run, all as provided in the Contract Documents. Please refer to Exhibit 04 Tentative Project timeline for start and completion dates for individual Project Components.
    - (c) Group C construction phase portion of the Work (Phase II) shall be substantially completed within five hundred twenty-five (525) calendar days from the date when construction phase Contract Time commences to run, all as provided in the Contract

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Documents. Please refer to Exhibit 04 Tentative Project timeline for start and completion dates for individual Project Components.

**1.03. Project Components Summary of Work**

Each Project Component is described in detail below. CMR shall collaborate with the design team and the owner to finalize the phasing and implementation plan for all Project Components. Refer to the Exhibit 05 for a Proposed Project phasing plan to be used as reference only. The phasing and implementation plan will be finalized and approved during the design process with input from Owner, Architect, and CMR.

The Authorities Having Jurisdiction (“AHJ”) for all Project components includes, but are not limited to, Office of Statewide Health Planning and Development (OSHPD), State and City of San Mateo Fire Marshal, City of San Mateo, County of San Mateo Environmental Health Department, County of San Mateo Planning and Building Department (CoSM) and all other relevant agencies.

**1. Nursing Wing Ground Floor - Renovation (OSHPD 1) – approx. 27,000 SF:**

Nursing Wing Ground Floor shall be renovated to receive the OSHPD essential services to be relocated from the 1954 Building. These services include but are not limited to, dietary kitchen, café & servery, staff lockers, emergency storage, PBx operators, and outpatient rehabilitation clinic as well as construction of food service loading dock, loading dock canopy and associated site work. Please refer to Exhibit 06 for the Existing and Proposed Nursing Wing Ground Floor plans, and site work.

Nursing Wing Ground Floor spaces will be vacated prior to the start of construction. Any leftover items (such as furniture, shelving, broken equipment, etc.) will be discarded during demolition as part of the CMR scope of work. The operation of all patient services provided within the Nursing Wing floors 1 thru 3 shall remain uninterrupted throughout the renovation duration. Selected CM/GC shall work with the PDU and the San Mateo Medical Center for shutdown coordination, working hours and infection control requirements.

**2. Facilities Engineering Relocation (CoSM) – approx. 3,000 SF**

CMR scope of work includes space remodeling in Health Services Building to house the Facilities Engineering Office and Shop functions.

**3. Central Plant – Renovation (OSHPD 1) – approx. 6,000 SF:**

After vacating Central Plant Facilities Engineering Office and Shop, the space shall be renovated to receive the Materials Management Warehouse/Storage, Central Supply, Linen Department, Materials Management loading dock, loading dock canopy and associated site work. Central Plant Boiler Watch area will be renovated to include additional engineering work stations. CMR shall refer to Exhibit 07 for the existing and proposed Central Plant floor plans, and site work.

During construction, CMR shall coordinate with County to designate and maintain all required unobstructed truck access routes to the existing food service loading dock in 1954 Building and critical hospital equipment including but not limited to, oxygen supply tank, boilers, chillers, generators and other electrical equipment throughout the construction duration. Additionally, City of San Mateo Emergency Vehicle Access (EVA) route shall be designated and remain unobstructed throughout the construction duration.

**Fire Alarm Annunciator Panel – New Installation (OSHPD 1)**

Scope of work shall include, but not limited to, addition of new Annunciator Panel, programming, commissioning & testing, inspections and start-up. Refer to Exhibit 08 for the location of new Fire Alarm Annunciator Panel.

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**4. MRI Trailer and Dental Van – Relocation (OSHDP 3)**

The MRI Trailer and Dental Van shall be relocated as their current location will be occupied by the future construction. Scope of work shall include but not limited to permitting, site preparation, construction of foundation pads, coordination of all associated utilities to receive the above components at the new locations, commissioning & testing, inspections and start-up.

Please refer to Exhibit 09 for the existing and new proposed locations of the MRI Trailer and Dental Van.

**5. Administration Office Building – New Construction (CoSM) – approx. 50,000 SF:**

The newly proposed building is approximately 50,000 SF with three levels and will utilize the entire Parking Lot area to the south of building 1954. Please refer to the Exhibit 10 for the newly proposed Administration Building location. CMR shall designate and maintain all required unobstructed egress pathways and City of San Mateo Emergency Vehicle Access (EVA) throughout the construction duration.

Mobile Health Van that is currently located to the North of Materials Management loading dock will be relocated from its existing location to a new location which will be closer to the new Administration Office Building. Please refer to Exhibit 10 for the existing and proposed location of the Mobile Health Van.

**6. North Addition Rehab Department – Renovation (OSHDP 1) – approx. 5,000 SF**

CMR shall renovate the vacant Rehab Department to house the offices during the construction interim period. Scope to be provided during the design process.

**7. 1954 Building – Demolition (OSHDP 1) – approx. 109,000 SF:**

The demolition shall begin once the 1954 Building is vacated. The 1954 Building may contain hazardous materials. Selected CMR shall work with the County's selected environmental consultant and all applicable environmental agencies to perform necessary abatement work. All abatement work shall be performed in accordance with all applicable regulations, laws, codes, etc.

**8. Link Building – New Construction or Renovation (CoSM) – approx. 20,000 SF:**

The Link Building shall be constructed immediately to the North of the newly construction Administration Office Building. The Link Building will connect the new Administration Office Building to the hospital. Please refer to Exhibit 11 for the Link Building location.

**Health Services Building – Demolition (CoSM) – approx. 69,000 SF**

Health Services Building staff will be vacated, then Health Services Building shall be demolished. Selected CM/GC shall work with the County's selected environmental consultant and all applicable environmental agencies to perform necessary abatement work. All abatement work shall be performed in accordance with all applicable regulations, laws, codes, etc.

**Site Work – New Construction (CoSM) – approx. 200,000 SF**

Refer to Exhibit 12 for the proposed site plan.

**1.04 Potential Modular Trailers for Temporary Office Facility – Lease and Fitting out (CoSM) – approx. 20,000 SF**

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CMR may be required to establish temporary modular buildings on-site to house the offices during the construction interim period. Owner shall carry a \$300,000 allowance for 20,000 SF of on-site modular building(s).

**1.05 Request for Proposal Documents**

- A. Request for Proposal Documents contain the full description of the Work and the Contract Documents for the Work. Updates to this RFP will be posted on the PDU project website at [www.smcpcdu.org](http://www.smcpcdu.org). Proposers should check this regularly to make sure all notifications including addendum/addenda are read promptly.

**ARTICLE II – INSTRUCTIONS FOR PROPOSALS**

**2.01. Instructions**

- A. Proposers shall refer to Document 00 2001 (Instructions for Proposals) for required documents and items to be submitted in sealed envelopes to the San Mateo County Project Development Unit Office, located at 1402 Maple Street, Redwood City, CA, San Jose, CA. 94063, no later than the time and date set forth in paragraph 1.01 above.
- B. Document 00 2001 (Instructions for Proposals) sets forth terms and conditions for development, preparation, receipt, review, and evaluation of proposals for the Project.
- C. Each Proposer must submit Proposals in accordance with this Document 00 1001.

**2.02. Selection Process and Notice of Mandatory Pass/Fail Prequalification Criteria**

- A. Proposers shall refer to Document 00 2001 (Instructions for Proposals) for further information relating to Owner's selection process and criteria.
- B. Owner's selection process is pursuant to SB 238 (Public Contract Code Section 20146).
- C. As described in Document 00 2001 (Instructions for Proposals), Owner's selection process includes mandatory pass/fail requirements for Proposer Responsibility in addition to scored criteria.

**2.03. Pre-Proposal Conference**

- A. **Pre-Proposal Conference** will be held at the San Mateo Medical Center on **February 26, 2018** at 222 W 39<sup>th</sup> Ave, San Mateo CA 94403 to review the information about the Project and this RFP. The conference will begin at 10:00 AM and should conclude by 12:00 PM. Conference location will be confirmed later. Please notify the Project Manager and PDU Manager via email at [ahundal@smcgov.org](mailto:ahundal@smcgov.org) and [slin@smcgov.org](mailto:slin@smcgov.org) respectively by 5:00pm on **February 23, 2018** if you plan on attending.

**2.04. Proposal Preparation Cost**

- A. Proposers are solely responsible for the cost of preparing their Proposals.

**2.05. Reservation of Rights**

- A. Owner specifically reserves the right, in its sole discretion, to reject any or all Proposals, to re-issue a Request for Proposals, or to waive minor or inconsequential defects in proposals.

**ARTICLE III – LEGAL REQUIREMENTS**

**3.01. Required Contractor's License(s)**

- A. An active California "B" contractor's license is required to submit a proposal for this contract. Joint ventures must secure a joint venture license prior to award of this Contract.



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**3.02. Substitution of Securities**

- A. Owner will permit the successful proposer to substitute securities for any retention monies withheld to ensure performance of the contract, as set forth in Document 00 6801 Escrow Agreement For Security Deposit In Lieu Of Retention and incorporated herein in full by this reference, in accordance with Section 22300 of the California Public Contract Code.

**3.03. Restrictions on “Or-Equal” Substitutions**

- A. As a limitation on Proposer's privilege to substitute “or equal” items, Owner has found that certain items are designated as Owner standards or designated to match existing items in use on a particular public improvement either completed or in the course of completion, or are available from one source. As to such items, Owner will not permit substitution. Such items will be developed in pre-construction services.

**3.04. Prevailing Wage Laws**

- A. The successful Proposer must comply with all applicable prevailing wage laws, and related requirements in the Contract Documents. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the California Department of Industrial Relations, are on file at Owner's Office and are deemed part of the Request for Proposal Documents. Upon request, Owner will make copies available. The successful Proposer shall post applicable prevailing wage rates at the Site.

**3.05. Skilled Labor Force Availability**

- A. The successful Proposer must satisfy the requirements for “skilled labor force availability” as defined in California Public Contract Code Section 20193(d)(4)(B)(v) and agree to comply with the terms and conditions of Owner's Project Labor Agreement and California Public Contract Code Section 20146.

**END OF DOCUMENT 00 1001**

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**DOCUMENT 00 2001**

**INSTRUCTIONS FOR PROPOSALS**

Proposals are requested by the San Mateo County Project Development Unit (hereinafter “**Owner**”, “**County**” or “**PDU**”) for a general construction contract, or work described in general, as set forth in Document 00 1001 (Notice Inviting Proposals), and the following additional terms.

**ARTICLE I – NOTICE OF PROCEEDING UNDER PUBLIC CONTRACT CODE SECTION 20146 AND REQUIREMENTS THEREUNDER**

- A. Proposers are notified the County is conducting this procurement under Public Contract Code Section 20146, providing counties with authority to utilize construction manager at risk construction contracts.
- B. County will receive proposals from either an individual, partnership, joint venture, corporation, association, or other recognized legal entity, that is appropriately licensed in this state.
- C. County will base the selection and award of this contract based on its determination of “best value” determined by objective criteria related to the experience of the entity and project personnel, project plan, financial strength of the entity, safety record of the entity, and price.
- D. Subcontractors that are not listed by the successful construction manager at-risk entity as partners, general partners, or association members in a partnership, limited partnership, or association in the entity’s construction manager at-risk bid submission shall be awarded by the construction manager at-risk entity in accordance with the process set forth in the Contract Documents. All subcontractors bidding on contracts pursuant to this section shall be afforded the protections contained in Chapter 4 (commencing with Section 4100) of Part 1.

**ARTICLE II – REQUIREMENTS FOR SUBMISSION OF PROPOSALS**

**2.01. Mandatory Pre-Proposal Conference and Site Visit**

- A. Owner will conduct a Pre-Proposal Conference at the date, time and location indicated in Document 00 1001 (Notice Inviting Proposals), to consider such matters as Proposers may request and perform a Site Visit immediately following, at the Site. It is mandatory that Proposers attend the Pre-Proposal Conference and Site Visit.
- B. The Site Visit is mandatory and Proposers should use it as an opportunity to become familiar with conditions at the Site. Other Pre-Proposal Site Visits may be scheduled at Owner’s sole discretion.
- C. Owner will issue a Pre-Proposal Conference Agenda and roster of attendees, which are not Contract Documents. Any changes to the Contract Documents or Proposal documents shall be made by written Addenda posted on the PDU project website at [www.smc pdu.org](http://www.smc pdu.org).

**2.02. Required Pre-Proposal Review**

- A. Prior to submission of Proposal, Proposer must conduct a careful examination of the Request for Proposal Documents (that include without limitation, the Contract Documents) and understand the nature, extent, and location of Work to be performed. Refer to Document 00 7200 (General Conditions) on required pre-Proposal investigations, and Document 00 3020 (Geotechnical Data and Existing Conditions) for certain conditions.
- B. Submission of a Proposal shall constitute a Proposer’s representation and warranty that it has complied with all Required Pre-Proposal Review Requirements.

**2.03. Questions and Answers**

- A. As set forth in Document 00 1001 (Notice Inviting Proposals), Proposers must direct to Owner in writing and all questions about the meaning or intent of Request for Proposal Documents (to include without limitation, the Contract Documents). Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by written Addenda and posted on the PDU project website at [www.smc pdu.org](http://www.smc pdu.org) by **March 12, 2018**. Owner may not answer questions received after the date set forth in paragraph 1.01 of Document 00 1001.

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- B. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect, and Proposers shall not rely on oral statements. Owner reserves the right not to respond to questions received after the date set forth in paragraph 1.01 of Document 00 1001.
- C. Prior to submission of a Proposal, Proposer must communicate in writing to Owner any objections, questions or asserted ambiguities regarding the terms, conditions and procedures set forth in the Proposal Documents (including without limitation this Document 00 2001); submission of a Proposal shall constitute Proposer's consent to such terms, conditions and procedures and waive any right to subsequently assert such matters in protest of the final award.

**2.04. Addenda**

- A. Addenda may also be issued to modify the Request for Proposal Documents as deemed advisable by Owner. Addenda shall be acknowledged by number in Document 00 4001 (Proposal Price Form) and shall be part of the Contract Documents. A complete listing of Addenda may be secured from Owner.

**ARTICLE III – RECEIPT OF PROPOSALS**

**3.01. Date and Time**

- A. Sealed Proposals will be received by Owner until date and time indicated in Document 00 1001 (Notice Inviting Proposals). All Proposal envelopes will be time-stamped to reflect their submittal time. Owner shall reject all Proposals received after the specified time and will return such Proposals to Proposers unopened.

**3.02. Required Contents of Proposals**

- A. Proposers must submit Proposals in accordance with this Document 00 2001. Proposals must contain the Required Contents specified below.
- B. Document 00 4001 (Proposal Price Form). Proposers must submit Proposals on Document 00 4001 (Proposal Price Form) in accordance with the provisions of Document 00 4001. Proposers must complete all Proposal items and supply all information required by Request for Proposal documents and specifications. Proposals should be made with the presumption that CMR will not be authorized to self-perform subtrade work. Total Proposal Price shall be the sum of the following Cost Items for the Group A, Group B and Group C Project Components:
  - 1. Pre-Construction Fee;
  - 2. CMR Fee;
  - 3. CMR's General Conditions; and
  - 4. CMR's General Requirements.
- C. Document 00 4516.1 (Supplement to Response to Request for Statement of Qualifications).
  - 1. Prequalified Proposers have each submitted responses to Document 00 4516 (Request for Statement of Qualifications) in accordance with the provisions therein.
  - 2. Proposers may augment or update information submitted in response to Document 00 4516 by submitting Document 00 4516.1 (Supplement to Response to Request for Statement of Qualifications) in accordance with the provisions therein.
    - a. If Proposer is unable to certify in Document 00 4820 that all information it submitted to Owner in connection with the Pre-Qualification Process remains true and correct in all material respects as of the date of submitting its Proposal, Proposer should submit a list of all such changes ("Material Changes List") accompanied by the same types of information that Proposer was required to submit as part of the Pre-Qualification process.
  - 3. Proposers with any questions or doubts regarding their qualifications are encouraged to ask Owner questions about qualifications only, and receive answers, which Owner will keep confidential to the extent reasonably possible. Owner reserves the right not to respond to questions provided after the date set forth in paragraph 1.01 of Document 00 1001.
- D. Proposer's Project Plan. Proposer must submit Document 00 4514 (Statement of Proposer's Proposed Project Plan, Staffing Plan, and Safety Plan) in accordance with the provisions therein

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and with reference to the requirements of Document 00 5251 (Pre-Construction and CMR Services), to demonstrate on a scored basis Proposer's Project Plan. The Project Plan shall include, to the extent possible, a narrative on Proposer's proposed plan to complete the Work, and why that Plan is advantageous to Owner. The Project Plan may also address:

1. Proposer's Management Philosophy and Strategy. Proposer may generally describe its strategy to deliver this Project on time and on budget using the CMR delivery method.
  2. Construction Planning, Bidding Strategies, and Performance.
    - a. Proposer may describe how pre-construction services will be planned and performed on this Project, including the proposed methodology for reviewing design documents and site conditions, and the proposed phasing and bid package strategies.
    - b. Proposer may describe how construction services will be planned and executed on this Project, including its subcontracting plan, any proposed outreach and utilization plans, and advertising and awarding plans. Proposer may describe its methodology for coordination of work including site preparation, demolition, and construction phasing to avoid impact on the normal operations and services of the buildings in the vicinity and claim avoidance measures.
    - c. Proposer may describe its bid marketing strategies for this Project and how it will engage and ensure ample potential subcontractors during the bidding process for the best bid price. Proposer may describe strategies to mitigate potential labor/supply shortage for any of the major sub-trades. Proposers may describe its relationship with the local subcontracting community and how those relationships will benefit the Project.
    - d. Proposer may describe how it plans to establish, maintain, and update the Project schedule during design and how to assure timely Project completion.
    - e. Owner may, in its sole discretion, authorize Proposer to self-perform a portion of the sub-trade work if certain enumerated conditions set forth Article 3 of Document 00 7301 (Supplementary General Conditions) are met. Proposers interested in self-performing work should list the targeted subtrade work and the estimated percentage of hard construction budget such work would constitute, not to exceed 15% in total.
  3. Interface and Coordination with the County and its User Groups. Proposer may describe the methodology it plans to use to coordinate and manage communications with the County and its user groups throughout design and construction. Proposer may describe how it will document/track decisions and associated cost impacts efficiently to keep County and Architect well informed.
  4. Quality Control and Problem Solving. Proposer may describe the quality control program for this Project, including specific techniques and procedures to be used. Proposer may describe how it will handle and resolve issues that require effective communication and skilled facilitation with Owner and the project team.
  5. Technology and Innovative Techniques. Proposer may describe how it will use innovative techniques and technology to support the Project and may include experience and capabilities with BIM analysis. (See Document 01 3120 Building Information Modeling (BIM) and Coordination Drawings.)
- E. Statement of Proposer's Proposed Staffing Plan. Proposer must submit Document 00 4514 (Statement of Proposer's Proposed Project Plan, Staffing Plan, and Safety Plan) for the Project, including resumes, for at least the following proposed key personnel: Principal in-charge, Project Manager; Construction Superintendent; Project Engineer; Scheduler; Cost Estimator; Quality Control Manager and Preconstruction Services Staff ("Key Personnel") with expertise to perform the required services.

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- F. Statement of Proposer's Proposed Safety Plan. Proposer must submit Document 00 4514 (Statement of Proposer's Proposed Project Plan, Staffing Plan, and Safety Plan) for the Project, including Contractor's approach to safety programs and infection prevention, including Subcontractor involvement, and for complying with all interim life safety risk measures (ILSM). Please refer to Exhibit 13 for the San Mateo Medical Center Interim Life Safety Measure policies.
- G. Balance of Required Contents: Insurance and Certifications.
1. Letter from Surety. If not previously provided in the Response to the Request for Qualifications (00 4516), Proposer should provide a letter from a surety duly licensed to do business in the State of California, having a financial rating from A. M. Best Company of A:IX or better, confirming that surety has agreed to provide Contractor with performance and payment bonds in accordance with the requirements set forth in the Contract Documents 00 6113.12 (Construction Performance Bond) and 00 6113.18 (Construction Labor and Material Payment Bond), with minimum penal sums in the amount of 100% of the final Proposal Price and as adjusted upon final subcontractor bidding and award to reflect the Guaranteed Maximum Price.
  2. Document 00 4810 (Non-Collusion Affidavit). Proposers must submit Document 00 4810 (Non-Collusion Affidavit) completed in accordance with its provisions.
  3. Document 00 4820 (Proposer Certifications). Proposers must submit Document 00 4820 (Proposer Certifications) completed in accordance with its provisions.

**3.03. Proposal Submission**

- A. The responses to this RFP should be bound and printed vertically ("portrait" orientation) on standard 8 ½" by 11" paper. The responses should not exceed **30 pages; single sided** (excluding covers or tabs that do not contain submittal content, resumes, financial and bonding information), but will preferably be much shorter. Type size should be no smaller than 10 point, but preferably larger. The top of page one of the response should state Respondent's name, address, phone, fax, e-mail, and contact name. Cover letter is optional.
- B. Proposers should address every item requested, where requested, in each section of this RFP, even if the items were addressed in other sections in the proposals. Brevity and clarity are of utmost importance. Responses comprised of standard marketing materials that do not specifically address the items below will not be evaluated; however, Respondents may include ten (10) bound copies of their marketing materials, as long as they are not permanently attached to the Proposal. Responses that do not comply with all applicable requirements will not be considered.
- C. Proposers shall submit their Proposals and all deliverables in a manner that is structured to permit easy and definitive evaluation of each Factor identified herein as Evaluation Factors.
- D. Proposals shall be deemed to include any written responses of a Proposer to any questions or requests for information of Owner made as part of the Proposal evaluation process after submission of the Proposal.
- E. Proposals must be full, complete, clearly written and using the required forms. Proposers shall make any change in the Proposal by crossing out the original entry, entering and initialing the new entry. Proposer's failure to submit all required documents strictly as required entitles Owner to reject the Proposal as non-responsive. All Proposers must submit Proposals containing each of the fully executed documents supplied in this Project Manual.

**ARTICLE IV – PROPOSAL OPENING AND EVALUATION**

**4.01. Initial Evaluation for Patent Defects and/or Proposals Not Meeting Pass/Fail Responsibility Criteria**

- A. Owner will open the Proposals and perform a preliminary review to identify any patently defective Proposals (including without limitation Proposals where the Proposer does not meet any applicable Pass/Fail Criteria.) Owner action on defective Proposals may include refusal to evaluate such Proposals and elimination of Contractor submitting such Proposals from the evaluation process. Owner reserves all rights to take any action consistent with its authority and/or the requirements of

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this Document 00 2001 (Instructions for Proposals), including, without limitation, requesting additional information after receipt and opening of Proposals and waiving inconsequential defects.

- B. All Proposals from Contractor which remain after the preliminary review shall be evaluated by an Owner Review Panel comprised of individuals selected by the Owner. The Review Panel will review the Proposals and award points as described in this Document 00 2001.

**4.02. Owner Investigations**

- A. Owner may conduct reasonable investigations and reference checks of Proposer and other persons and organizations as Owner deems necessary to assist in the evaluation of any Proposal and to establish Proposer's responsibility, qualifications, financial ability and ability to perform the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time. Submission of a Proposal constitutes Proposer's consent to the foregoing.
- B. Owner shall have the right to consider information provided by sources other than Proposer. Owner shall have the right to communicate directly with Proposer's surety regarding Proposer's bonds.

**4.03. Evaluation Factors and Interviews**

- A. The Owner will evaluate each Proposal based upon the following factors, with the maximum number of points allocated to each factor as indicated in the Points Matrix below.

	<b>FACTORS</b>	<b>MAXIMUM POINTS</b>
1.	Experience and Qualifications (Other)	40
2.	Price	25
3.	Project Plan	25
4.	Safety Record and Safety Plan	5
5.	Financial Strength	5
	<b>TOTAL (Maximum Points)</b>	<b>100</b>

**B. Evaluation Factor Description.**

1. **Experience and Qualifications (Other)** - The Contractor whose Proposal describes a team which Owner determines is the most qualified, when compared with the teams proposed by other Contractors, shall receive forty (40) points under this factor. Contractors determined to have a less qualified team shall receive less than forty (40) points, as determined by the Owner. Proposals shall be evaluated based upon the Contractor's structure of organizational chart, knowledge/skill/ability/experience of Key Personnel, California OSHPD experience with OSHPD-1 facility construction and applicable laws, building codes and regulations, Owner/Designer/Contractor interaction strategies, experience with renovation of a building while maintaining services and operations to occupied facilities and other aspects of project management, as well as Contractor's experience and qualifications as set forth in response to Document 00 4516 (Request for Statement of Qualifications) and Document 00 4516.1 (Supplement to Response to Request for Statement of Qualifications). Experience and Qualifications shall be assessed as follows: 70% based upon Contractor's written submittals and references, and 30% based upon Contractor's interview, as described further in this Document 00 2001.

2. **Price** - Total Proposal Price shall be the sum of Cost Items 1 (Pre-Construction), 2 (CMR Fee), 3 (CMR General Conditions), and 4 (CMR General Requirements) for Project

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Components in Group A, Group B and Group C, determined as provided herein and in Document 00 4001 (Proposal Price Form).

3. **Project Plan** - The Contractor whose Proposal describes a superior Project Plan, determined as provided herein and in Document 00 4514 and when compared with the Project Plans proposed by other Contractors, shall receive twenty-five (25) points under this factor. Contractors determined to have less superior Project Plans shall receive less than twenty (25) points, as determined by the Owner.
  4. **Acceptable Safety Record and Safety Plan** - The Contractor's Safety Record and Safety Plan shall be assessed based upon the Contractor's Experience Modification Rate (EMR) and Safety Plan, determined as provided herein and in Document 00 4514. The Contractor with a superior EMR and Safety Plan, when compared with the EMR and Safety Plan of other Contractors, shall receive five (5) points under this factor. Contractors determined to have a less superior EMR and Safety Plan may receive less than five (5) points, as determined by the Owner. Contractors with an EMR of 1.25 or more shall be deemed to fail.
  5. **Financial Strength** - The Contractor whose Proposal describes superior Financial Strength, determined as provided herein and in Document 00 4516 and 00 4516.1, and when compared with the Financial Strength of other Contractors who submit Proposals, shall receive ten (5) points under this factor. Contractors determined to have less superior Financial Strength may receive less than ten (5) points, as determined by the Owner.
- C. **Interviews.** Selection Committee selected by the Project Development Unit will conduct an in-depth evaluation of the Proposals submitted and select a minimum of three (3) Contractors for interviews. Interview format and details will be provided at a later date. The Selection Committee will notify Contractors of the results of the evaluation by telephone, mail or email to the designated contact.
- D. Owner will resolve discrepancies between (1) the multiplication of units of Work and unit prices in favor of the unit prices; (2) the indicated sum of any column of figures and the correct sum thereof in favor of the correct sum; and (3) written words and figures, or words and numerals, in favor of the words.
- E. **Tie Breaker.** In an event there is then a tie in the total number of points awarded to more than one Proposal, the Proposal that, in the Owner's sole discretion is determined to provide a superior Project as compared to the other Proposal receiving a tied score, shall be considered to provide the Best Value to the Owner.

## **ARTICLE V – AWARD**

### **5.01. Notice of Intent to Award**

- A. If the Contract is to be awarded, Owner will award the Contract to the responsive Contractor whose Proposal is determined in writing to provide the Best Value to the Owner. Owner shall provide its written decision and award within **ninety (90)** calendar days of Proposal submission. Owner's written decision shall support the award of the Contract by stating in detail the basis of the award. Owner will deliver **Document 00 5105 (Notice of Award)** as provided herein. Best Value will be assigned to the Proposal that scores the greatest number of points in accordance with the methodology described herein. If awarded, the qualifying Contractor with the most points will be awarded the Contract as provided in this Document 00 2001 (Request for Proposals).

### **5.02. Determination of Best Value**

- A. Upon completion of Owner's evaluation of all Proposals, Owner shall rank the responsive Contractors based on the evaluation factors set forth in paragraphs 3.02 and 4.03 above and in Document 00 4001 (plus tie breaks scoring if appropriate), from most advantageous to least

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advantageous to the Owner. Owner shall publicly announce its intent to award the Contract for the Project by issuing **Document 00 5051 (Notice of Intent to Award)**, and by posting **Document 00 5105 (Notice of Award)** on Owner's website and by electronically mailing it to the Contractors who submitted Proposals for this Project. **Document 00 5105** will be deemed properly delivered at the time it is posted on the Owner's website.

**ARTICLE VI – MANDATORY PROPOSAL PROTEST PROCEDURES**

**6.01. Submission of Written Proposal Protest**

- A. Any proposal protest in connection with the construction contract or work described in general in Document 00 1001 (Notice Inviting Proposals) must be submitted in writing to Deborah Bazan, Director, Project Development Unit, 1402 Maple Street, Redwood City, California (Owner's Office), before 3:00 P.M. of the fifth Business Day following issuance of Document 00 5051 (Notice of Intent to Award). Owner will use reasonable efforts to deliver by e-mail a copy of Document 00 5051 to all Proposers who submitted Proposals no later than the Business Day after issuance, although any delay or failure to do so will not extend the Proposal protest deadline described above.
- B. The initial protest document must contain a complete statement of the basis for the protest.
- C. The protest must refer to the specific portion of the document that forms the basis for the protest.
- D. The protest must include the name, address, and telephone number of the person representing the protesting party.
- E. Only Proposers whom the Owner otherwise determines are responsive and responsible are eligible to protest a Proposal; protests from any other Proposer will not be considered. In order to determine whether a protesting Proposer is responsive and responsible, Owner may evaluate all information contained in any protesting Proposer's Proposal and conduct the same investigation and evaluation as Owner is entitled to take regarding a Best Value Proposer.
- F. Notwithstanding any other provision of this Article VI, the party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other Proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.

**6.02. Exclusive Remedy**

- A. The procedure and time limits set forth in this paragraph are mandatory and are Proposer's sole and exclusive remedy in the event of Proposal protest. Proposer's failure to comply with these procedures shall constitute a waiver of any right to further pursue the Proposal protest, including presenting a Government Code Claim or initiating legal proceedings. A Proposer may not rely on a protest submitted by another Proposer, but must timely pursue its own protest.

**ARTICLE VII – AWARD AND EXECUTION OF CONTRACT**

**7.01. Notice of Award and Submittal of Executed Contract Documents**

- A. If Contract is to be awarded, it will be awarded to the Best Value Proposer. Owner will issue Document 00 5105 (Notice of Award) to the successful Proposer. Such Award, if made, will be made within ninety (90) Days after the opening of Proposals.
- B. Successful Proposer must execute and submit to Owner the "Required Contract Documents and Proof of Insurance" set forth below, by 5:00 p.m. of the 10th Day following issuance of the Notice of Award to it.

**7.02. Required Contract Documents and Proof of Insurance**

- A. Document 00 5201 (Agreement), fully executed by successful Proposer. Submit four (4) originals, each bearing an original signature and initials on each page.
- B. Document 00 6301 (Guaranty), fully executed by successful Proposer. Submit four (4) originals, each bearing an original signature and initials on each page.



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- C. Insurance certificates and endorsements required by Document 00 7311 (Insurance and Indemnification): Submit one (1) original set.
- D. Any other item required by Document 00 5105 (Notice of Award). As indicated therein.

**7.03. Failure to Execute and Deliver Documents**

- A. If Proposer to whom Contract is awarded, within the period described in this Document 00 2001, fails or neglects to execute and deliver all required Contract Documents and file all required bonds, insurance certificates, and other documents, Owner may, in its sole discretion, rescind the award.
- B. Upon such failure to timely deliver all required Contract Documents as set forth herein, Owner may determine the next Best Value Proposer and proceed accordingly. Such Award, if made, will be made within sixty (60) days after such failure.

**7.04. Conditions to Construction and Following Completion of Pre-Construction Services**

- A. A Notice to Proceed will be issued separately for construction for each Project Component Group.
- B. CMR's guaranteed maximum price (GMP) will be the sum of the contract initially awarded, subcontracts competitively bid following completion of pre-construction services, CMR self-performed subtrade work package costs (if authorized), and contingency. In addition to other Contract Documents requirements, following the completion of competitive bidding of all subcontracts and before commencement of construction, CMR must submit the following:
  - 1. Document 00 6113.12 (Construction Performance Bond), fully executed by successful Proposer and surety, in the amount set forth in Document 00 6113.12. Submit one original.
  - 2. Document 00 6113.18 (Construction Labor and Material Payment Bond), fully executed by successful Proposer and surety, in the amount set forth in Document 00 6113.18. Submit one original.

**ARTICLE VIII – GENERAL CONDITIONS AND REQUIREMENTS**

**8.01. Modification of Commencement of Work**

- A. Owner expressly reserves the right to modify the date(s) for the Commencement of Work or any portion thereof under the Contract and to independently perform and complete work or services related to Project. Owner accepts no responsibility to Proposer for any delays attributed to Owner's need to complete independent work at the Site.
- B. Owner shall have the right to communicate directly with Best Value Proposer's performance bond surety, to confirm the performance bond. Owner may elect to extend the time to receive faithful performance and labor and material payment bonds.

**8.02. Conformed Project Manual**

- A. Following Award of Contract, Owner may prepare a conformed Project Manual reflecting Addenda issued during the Proposal period, which will, failing objection, constitute the approved Project Manual.

**8.03. Not Used**

**8.04. Wage Rates and Skilled and Trained Workforce**

- A. Copies of the general prevailing wage rates for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, may be obtained from the Department of Industrial Relations. Also, Proposer shall post the applicable prevailing wage rates at the Site. By submission of this Proposal, Proposer agrees to comply with the terms and conditions of Owner's Project Labor Agreement and makes an enforceable commitment to use and ensure the use of a skilled and trained workforce as required by California Public Contract Code Section 20146(c)(1).

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**8.05. Withdrawal of Proposals**

- A. Proposers may withdraw their Proposals at any time prior to the Proposal opening time fixed in this Document 00 2001, only by written request for the withdrawal of Proposal filed with Owner at Owner's Office. Proposer or its duly authorized representative shall execute the request to withdraw Proposal.

**8.06. Ineligible Contractors and Subcontractors**

- A. Owner shall not accept a Proposal from a Proposer who is ineligible to propose or work on, or be awarded, a public works project pursuant to California Labor Code section 1777.1 or 1777.7. Proposers and the Contractor who is awarded the project contract shall not utilize, or allow work by, any subcontractor who is ineligible to propose or work on, or be awarded, a public works project pursuant to California Labor Code section 1777.1 or 1777.7. (See California Public Contract Code section 6109.) The California Division of Labor Standards Enforcement publishes a list of debarred contractors and subcontractors on the Internet at [www.dir.ca.gov/DLSE/debar.html](http://www.dir.ca.gov/DLSE/debar.html).

**8.07. Equal Employment Opportunity.** CMR shall comply with all applicable federal, state, and local laws, rules, and regulations in regard to nondiscrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical conditions, disability, or other reasons.

**8.08. Public Records Act Requests**

- A. Pursuant to the Public Records Act, Owner will make available to the public all correspondence and written questions submitted during the Proposal period, all Proposal submissions opened in accordance with the procedures of this Document 00 2001, and all subsequent Proposal evaluation information. All submissions not opened will remain sealed and eventually be returned to the submitter. Except as otherwise required by law, Owner will not disclose trade secrets or proprietary financial information submitted that has been designated confidential by a Proposer. Any such trade secrets or proprietary financial information that a Proposer believes should be exempted from disclosure shall be specifically identified and marked as such. Blanket-type identification by designating whole pages or sections shall not be permitted and shall be invalid. The specific information must be clearly identified as such.
- B. Upon a request for records regarding this Proposal, Owner will notify Proposer involved within ten Days from receipt of the request of a specific time when the records will be made available for inspection. If Proposer timely identifies any "proprietary, trade secret, or confidential commercial or financial" information that Proposer determines is not subject to public disclosure, and requests Owner to refuse to comply with the records request, Proposer shall take all appropriate legal action and defend Owner's refusal to produce the information in all forums; otherwise, Owner will make such information available to the extent required by applicable law, without restriction.
- C. Information disclosed to Owner and all items in opened submissions are the property of Owner unless Proposer makes specific reference to data that is considered proprietary. Subject to the requirements in the Public Records Act, reasonable efforts will be made to prevent the disclosure of information except on a need-to-know basis during the evaluation process.

**8.09. Substitutions**

- A. Proposers must base their Proposals on products and systems where specified in the Contract Documents where applicable.
- B. Submittals of substitutions shall contain all required information set forth in Document 00 6325 (Substitution Request Form) (if used) and Document 01 6000 (Product Requirements). Insufficient information shall be grounds for rejection of substitution.
- C. Owner may consider specifications final upon Contract award, however, and will consider substitutions following award in its sole discretion.

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**8.10. Reservation of Rights**

- A. Owner reserves the right to reject any or all nonconforming, non-responsive, unbalanced, or conditional Proposals, and to reject the Proposal of any Proposer as non-responsive as a result of any error or omission in the Proposal, or if Owner believes that it would not be in the best interest of the Project to make an award to that Proposer, whether because the Proposal is not responsive or the Proposer is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. For purposes of this paragraph, an “unbalanced Proposal” is one having nominal prices for some Cost items and enhanced prices for other Cost items.
- B. Owner may retain Proposal securities and Proposal bonds of other than the Best Value Proposer for a reasonable time, not exceeding ninety (90) Days after award of Contract. Owner may reject any or all Proposals and waive any informalities or minor irregularities in the Proposals. Owner also reserves the right, in its discretion, to reject any or all Proposals and to re-Proposal the Project.

**8.11. Modification/ Addition to Instructions for Proposals.** Owner reserves the right to modify existing procedures and instructions and will notify all Proposers if Owners exercises this right.

**8.12. Definitions**

- A. All abbreviations and definitions of terms used in this Document 00 2001 are set forth in Document 00 7200 (General Conditions) and Document 01 4200 (References and Definitions).

**ARTICLE IX– ANTICIPATED SCHEDULE OF EVENTS FOR THE RFP PROCESS**

Project Development Unit Issues RFP	02/14/18
Pre-Proposal Conference (Mandatory)	02/26/18
<b>Questions via email due: 5:00 pm</b>	<b>03/02/18</b>
Responses to Questions Posted to Webpage	03/12/18
<b>Proposal due: 2:30 pm</b>	<b>03/26/18</b>
Interviews	04/02/18-04/03/18
Notice of Intent to Award Posted	04/05/18
Board Approval	04/24/18

**END OF DOCUMENT 00 2001**

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**DOCUMENT 00 2010**

**ACCESS, INDEMNITY AND RELEASE AGREEMENT**

Dated \_\_\_\_\_

PROPOSER: \_\_\_\_\_

OWNER:        SAN MATEO COUNTY PROJECT DEVELOPMENT UNIT (hereinafter "**Owner**")

SITE:           San Mateo County Medical Center, 222 West 39<sup>th</sup> Avenue, San Mateo, County of San Mateo,  
California, 94403

PROJECT:      San Mateo Health System Campus Upgrade Project

In consideration of the above-referenced Owner's permitting the undersigned potential proposer ("**Proposer**") to have access to, and/or to conduct investigations, tests and/or inspections on the Site ("**access**"), and effective upon such access, Proposer hereby agrees as follows:

1.        To the greatest extent permitted by law, including without limitation California Civil Code section 2782, Proposer hereby releases, and shall defend, indemnify and hold harmless Owner, and its officers, employees, consultants (including without limitation Architect/Engineer), representatives, and agents, and all other parties having any other interest in the Site, against any claim or liability, including attorney's fees, arising from or relating to any Site-related access, investigation, test, inspection and/or other access activity conducted by Proposer or any of Proposer's officers, employees, consultants, representatives, and/or agents, regardless of whether claim or liability is caused in part by the negligence of Owner or by any released and indemnified party.
2.        In connection with the release referenced in paragraph 1 above, Proposer hereby waives the provisions of California Civil Code section 1542 which provides as follows:  
  
A general release does not extend to claims that the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her, must have materially affected his or her settlement with the debtor.
3.        Proposer shall repair any damage to the Site or adjacent property resulting from activities by or on behalf of Proposer authorized hereunder, and comply with and be subject to all other requirements and obligations described or referenced in Document 00 3020 (Geotechnical Data and Existing Conditions).
4.        Although this Access, Indemnity and Release Agreement is not a Contract Document (see Document 00 5201 [Agreement]), it shall be fully effective and binding regardless of whether Proposer submits a Proposal for the subject Project, is awarded a contract for the Project or otherwise.

\_\_\_\_\_  
Name of Proposer

By: \_\_\_\_\_  
Signature

Its: \_\_\_\_\_  
Title (If Corporation: Chairman, President or  
Assistant Secretary, Vice President)

By: \_\_\_\_\_  
Signature

Its: \_\_\_\_\_  
Title (If Corporation: Secretary,  
CFO or Assistant Treasurer)

**END OF DOCUMENT 00 2010**

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**DOCUMENT 00 3020**

**GEOTECHNICAL DATA AND EXISTING CONDITIONS**

**ARTICLE I – SUMMARY**

- A. This Document 00 3020 sets forth the terms and conditions under which Proposer may review, study, use, or rely upon geotechnical data at or contiguous to the Site, and existing conditions information concerning existing conditions at or contiguous to the Site. This Document 00 3020, the available geotechnical data, and the supplied existing conditions information are not Contract Documents.

**ARTICLE II – REPORT AND INFORMATION**

- A. Owner, its consultants, and prior contractors may have collected documents providing a general description of the Site and conditions of the Work. These documents may consist of geotechnical reports for and around the Site, contracts, contract specifications, tenant improvement contracts, as-built drawings, utility drawings, and information regarding Underground Facilities. These reports, documents and other information are not part of the Contract Documents.
- B. Proposers should inspect geotechnical reports and information regarding existing conditions available at the Owner's Office, and may obtain copies at cost of reproduction and handling upon Proposer's payment for the costs. These reports, documents and other information are not part of the Contract Documents. Nevertheless, by submitting a Proposal, Proposer accepts full responsibility for reviewing, knowing and understanding the contents of all of these materials.
- C. Geotechnical reports may be included in the Project Manual and information regarding existing conditions may also be included in the Project Manual, but neither shall be considered part of the Contract Documents.
- D. The following geotechnical reports and data, and information regarding existing conditions and Underground Facilities at or contiguous to the Site, are available for review for this Contract through Owner:
  - 1. Geotechnical Engineering Report, dated January 16, 1992
  - 2. Geotechnical Engineering Report, dated January 29, 1993
  - 3. Geotechnical Engineering Report, dated November 14, 2017
  - 4. Existing site condition drawing, dated November 11, 2017

**ARTICLE III – USE OF INFORMATION ON EXISTING CONDITIONS**

**3.01. Aboveground Existing Conditions**

- A. Under no circumstances shall Owner be deemed to make a warranty or representation of existing above-ground conditions, as-built conditions, or other above-ground actual conditions verifiable by reasonable independent investigation. These conditions are verifiable by Proposer by the performance of its own independent investigation that Proposer must perform prior to submitting a Proposal and Proposer must not rely on the information supplied by Owner regarding existing conditions. Proposer represents and agrees that in submitting its Proposal, it is not relying on any information regarding existing conditions supplied by Owner.

**3.02. Underground Facilities**

- A. Information supplied regarding existing Underground Facilities at or contiguous to the Site is based on information furnished to Owner by others (e.g., the owners or builders of such Underground Facilities or others). Except as expressly set forth in this Document 00 3020, Owner does not assume responsibility for the accuracy, completeness or thoroughness of this information, and Proposer is solely responsible for any interpretation or conclusion drawn from this information. Except as expressly set forth in this Document 00 3020, Owner will be responsible only for the general accuracy of information regarding Underground Facilities, and only for those Underground Facilities that are owned by Owner. This express assumption of

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responsibility applies only if Proposer has conducted the independent investigation required of it and discrepancies were not apparent.

**ARTICLE IV – LIMITED RELIANCE PERMITTED ON CERTAIN INFORMATION**

**4.01. Limitations on Geotechnical Data**

- A. Except as expressly set forth in this Document 00 3020, Owner does not warrant, and makes no representation regarding, the accuracy or thoroughness of any geotechnical data. Proposer represents and agrees that in submitting its Proposal, it is not relying on any geotechnical data supplied by Owner, except as specifically set forth herein.

**4.02. Limitations on Technical Data**

- A. Proposer may rely upon the general accuracy of the “technical data” contained in the geotechnical reports and drawings identified above, but only insofar as it relates to subsurface conditions, provided Proposer has conducted the independent investigation required of it and discrepancies were not apparent. The term “technical data” in the referenced reports and drawings shall be limited as follows:
1. The term “technical data” shall include actual reported depths, reported quantities, reported soil types, reported soil conditions, and reported material, equipment, or structures that were encountered during subsurface exploration.
  2. The term “technical data” does not include, and Proposer may not rely upon, any other data, interpretations, opinions or information shown or indicated in such drawings or reports that otherwise relate to subsurface conditions or described structures.
  3. The term “technical data” shall not include the location of Underground Facilities.
  4. Proposer may not rely on the completeness of reports and drawings for the purposes of preparing a proposal or construction. Proposer may rely upon the general accuracy of the “technical data” contained in such reports or drawings.
  5. Proposer is solely responsible for any interpretation or conclusion drawn from any “technical data” or any other data, interpretations, opinions, or information contained in supplied geotechnical data.

**ARTICLE V – (NOT USED)**

**ARTICLE VI – (NOT USED)**

**END OF DOCUMENT 00 3020**

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San Mateo Health System Campus Upgrade Project**

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DOCUMENT 00 4001

**PROPOSAL PRICE FORM  
TO THE COUNTY OF SAN MATEO PROJECT DEVELOPMENT UNIT**

THIS PROPOSAL IS SUBMITTED BY:

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**(Firm/Company Name)**

Re: **SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE**

1. The undersigned Proposer proposes and agrees, if this Proposal is accepted, to enter into an agreement with SAN MATEO COUNTY (Owner) in the form included in the Contract Documents, including Document 00 5201 (Agreement), to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Proposal and in accordance with all other terms and conditions of the Contract Documents.
2. Proposer accepts all of the terms and conditions of the Contract Documents, Document 00 1001 (Notice Inviting Proposals), and Document 00 2001 (Instructions for Proposals). This Proposal will remain subject to acceptance for 90 Days after Proposal opening.
3. In submitting this Proposal, Proposer represents that Proposer has examined all of the Contract Documents, performed all required Pre-Proposal Review, received the Pre-Proposal conference minutes (if any), and received the following Addenda:

Addendum Number	Addendum Date	Signature of Proposer

4. Based on the foregoing, Proposer proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of money listed in the following Schedule of Proposal Prices:

**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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**SCHEDULE OF PROPOSAL PRICES**

All Cost items, including lump sums and unit prices, must be filled in completely. Cost items are described or referenced in Document 01 1000 (Summary) or Document 00 2001 (Instructions for Proposals). Quote in figures only, unless words are specifically requested.

<b><u>NO.</u></b>	<b><u>COST ITEM</u></b>	<b><u>TYPE</u></b>	<b><u>PERCENT <sup>B</sup></u></b>	<b><u>DOLLAR AMOUNT</u></b>
1.	Pre-Construction Services	Lump Sum	_____ %	\$ _____
2.	CMR Fee	Percent	_____ %	\$ _____
3.	CMR General Conditions	Lump Sum	_____ %	Total \$ _____
4.	CMR General Requirements	Percent	_____ %	\$ _____
<b>Total Proposal Price (Sum of Cost Items 1, 2, 3 and 4)</b>				\$ _____

Total Project Proposal Price:

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(Words)

**Notes:**

- A. Hourly rates for all services necessary to complete Cost Items 1 (Pre-Construction Services), 3 (CMR General Conditions), and 4 (CMR General Requirements) shall be submitted with the proposal (see Exhibit 15). The reasonableness of these hourly rates will be considered in assessing the Price. These rates will be the basis for compensation of additional/extended hours requested by the Owner for these specific services during the course of this Contract.
  - B. For Proposing purposes, for Cost Items 1 and 3, percent is measured against assumed value of \$70 million. The reasonableness of the CMR Fee and CMR General Requirements percentages will be considered in assessing the Price. The percentages shall be used for determining the total CMR Fee and CMR General Requirements after bids for all trades are received.
  - C. Proposals should be made with the presumption that CMR will not be authorized to self-perform subtrade work.
5. The undersigned Proposer acknowledges that the cost of construction estimate provided herein is for Proposing purposes only, that Owner does not warrant the final accuracy of the estimate, and that the undersigned Proposer must make its own independent verification of estimated costs.
  6. The undersigned acknowledges that the Best Value Proposer will be determined as provided in Document 00 2001 (Instruction for Proposals).
  7. The undersigned Proposer understands that Owner reserves the right to reject this Proposal, or all Proposals, in its sole discretion without compensation to Proposer.
  8. If written notice of the acceptance of this Proposal, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Proposer within the time described in Paragraph 2 of this Document 00 4001 or at any other time thereafter before it is withdrawn, the undersigned Proposer will execute and deliver the documents required by Document 00 2001 (Instructions for Proposals) within the time specified therein.



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9. Notice of Award or request for additional information may be addressed to the undersigned Proposer at the address set forth below.
10. The undersigned Proposer agrees to commence Work under the Contract Documents on the date(s) established in Document 00 7200 (General Conditions) and to complete all Work within the time(s) specified in Document 00 5201 (Agreement).
11. The undersigned Proposer agrees that, in accordance with Document 00 7200 (General Conditions), liquidated damages for failure to complete Work in the Contract (or portions thereof) within the time(s) specified in Document 00 5201 (Agreement) shall be as set forth in Document 00 5201.
12. The names of all persons interested in the foregoing Proposal as principals are:

**IMPORTANT NOTICE:**

If Proposer or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners composing the firm; if Proposer or other interested person is an individual, give first and last names in full.

**NAME OF PROPOSER:**

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licensed in accordance with an act for the registration of Contractors, and with California license number: \_\_\_\_\_ Expiration: \_\_\_\_\_.

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(Place of Incorporation, if Applicable)

(Principal)

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(Principal)

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(Principal)

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

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(Signature of Proposer)

**NOTE:** If Proposer is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Proposer is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business Address:

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Contractor's Representative(s):

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(Name/Title)

**San Mateo County – Project Development Unit**  
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\_\_\_\_\_  
(Name/Title)

\_\_\_\_\_  
(Name/Title)

Officers Authorized to Sign Contracts

\_\_\_\_\_  
(Name/Title)

\_\_\_\_\_  
(Name/Title)

\_\_\_\_\_  
(Name/Title)

Telephone Number(s):

\_\_\_\_\_  
(Area Code) (Number)

\_\_\_\_\_  
(Area Code) (Number)

Fax Number(s):

\_\_\_\_\_  
(Area Code) (Number)

\_\_\_\_\_  
(Area Code) (Number)

Date of Proposal:

**END OF DOCUMENT 00 4001**

**San Mateo County – Project Development Unit  
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**DOCUMENT 00 4514**

**STATEMENT OF PROPOSER’S PROPOSED PROJECT PLAN, STAFFING PLAN,  
AND SAFETY PLAN**

TO THE SAN MATEO COUNTY PROJECT DEVELOPMENT UNIT

THIS STATEMENT IS SUBMITTED BY:

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**(Firm/Company Name)**

Re: **SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE**

The undersigned Proposer submits herewith its Proposed Project Plan, Proposed Staffing Plan, and Proposed Safety Plan, in accordance with Document 00 2001 (Instructions for Proposals).

Proposer hereby declares under penalty of perjury that all the information provided in its Proposed Project Plan, Proposed Staffing Plan, and Proposed Safety Plan is true and correct.

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SIGNATURE

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TITLE

**END OF DOCUMENT 00 4514**

**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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**DOCUMENT 00 4516.1**

**SUPPLEMENT TO RESPONSE TO REQUEST FOR STATEMENT OF QUALIFICATIONS**

TO THE SAN MATEO COUNTY PROJECT DEVELOPMENT UNIT

THIS STATEMENT IS SUBMITTED BY:

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**(Firm/Company Name)**

Re: **SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE**

The undersigned Proposer submits herewith its Supplement to Response to Request for Statement of Qualifications in accordance with Document 00 2001 (Instructions for Proposals).

Proposer hereby declares under penalty of perjury that all the information provided in its Response to Request for Statement of Qualifications (Document 00 4516) and this Supplement to Response to Request for Statement of Qualifications is true and correct.

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SIGNATURE

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TITLE

**END OF DOCUMENT 00 4516.1**



**San Mateo County – Project Development Unit  
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My Commission expires \_\_\_\_\_ (Seal)

**NOTE:** If Proposer is a partnership or a joint venture, this affidavit must be signed and sworn to by every member of the partnership or venture.

**NOTE:** If Proposer [including any partner or venturer of a partnership or joint venture] is a corporation, this affidavit must be signed by the Chairman, President, or Vice President and by the Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer.

**NOTE:** If Proposer's affidavit on this form is made outside the State of California, the official position of the person taking such affidavit shall be certified according to law.

**END OF DOCUMENT 00 4810**

**San Mateo County – Project Development Unit  
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DOCUMENT 00 4820

**PROPOSER CERTIFICATIONS**

**SAN MATEO HEALTH SYSTEM CAMPUS PROJECT,  
SAN MATEO, SAN MATEO COUNTY, CALIFORNIA**

**TO BE EXECUTED BY ALL PROPOSERS AND SUBMITTED WITH PROPOSAL**

The undersigned Proposer certifies to SAN MATEO COUNTY as set forth in sections 1 through 6 below.

**1. STATEMENT OF CONVICTIONS**

By my signature hereunder, I hereby swear, under penalty of perjury, that no more than one final, unappealable finding of contempt of court by a Federal Court has been issued against Proposer within the past two years because of failure to comply with an order of a Federal Court or to comply with an order of the National Labor Relations Board.

**2. CERTIFICATION OF WORKER'S COMPENSATION INSURANCE**

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's 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.

**3. CERTIFICATION OF PREVAILING WAGE RATES AND RECORDS**

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 1773 of the California Labor Code, which requires the payment of prevailing wage on public projects. Also, that the Contractor and any subcontractors under the Contractor shall comply with California Labor Code section 1776, regarding wage records, and with California Labor Code section 1777.5, regarding the employment and training of apprentices. It is the Contractor's responsibility to ensure compliance by any and all subcontractors performing work under this Contract. I further certify that I am aware of and agree to comply with the terms and conditions of Owner's Project Labor Agreement and California Public Contracts Code Section 20146.

**4. CERTIFICATION OF COMPLIANCE WITH PUBLIC WORKS CHAPTER OF LABOR CODE**

By my signature hereunder, as the Contractor, I certify that I am aware of Sections 1777.1 and 1777.7 of the California Labor Code and Contractor and Subcontractors and am eligible to bid, propose and work on public works projects.

**5. CERTIFICATION OF ADEQUACY OF CONTRACT AMOUNT**

By my signature hereunder, as the Contractor, pursuant to Labor Code section 2810(a), I certify that, if awarded the Contract based on the undersigned's Proposal, the Contract will include funds sufficient to allow the Contractor to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided.

**San Mateo County – Project Development Unit  
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**6. CERTIFICATIONS REGARDING CONSTRUCTION TRADES**

By my signature hereunder, as the Contractor, I certify that I have considered which construction trades will be performing each aspect of the Work of the Project, and the different wages payable to the various trades, in determining the amount to propose for the Contract.

**7. CERTIFICATION OF ACCEPTABILITY OF CONTRACT DOCUMENTS**

By my signature hereunder, as the CMR, I certify that Proposer acknowledges that Owner has already transmitted the Contract Documents in draft form to state officials and has obtained prior state approval of the acceptability of the Contract Documents. Accordingly, Proposer has carefully reviewed the Contract Documents and certifies as follows:

**[Please check and/or complete one of the following]**

\_\_\_\_\_ If the undersigned is selected to be the CMR, following issuance of Notice of Conditional Award to the undersigned, the undersigned will sign the Agreement form and provide the other required forms that have been included within the Contract Documents in the same form as drafted as of the date hereof, including all Addenda identified in the undersigned's Proposal and with applicable information from the undersigned's Proposal inserted, without seeking revisions to the Agreement form or any other Contract Document.

\_\_\_\_\_ If the undersigned is selected to be the CMR, following issuance of Notice of Conditional Award to the undersigned, the undersigned will sign the Agreement form and provide the other required forms that have been included within the Contract Documents in the same form as drafted as of the date hereof, including all Addenda identified in the undersigned's Proposal and with applicable information from the undersigned's Proposal inserted, with only the revisions to the Agreement form or other Contract Documents shown in underline and strikeout, format, attached to these Certifications as Appendix \_\_\_, consisting of \_\_\_\_\_ pages. Proposer must attach an Appendix if this item is checked.

**8. CERTIFICATION REGARDING SELECTION PROCESS**

**[Please check and/or complete one of the following]**

\_\_\_\_\_ The undersigned confirms it has no objections or protests to any CMR selection procedure, process or requirement, or any other any aspect of the CMR selection process, and does not object to any aspect of the CMR selection process.

\_\_\_\_\_ Attached as Appendix \_\_\_, consisting of \_\_\_\_\_ pages, is a detailed description of all objections and protests the undersigned has regarding any aspect of the CMR selection process. Proposer must attach an Appendix if this item is checked.

**9. CERTIFICATION REGARDING MATERIAL CHANGES**

**[Please check and/or complete one of the following]**

\_\_\_\_\_ The undersigned certifies that all information it submitted to Owner in connection with the PreQualification Process, including without limitation any modifications, amendments or supplements thereto ("Pre-Qualification Information") remains true and correct in all material respects as of the date of submitting its Proposal.

\_\_\_\_\_ Except as provided on the Supplement to Response to Request for Statement of Qualifications, Document 00 4516.1 submitted as provided in Document 00 2001 (Instructions to Proposers), the undersigned certifies that all information it submitted to Owner in connection with the Pre-Qualification Process, including without limitation any modifications, amendments or supplements thereto ("Pre-



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Qualification Information”) remains true and correct in all material respects as of the date of submitting its Proposal. Proposer must include a Material Changes List with its Proposal if this item is checked.

Proposer understands that Owner will be relying on these certifications if it awards the Contract to the undersigned.

**PROPOSER:**

\_\_\_\_\_  
(Name of Proposer)

Date: \_\_\_\_\_, [201\_] By: \_\_\_\_\_

\_\_\_\_\_  
(Signature)

Name: \_\_\_\_\_

\_\_\_\_\_  
(Print Name)

Its: \_\_\_\_\_

\_\_\_\_\_  
(Title)

**END OF DOCUMENT 00 4820**

**San Mateo County – Project Development Unit  
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**DOCUMENT 00 5051**

**NOTICE OF INTENT TO AWARD**

DATE POSTED: **[Insert Date]**

CONTRACT FOR: **SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE PROJECT**

\_\_\_\_\_, the \_\_\_\_\_ of

the Owner intends to recommend to its Board of Supervisors the Award of the above-referenced Contract

to \_\_\_\_\_.

(Name of Contractor)

SAN MATEO COUNTY

By: \_\_\_\_\_

\_\_\_\_\_  
(Print name)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**END OF DOCUMENT 00 5051**

**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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**DOCUMENT 00 5105**

**NOTICE OF AWARD**

Dated: \_\_\_\_\_, 20\_\_

To: \_\_\_\_\_  
(CMR)

Address: \_\_\_\_\_

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CONTRACT FOR: **SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE PROJECT**

The Phase I Contract Sum of your Contract is \_\_\_\_\_ Dollars.

1. Five copies of the proposed Contract Documents listed below accompany this Notice of Award.
2. You must comply with the following conditions precedent by 5:00 p.m. of the 10<sup>th</sup> Day following the date of this Notice of Award, that is, by **[Day of the Week, Month Day, 201\_\_]**.
  - a. Deliver to Owner four fully executed counterparts of Document 00 5201 (Agreement). Each copy of Document 00 5201 (Agreement) must bear your original signature on the signature page and your initials on each page.
  - b. Deliver to Owner four original copies of Document 00 6301 (Guaranty), each executed by you and with your initials on each page.
  - c. Deliver to Owner one original set of the insurance certificates with endorsements required under Document 00 7311 (Insurance and Indemnification).
  - d. **[Insert other, if applicable]**
  - e. **[Insert other, if applicable]**
3. Failure to comply with these conditions within the time specified will entitle Owner to consider your Proposal abandoned, to annul this Notice of Award, and to declare your Proposal security forfeited.
4. As further described in Document 00 2001 (Instructions for Proposals), award of your Contract is also subject to all required State of California approvals.
5. Within 21 Days after you comply with the conditions in Paragraph 2 of this Document 00 5105, Owner will return to you one fully signed counterpart of Document 00 5201 (Agreement) with one copy of the Project Manual (including Specifications and Drawings) and one set of full-size Drawings.
6. Before you may commence pre-construction phase services under the Contract, you must attend a pre-construction conference. The pre-project conference may be arranged through Owner's Project Manager. Questions regarding bonds and insurance and all other inquiries should also be directed to Owner's Project Manager.

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7. Upon commencement of the Work, you and each of your Subcontractors shall certify and provide Owner copies of payroll records on forms provided by the Division of Labor Standards Enforcement, in accordance with California Labor Code § 1776.

**OWNER:**

**COUNTY OF SAN MATEO**

By: \_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Print Name)

AUTHORIZED BY RESOLUTION:

NO: \_\_\_\_\_

ADOPTED: \_\_\_\_\_, [201\_\_]

**[Copy of Resolution Attached]**

**END OF DOCUMENT 00 5105**

**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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**DOCUMENT 00 5201**

**AGREEMENT**

THIS AGREEMENT, dated this \_\_\_\_ day of \_\_\_\_\_, 2018, is by and between \_\_\_\_\_ [Name of CMR], whose place of business is located at \_\_\_\_\_ (CMR), and the County of San Mateo (Owner), a county established under the laws of the State of California.

WHEREAS, Owner, by its Resolution No. \_\_\_\_\_ adopted on the \_\_\_\_ day of \_\_\_\_\_, 2018 (a copy of which is attached and part of this Agreement), awarded to CMR the following contract:

**SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE PROJECT**

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, CMR and Owner agree as follows:

**ARTICLE I - WORK OF THE CONTRACT AND CONTRACT SUM**

**1.01. Work of the Contract**

- A. CMR shall complete all Work specified in the Contract Documents, including without limitation, the Specifications, Drawings, Document 01 1000 (Summary) and all other terms and conditions of the Contract Documents (**Work**).

**1.02. Contract Sum**

- A. Owner shall pay CMR the amounts indicated in paragraphs 1.03 and 1.04 below (together, **Contract Sum**) for completion of Work in accordance with Contract Documents and (as applicable) as set forth in CMR's Proposal (Document 00 4001 [Proposal Price Form]), attached hereto.
- B. The Contract Sum includes all allowances (if any).

**1.03. Pre-Construction (Phase I) Portion of Contract Sum**

- A. Cost Item 1. Owner shall pay CMR \$ \_\_\_\_\_, the amount indicated for Proposal Item 1 (Pre-Construction Services) for completion of all pre-construction (**Phase I**) services for the Project. The Cost Item 1 amount reflects full compensation for all CMR Phase I costs, expenses, fee, profit, general conditions, general requirements, bonds and insurance and overhead, and any other Phase I services and work.

**1.04. Construction (Phase II) Portion of Contract Sum**

- A. After all trade subcontracts have been procured, a Final Guaranteed Maximum Price (GMP) shall be established as provided in this Document and that shall be the sum of Cost Items 1 through 6 herein. The Final GMP shall be treated as the Contract Sum and shall be inclusive of all Work of the Contract Documents.
- B. The Construction (Phase II) portion of Contract Sum will be payable progressively based upon progressive work, as set forth in the Contract Documents, commencing only following issuance of Document 00 5501-B (Notice to Proceed for Construction).

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- C. Owner shall pay CMR for completion of all construction (**Phase II**) work, as total compensation, amounts in Cost Items 2 through 6 described in the Contract Documents (including Section 01 1000 Summary and its appendices and exhibits) as follows.
1. Cost Item 2. An amount equal to the percentage for CMR Fee identified in CMR's Proposal Form (Proposal Cost Item 2) (**CMR Fee**) multiplied by the sum of Cost Items 3, 4 and 5 below, in full compensation for CMR's construction phase fee and profit.
  2. Cost Item 3. The specified dollar amount in CMR's Proposal Form for CMR General Conditions (**CMR GC's**) \$\_\_\_\_\_, in full compensation for CMR's construction phase general conditions and related overhead.
  3. Cost Item 4. An amount equal to the percentage for General Requirements (**CMR GR's**) (Proposal Item 4), in full compensation for CMR's construction phase general requirements, bonds and insurance, and all overhead not otherwise included in Cost Item 3.
  4. Cost Item 5. The aggregate total cost of the work of trades to be bid open book by CMR and authorized self-perform subtrade work at the amount agreed to; actual bid amounts awarded shall be used to determine Final GMP. Determination of this Cost Item based upon trade bids is provided in Article VII below.
  5. Cost Item 6. An amount equal to **three (3) %** of Cost Item 5 (**Contingency**). Contingency is subject to adjustment as provided herein.

**1.05. Administration of Cost Item 6, Contingency; Shared Savings.**

- A. Contingency (Cost Item 6) amount will be administered by Owner and expended only for "preventable" changes and/or extra costs as defined in this paragraph 1.05, up to but not over the amount of the contingency (and any such costs over the amount of the contingency shall not be reimbursed). CMR accepts the risk of preventable changes and/or extra costs exceeding the contingency.
- B. Preventable changes and extra costs are those that CMR could have prevented by proper performance of its Phase I services under Document 00 5251 (Pre-Construction and CMR Services), such as, for example, and not by way of limitation, constructability and coordination issues or reasonably foreseeable equipment/material replacements and substitutions. CMR may be entitled to charge preventable direct costs of construction (plus overhead and profit markup) to contingency in the same manner as Change Orders under Document 01 2600 (Contract Modification Procedures), by moving such amounts from Contingency (Cost Item 6) to Cost Items 3, 4 and 5, as applicable, including direct costs that were incurred as a consequence of CMR's ordinarily negligent errors and omissions; however, CMR may not charge any costs against Contingency which were incurred due to CMR's gross negligence or intentional misconduct, or any for rework of defective work.
- C. Non-preventable changes and extra costs are those CMR could not have prevented by proper performance of its Phase I services under Document 00 5251, such as, for example, and not by way of limitation, Owner elective changes adding additional scope or changes in legal requirements. Non-preventable Change Orders will not be recognized as a cost under the contingency, but rather, may be recognized as Change Orders that increase the Contract Sum and/or a Cost Item therein.
- D. Costs may not be charged to contingency, however, if such costs are either (i) within the scope of work of the plans and specifications on which the proposal was submitted or subcontract packages awarded, or (ii) included within the scope of Cost Items 1 (Pre-

**San Mateo County – Project Development Unit**  
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Construction Services), 3 (CMR GC's) or 4 (CMR GR's). On completion of Contract, 40% of unspent contingency shall be paid to CMR; the remaining 60% of contingency shall be retained by Owner; and Contract Sum will be adjusted accordingly.

**1.06. No Duplication.** There shall be no duplication of costs or expenses among Cost Items. Duplication is subject to correction whenever discovered. Contractor shall compare carefully its scope of work with the scope of work of trade subcontractors and monitor the work to assure that duplication does not occur, for example, and not by way of limitation, in costs of cleanup, document management, modeling, bonds, mock-ups, and supervision.

**1.07. Updates and Final Confirmation of Contract Sum**

- A. Following bid/award of all trade subcontracts and agreements to self-perform subtrade work for Project Component Group A into the Contract, Owner and CMR shall complete and execute a change order in form of Appendix A (Calculation of CMR's Contract Sum – Project Group A) to memorialize the Contract Sum up to that point.
- B. Following bid/award of all trade subcontracts and agreements to self-perform subtrade work for Project Component Group B into the Contract, Owner and CMR shall complete and execute a change order in form of Appendix B (Calculation of CMR's Contract Sum – Project Group A-B) up to that point.
- C. Following bid/award of all remaining trade subcontracts and agreements to self-perform subtrade work for Project Component Group C into the Contract, Owner and CMR shall complete and execute a change order in form of Appendix C (Calculation of CMR's Total Contract Sum – Project Group A-C) to this Document 00 5201 to memorialize the final Contract Sum as described above.

**ARTICLE II - CONTRACT TIME; COMMENCEMENT AND COMPLETION OF WORK**

**2.01. Phase I – Pre-Construction Phase**

- A. CMR shall commence pre-construction (Phase I) services pursuant to Document 00 5251 on the date indicated in Document 00 5501-A (Notice to Proceed for Pre-Construction Services) (**Phase I Commencement Date**).
- B. CMR shall achieve Substantial Completion of Phase I within two hundred-eighty (280) calendar days from the Phase I Commencement Date, subject to extension only as provided in Document 00 5251. Additional one hundred-fifty (150) calendar days shall be required for subs buyout for Project Component Group C. Phase 1 services will be performed in following sequence:  
Part 1:  
Anticipated Start Date – April 24, 2018  
Anticipated Completion Date – January 25, 2019  
Part 2 (Project Component Group C for subs buyout only):  
Anticipated Start Date – January 7, 2020  
Anticipated Completion Date – June 9, 2020
- C. Owner reserves the right to modify or alter the Phase I Commencement Date.

**2.02. Phase II – Construction Phase– Project Component Group A**

- A. CMR shall commence the construction (Phase II) work for Project Component Group A on the date indicated in Document 00 5501-B (Notice to Proceed for Construction – Project Component Group A). (**Phase II Group A Commencement Date**).
- B. CMR shall achieve Substantial Completion of the Project Components Group A Work three hundred-twenty (320) calendar days from the Group A Phase II Commencement Date.

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- C. CMR shall achieve Final Completion of the Project Components Group A Work three hundred-fifty (350) calendar days from the Group A Phase II Commencement Date.

**2.03. Phase II – Construction– Project Component Group B**

- A. CMR shall commence the construction (Phase II) work for Project Component Group B on the date indicated in Document 00 5501-B (Notice to Proceed for Construction – Project Component Group B). **(Phase II Group B Commencement Date)**.
- B. CMR shall achieve Substantial Completion of the Project Components Group B Work four hundred-twenty (420) calendar days from the Group B Phase II Commencement Date.
- C. CMR shall achieve Final Completion of the Project Components Group B Work four hundred-sixty (460) calendar days from the Group B Phase II Commencement Date.

**2.04. Phase II – Construction– Project Component Group C**

- A. CMR shall commence the construction (Phase II) work for Project Component Group C on the date indicated in Document 00 5501-B (Notice to Proceed for Construction – Project Component Group C). **(Phase II Group C Commencement Date)**.
- B. CMR shall achieve Substantial Completion of the Project Components Group C Work five hundred twenty-five (525) calendar days from the Group C Phase II Commencement Date.
- C. CMR shall achieve Final Completion of the Project Components Group C Work five hundred twenty-five (550) calendar days from the Group C Phase II Commencement Date.

**2.05. General Matters**

- A. Conditions to Owner's issuance of Document 00 5501-A (Notice to Proceed for Pre-Construction Services) include all matters described in Document 00 5105 (Notice of Award), and such other matters as Owner may reasonably request.
- B. Conditions to Owner's issuance of Document 00 5501-B (Notice to Proceed for Construction), to be issued for each Project Component Group, include the following, which Owner may waive or modify in its sole discretion:
  - 1. CMR has satisfactorily completed all pre-construction phase services required by Document 00 5251 (Pre-Construction and CMR Services), or a portion of those services as required by Owner for the particular Project Component Group.
  - 2. CMR has awarded all trade subcontracts and self-perform subtrade work contracts required to execute the Phase II work of the Contract Documents for the particular Project Component Group.
  - 3. CMR has provided evidence of all insurance, bonds and bond amounts required by Contract Documents for construction.
- C. Owner reserves the right to modify or alter the Phase I Commencement Date or any Phase II Commencement Date in its sole discretion.

**ARTICLE III - PROJECT REPRESENTATIVES**



**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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**3.01. Owner's Project Manager**

- A. Owner, acting through the San Mateo County Project Development Unit, has designated \_\_\_\_\_ as its Project Manager to act as Owner's Representative in all matters relating to the Contract Documents.
- B. To the extent Board of Supervisors approval is not required, Project Manager shall have authority over various matters pertaining to the Contract Documents and shall have sole authority to modify the Contract Documents on behalf of Owner, to accept work, and to make decisions or actions binding on Owner, and shall have sole signature authority on behalf of Owner, subject however to the limits in the Public Contract Code sections 20137 and 20142, as stated in Document 00 7200, and limits supplied by law and County policies.
- C. Owner may assign all or part of the Project Manager's rights, responsibilities and duties to a Construction Manager, or other Owner Representative, or change the Project Manager, Construction Manager or other Owner Representative at any time.

**3.02. CMR's Project Manager**

- A. CMR has designated \_\_\_\_\_ as its Project Manager to act as CMR's Representative in all matters relating to the Contract Documents. CMR's Project Manager must be approved in writing by the Owner prior to execution of this Agreement.
- B. CMR may not change the identity of its Project Manager or any other Key Personnel without prior Owner written approval, which approval shall not be unreasonably withheld, provided such replacement has similar or greater experience and qualifications.

**3.03. Architect/Engineer**

- A. Taylor Design will furnish the Plans and Specifications and shall have the rights assigned to Architect/Engineer in the Contract Documents.

**ARTICLE IV - TERMS, CONDITIONS AND SCOPE OF LIMITATIONS ON DELAY DAMAGES**

**4.01. Identification and Limitation on Delay Damages.**

- A. Owner and CMR recognize that time is of the essence of this Contract and that both Owner and CMR (including Subcontractors) will suffer financial loss in the form of contract administration expenses (including without limitations extended General Conditions, General Requirements, Fee, lost profit, lost opportunities, consequences to bonding costs for CMR; and disruption, extended project management and consultant expenses, interest expense, and loss of revenues, damages to third parties and costs of substitute facilities for Owner) (collectively, **delay damages**), if all or any part of the Work is not completed within the times specified above, plus any extensions thereof allowed in accordance with the Contract Documents.
- B. Except as otherwise expressly provided in this Document 00 5201 (Agreement), Owner and CMR (including Subcontractors) agree that, because of the nature of the Project, including the pricing and incentive provisions in Contract Documents, neither shall have the right to recover such defined delay damages against the other, other than Owner's liquidated damages for delay, and neither party shall have the right to recover such defined delay damages against the other during the first six months (180 days) of any delay.
- C. Consistent with Public Contract Code 7203, delay damages are liquidated as follows:

- 1. Project Components Group A Liquidated Damages

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- a. Owner's liquidated damages during the first 90 days of the delay period attributable to CMR, shall be the amount of \$2500 per day.
    - b. Following the first 90 days of delay due to any party, then the mutual waiver is extinguished starting on day 91. Thereafter, Owner's liquidated damages shall be **\$5,000 per day**
  - 2. Project Components Group B and Group C Liquidated Damages
    - a. Owner's liquidated damages during the first 90 days of the delay period attributable to CMR, shall be the amount of \$1,000 per day.
    - b. Following the first 90 days of delay due to any party, then the mutual waiver is extinguished starting on day 91. Thereafter, Owner's liquidated damages shall be **\$5,000 per day**
  - D. Measures of liquidated damages shall apply cumulatively.
- 4.02. Delays Covered.** This mutual waiver and limit to liquidated damages includes delay damages resulting from delays which in turn result from ordinary, alleged breaches of contract; or errors, omissions, or alleged defects in the design; and force majeure events. Such delays include:
- A. CMR failure to achieve Substantial Completion or Final Completion of any portion of the Work within the times required in the Contract Documents, plus any permitted extensions;
  - B. Owner's failure to respond to any CMR inquiry, submittal or other request in a timely manner;
  - C. Delays caused by any expected construction interruptions, specifically activities of OSHPD, inspections, rejection of work and rework;
  - D. Delays caused by any differing site conditions (including hazardous waste or undisclosed Underground Facility), such as those contemplated in Document 00 7200 (General Conditions);
  - E. Errors or omissions amounting to ordinary negligence, including without limitation CMR negligence in performing its Pre-Construction Services, or errors or omissions in any Drawings or Specifications; and
  - F. Delays resulting from forces and/or causes beyond the reasonable control of Owner, CMR or any Subcontractor, including without limitation force majeure events, Acts of God, disruptions in supply and other unexpected difficulties in the progress of the Work.
- 4.03. Subcontractor Consent.** Subcontractors must expressly agree to be bound to this Article IV, to the extent of their scope of Work. Under no circumstances may any Subcontractor make a claim against Owner for delay damages suffered by a Subcontractor. To the extent that this Document 00 5201 (Agreement) otherwise expressly entitles Subcontractors to receive delay damages, all Subcontractor claims for delay damages (i) must be prosecuted through CMR as provided in Document 00 7200 (General Conditions) and (ii) are subject to all limitations and waivers otherwise contained in this Document 00 5201 and the other Contract Documents.
- 4.04. Exclusions.** The foregoing mutual waiver of delay damages excludes the following:
- A. Any damages arising from or relating to personal injury, death, defective work, property damage, or to the extent covered by insurance maintained by Owner, CMR or any Subcontractor.
  - B. Any damages resulting from CMR's or any Subcontractor's failure to maintain the minimum staffing levels required to prosecute the Work with reasonable diligence, defective work or failure to remedy defective work.

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- C. Any damages resulting from any party's gross negligence or intentional misconduct.
- D. Any delay damages otherwise payable under paragraph 4.01 above; provided that under no circumstance shall Owner, CMR or any Subcontractor be paid twice for the same delay damages.
- E. Indemnity or defense obligations under Contract Documents.
- F. Under no circumstances may this mutual waiver be construed to limit liability for any damages covered by insurance maintained by Owner, CMR or any Subcontractor, to the extent of such coverage available and recovered after exercise of reasonable efforts.

**ARTICLE V - NOT USED**

**ARTICLE VI - CONTRACT DOCUMENTS**

- 6.01.** The Contract Documents which comprise the entire agreement between Owner and CMR concerning the Work consist of the following documents, including all changes, Addenda, and Modifications thereto as listed on Document 00 0111 Table of Contents:

Document 00 4001	Proposal Price Form
Document 00 4820	Proposer Certifications
Document 00 5201	Agreement
Document 00 5251	Pre-Construction and CMR Services
Document 00 5501-A	Notice to Proceed for Pre-Construction Services
Document 00 5501-B	Notice to Proceed for Construction
Document 00 6113.12	Construction Performance Bond
Document 00 6113.18	Construction Labor and Material Payment Bond
Document 00 6301	Guaranty
Document 00 6530	Agreement and Release of Any and All Claims
Document 00 6600	Substitution Request Form
Document 00 6801	Escrow Agreement for Security Deposit in Lieu of Retention
Document 00 7200	General Conditions
Document 00 7301	Supplementary General Conditions – CMR Items
Document 00 7311	Insurance and Indemnification
Document 00 7315	Naturally Occurring Asbestos [If Applicable]
Document 00 7321	Requirements for OSHPD Reviewed Projects
Document 00 7380	Apprenticeship Program
Document 00 9111	Addenda
Specifications	Division 01 Sections identified in Document 01 0111 Table of Contents.
Specifications	Division 02 through 33 to be developed in conjunction with scope definition work as described in Document 00 5251.
Drawings	Drawings, Tables and Schedules to be completed for bidding, to be developed in conjunction with scope definition work as described in Document 00 5251

- 6.02.** Part of the scope of CMR's Pre-Construction Services work is to identify, clarify, and define the scope of the multiple Permit Packages that constitute the Project, as described further in Document 00 5251 (Pre-Construction and CMR Services).
- 6.03.** There are no Contract Documents other than those listed above in this Article VI. Document 00 3020 Geotechnical Data and Existing Conditions and Document 00 3124 Hazardous Materials Surveys (if included) and the information supplied through those documents, are not Contract Documents and describe conditions of construction only. The Contract Documents

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may only be amended, modified or supplemented as provided in Document 00 7200 General Conditions.

**ARTICLE VII - TRADE SUBCONTRACTOR BIDDING AND BONDS; FINAL GMP**

- 7.01.** After award of this Contract, CMR shall commence performing Services as outlined in Document 00 5251. No later than at the end of performance of the Services outlined in Document 00 5251, and earlier if requested by Owner, CMR shall prepare the packages for bidding or otherwise procuring separate trade subcontracts.
- 7.02.** The subcontracts shall be bid open book, with Owner having reasonable review and clarification rights regarding scope, terms and conditions, to complete the work of the Contract Documents and guard against prejudice of Owner's rights under the Contract Documents. Subcontracts and subcontractor bidding shall comply with all public contracting requirements applicable to the County of San Mateo, including without limitation, the following requirements:
- A. CMR shall provide public notice of the availability of work to be subcontracted in accordance with the publication requirements applicable to the competitive bidding process of Owner and the Subcontractor and Subletting Fair Practices Act.
  - B. CMR shall provide a fixed date and time on which the subcontracted work will be awarded.
  - C. In any contract between CMR and any trade subcontractor, or any contract between a trade subcontractor and a subcontractor thereunder, the percentage of the retention proceeds withheld may not exceed the percentage specified in the contract between Owner and CMR. If the CMR provides written notice to any trade subcontractor or subcontractor thereunder that is not a member of the CMR entity, prior to or at the time the bid is requested, that a bond may be required and the subcontractor subsequently is unable or refuses to furnish a bond to the CMR, then the CMR may withhold retention proceeds in excess of the percentage specified in the contract between Owner and CMR from any payment made by the CMR to the trade subcontractor or subcontractor thereunder.
  - D. CMR shall award subcontracts to the low, responsive and responsible trade bidder for each trade package.
- 7.03.** CMR's contract value will increase by the amount of each trade subcontract and authorized self-perform subtrade work, and at the completion of trade subcontract bidding, the amount of all trade subcontracts (Aggregate Trade Subcontract and Self-Perform Cost) will be utilized to establish a Final GMP. The Aggregate Trade Subcontract and Self-Perform Cost shall be administered as Cost Item 5.
- 7.04.** Subcontracts bid shall encompass a complete buy out of construction Work and the Final GMP calculated at the completion of subcontractor bidding for Project Component Group C shall be a final GMP for the entire Work of the Contract Documents. CMR shall not include duplicate scope in any Cost Item or trade subcontract and if such is discovered subsequently then CMR shall so notify Owner for calculation and implementation of the appropriate deductive change order for the value of any such duplication.
- 7.05.** As a condition to the NTP for Phase 2 and as a material term of this Contract, CMR shall provide a performance bond and a payment bond in the forms provided in the Contract Documents as Document 00 6113.12 (Construction Performance Bond) and Document 00 6113.18 (Construction Labor and Material Payment Bond). Such Bonds shall be in the penal sum of the Final GMP.

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- 7.06.** Except as otherwise provided in this Article VII or upon written consent of Owner, CMR shall not assign any portion of the Contract Documents, and may subcontract portions of the Contract Documents only in compliance with the Subcontractor Listing Law, California Public Contract Code § 4100 *et seq.*
- 7.07.** Owner shall retain the right in its reasonable discretion, and without additional compensation to CMR, to bid subcontracts in its name and to assign and novate such subcontracts to CMR, subject to the same terms and conditions herein as CMR-bid subcontractors.

**ARTICLE VIII - MISCELLANEOUS**

- 8.01.** Terms and abbreviations used in this Agreement are defined in Document 00 7200 (General Conditions) and Document 01 4200 (References and Definitions) and will have the meaning indicated therein.
- 8.02.** It is understood and agreed that in no instance are the persons signing this Agreement for or on behalf of Owner or acting as an employee, agent, or representative of Owner, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise, and it is further understood and agreed that liability of Owner is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.
- 8.03.** In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, CMR 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. § 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 Owner tenders final payment to CMR, without further acknowledgment by the parties.
- 8.04.** Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are deemed included in the Contract Documents and on file at Owner's Office, and shall be made available to any interested party on request. Pursuant to California Labor Code §§ 1860 and 1861, in accordance with the provisions of Section 3700 of the Labor Code, every contractor will be required to secure the payment of compensation to his employees. CMR represents that it is 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 CMR shall comply with such provisions before commencing the performance of the Work of the Contract Documents.
- 8.05.** In order to induce Owner to enter into this Agreement, CMR represents that it is duly organized, existing and in good standing under applicable state law; is licensed to perform all aspects of the Work; will employ only persons and subcontractors and designers with all required licenses and certifications; that CMR is duly qualified to conduct business in the State of California; that CMR has duly authorized the execution, delivery and performance of this Agreement, the other Contract Documents, and Work to be performed herein; and that the Contract Documents do not violate or create a default under any instrument, agreement, order, or decree binding on CMR.
- 8.06.** CMR shall not assign any portion of the Contract Documents.
- 8.07.** This Agreement and the Contract Documents shall be deemed to have been entered into in the City of Redwood City, County of San Mateo, State of California, and governed in all

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respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in the Superior Court for the County of San Mateo.

IN WITNESS WHEREOF the parties have executed this Agreement in quadruplicate the day and year first above written.

**CONSTRUCTION MANAGER AT RISK:**

**[CMR'S NAME]**

By: \_\_\_\_\_  
(Signature)

Its: \_\_\_\_\_  
Title (If Corporation: Chairman, President  
or Vice President)

By: \_\_\_\_\_  
(Signature)

Its: \_\_\_\_\_  
Title (If Corporation: Secretary, Assistant  
Secretary, Chief Financial Officer or  
Assistant Treasurer)

**OWNER:**

**COUNTY OF SAN MATEO**

\_\_\_\_\_  
President, Board of Supervisors

Attest:

\_\_\_\_\_  
Clerk of the Board of Supervisors

RESOLUTION NO. \_\_\_\_\_

**END OF DOCUMENT 00 5201**

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**Appendix A**

**CALCULATION OF CONTRACT SUM – PROJECT GROUP A  
[See Paragraph 1.06 above]**

<b><u>Cost Item No.</u></b>	<b><u>Item</u></b>	<b><u>Amount (\$)</u></b>
1.	Pre-Construction Services	\$ _____
2.	CMR Fee	\$ _____
3.	CMR General Conditions	\$ _____
4.	CMR General Requirements	\$ _____
5.	Full bid/award value of all trade subcontracts to be bid open book by CMR and agreed value of all authorized self-perform subtrade work*	\$ _____
6.	Contingency	\$ _____
<b>CONTRACT SUM PROJECT GROUP A*</b>		<b>\$ _____</b>

\* Subject to any Trade Subcontractor adjustments as provided in Article VII above.

**END OF APPENDIX A**

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**Appendix B**

**CALCULATION OF CONTRACT SUM – PROJECT GROUP A+B  
[See Paragraph 1.06 above]**

<b><u>Cost Item</u></b>	<b><u>Item</u></b>	<b><u>Amount (\$)</u></b>
<b><u>No.</u></b>		
1.	Pre-Construction Services	\$ _____
2.	CMR Fee	\$ _____
3.	CMR General Conditions	\$ _____
4.	CMR General Requirements	\$ _____
5.	Full bid/award value of all trade subcontracts to be bid open book by CMR and agreed value of all authorized self-perform subtrade work*	\$ _____
6.	Contingency	\$ _____
<b>CONTRACT SUM PROJECT GROUP A+B*</b>		<b>\$ _____</b>

\* Subject to any Trade Subcontractor adjustments as provided in Article VII above.

**END OF APPENDIX B**



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**Appendix C**

**CALCULATION OF FINAL CONTRACT SUM (GMP) – PROJECT GROUP A+B+C  
[See Paragraph 1.06 above]**

<b><u>Cost Item</u></b>	<b><u>Item</u></b>	<b><u>Amount (\$)</u></b>
<b><u>No.</u></b>		
1.	Pre-Construction Services	\$ _____
2.	CMR Fee	\$ _____
3.	CMR General Conditions	\$ _____
4.	CMR General Requirements	\$ _____
5.	Full bid/award value of all trade subcontracts to be bid open book by CMR and agreed value of all authorized self-perform subtrade work*	\$ _____
6.	Contingency	\$ _____
<b>CONTRACT SUM PROJECT GROUP A+B+C (GMP)*</b>		<b>\$ _____</b>

\* Subject to any Trade Subcontractor adjustments as provided in Article VII above.

**END OF APPENDIX C**

**Appendix D**

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**TRADE SUBCONTRACTORS LIST**

Prepared by Owner on \_\_\_\_\_, 20\_\_\_\_.

**END OF APPENDIX D**

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DOCUMENT 00 5205

**ASSIGNMENT AND NOVATION AGREEMENT  
(CM/GC)**

THIS AGREEMENT is entered this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, by and among the County of San Mateo (“Owner”), \_\_\_\_\_ (“CMR”) and \_\_\_\_\_ (“Trade Subcontractor”).

WHEREAS, Owner and Trade Subcontractor have entered into a certain agreement for Work, [Trade Subcontract for \_\_\_\_\_], dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, which is incorporated herein by reference (“Trade Subcontract”); and

WHEREAS, prior to the making of the Trade Subcontract, Owner entered into a Construction Contract with CMR, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, which is incorporated herein by reference; and

WHEREAS, Owner, Trade Subcontractor and CMR now desire to permit the assignment of the Trade Subcontract by Owner to CMR and the assumption by CMR of Owner’s liability, if any, to Trade Subcontractor thereunder, so as to substitute CMR for Owner and thus cause a novation of the Trade Subcontract; and

WHEREAS, the parties hereto desire to make the assignment and novation under this Agreement and the parties desire that Trade Subcontractor become a subcontractor of CMR and that Contractor and Trade Subcontractor release Owner with respect to the Trade Subcontract in accordance with the terms of this Agreement.

NOW, THEREFORE, the parties agree as follows:

1. Assignment of Trade Subcontract and Liabilities: For good and valuable consideration, the receipt of which is hereby acknowledged, stipulated and agreed, Owner hereby grants and assigns to CMR all its rights, title and interest in and to the Trade Subcontract and all liabilities, duties and obligations of Owner arising out of or relating to the Trade Subcontract. Notwithstanding any other provision of this Agreement, Owner retains all of its contractual rights under its contract with CMR concerning Trade Subcontractor’s performance under the Trade Subcontract, whether said performance occurs before or after the date of this Agreement.

2. Assumption of Assignment, Liabilities and Novation: CMR hereby promises to perform the Work of the Trade Subcontract as the Work of CMR. CMR hereby accepts the foregoing assignment, agrees to assume and perform all duties and obligations to be performed by Owner under the Trade Subcontract to the same extent as if CMR had been an original party thereto, agrees to assume all liabilities, duties and obligations of Owner arising out of or relating to the Trade Subcontract, and agrees to the fullest extent permitted by law to release, defend, indemnify and hold Owner harmless from any and all claims, demands, actions, causes of action, suits, proceedings, damages, liabilities and costs and expenses of every nature whatsoever relating to the Trade Subcontract arising out of or with respect to the performance or non-performance of Owner’s duties and obligations.

3. Consent to Assignment, Assumption and Novation: Trade Subcontractor hereby consents to the foregoing assignment by Owner to CM/GC of the Trade Subcontract and Owner’s liabilities, duties and obligations thereunder and to CM/GC’s assumption of the same, agrees to look solely to CM/GC for the proper performance of the Trade Subcontract, agrees to and does release Owner from any and all claims, demands, actions, causes of action, suit, proceeding, damages, liabilities and costs and expenses of every kind and nature whatsoever arising out of or relating to the Trade Subcontract and agrees that the assignment and assumption under this Agreement shall be effective as a substitution of parties and shall constitute a novation pursuant to California Civil Code section 1531 and shall be final except as provided in section 1533.

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4. Owner's Right to Terminate Assignment and Novation Agreement: Notwithstanding the parties' desire, intent and agreement to modify the Trade Subcontract through this Assignment and Novation Agreement, should Owner, at its sole discretion, wish to cancel, void and/or terminate this Assignment and Novation Agreement at any future time, Owner may do so by providing written notice to CMR. In such an event, simultaneously upon communication of written notice, this Assignment and Novation Agreement shall be deemed canceled, voided and/or terminated and the Owner and CMR shall look solely to and be bound by the original terms of the Construction Management Services Agreement and Owner and Trade Subcontractor shall look solely to and be bound by the Trade Contract. If this Assignment and Novation Agreement is determined by a court, administrative agency or arbitrator to be invalid, illegal or incapable of being enforced by any rule of law or public policy, the CMR Agreement shall nevertheless remain in full force and effect.

5. Entire Agreement: This Agreement and the Exhibits attached hereto constitute the entire agreement between the parties with respect to the subject matter hereof and shall supersede all prior written and oral and all contemporaneous oral agreements and understandings with respect to the subject matter hereof.

6. Counterparts: This Agreement and the other documents referred to herein or therein, may be executed in counterparts, each of which shall be deemed to be an original but all of which shall constitute one and the same agreement.

7. Notices: Notices, offers, requests or other communications required to be given by either party pursuant to the terms of this Agreement shall be given in writing to the respective parties.

8. Binding Effect: This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective legal representatives and successors, and nothing in this Agreement, express or implied, is intended to confer upon any other Person any rights or remedies of any nature whatsoever under or by reason of this Agreement. Neither party may assign this Agreement, or any rights or obligations hereunder, without the prior written consent of the other party and any such assignment shall be void; provided, however, either party may assign this Agreement to a successor entity in conjunction with such party's reincorporation.

9. Severability: If any term or other provision of this Agreement is determined by a court, administrative agency or arbitrator to be invalid, illegal or incapable of being enforced by any rule of law or public policy, all other conditions and provisions of this Agreement shall nevertheless remain in full force and effect.

10. Authority: Each of the parties hereto represents to the other that (a) it has the corporate or other requisite power and authority to execute, deliver and perform this Agreement, (b) the execution, delivery and performance of this Agreement by it have been duly authorized by all necessary corporate or other actions, (c) it has duly and validly executed and delivered this Agreement, and (d) this Agreement is a legal, valid and binding obligation, enforceable against it in accordance with its terms.

11. Interpretation: The headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement. Any capitalized term used but not otherwise defined therein, shall have the meaning assigned to such term in this Agreement.

12. Applicable Law and Venue: This Agreement and the Contract Documents shall be deemed to have been entered into in the City of Redwood City, County of San Mateo, State of California, and governed in all respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in the Superior Court for the County of San Mateo.

13. Counterparts: This Agreement and the other documents referred to herein or therein, may be executed in counterparts, each of which shall be deemed to be an original but all of which shall constitute one and the same agreement.

14. Notices: Notices, offers, requests or other communications required to be given by either party

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pursuant to the terms of this Agreement shall be given in writing to the respective parties.

WHEREFORE, the parties have executed this Assignment and Novation Agreement effective as of the date first set forth above:

Dated: \_\_\_\_\_

COUNTY OF SAN MATEO

By: \_\_\_\_\_  
(Signature)

Dated: \_\_\_\_\_

[CMR]

By: \_\_\_\_\_  
(Signature)

Dated: \_\_\_\_\_

[Trade Subcontractor]

Trade Contractor Bid Package  
\_\_\_\_\_.

By: \_\_\_\_\_  
President

By: \_\_\_\_\_  
Secretary

**Surety Consent:** The undersigned payment bond surety and performance bond surety of CM/GC hereby consents to this Agreement and grants Trade Subcontractor and Owner all rights, benefits and privileges under its bonds issued with CM/GC as otherwise afforded as if Trade Subcontractor were an original subcontractor to CM/GC from inception. The undersigned payment bond surety and performance bond surety further agrees to increase the penal sum of each of its bonds by the amount of Trade Subcontractor's contract price as provided in the Construction Contract.

Dated: \_\_\_\_\_

[Insert CM/GC's Surety Name]:

By: \_\_\_\_\_

Title : \_\_\_\_\_

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**END OF DOCUMENT 00 5205**

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**DOCUMENT 00 5251**

**PRE-CONSTRUCTION AND CMR SERVICES**

**ARTICLE I – INTRODUCTION AND SUMMARY**

**1.01.** Construction Manager at Risk (**CMR**) shall provide Owner with professional pre-construction, trade-contractor bidding, construction management and general contractor services on the Project (**Services**). This Project shall proceed in two Phases, a Preconstruction Phase (**Phase I**) and a Construction Phase (**Phase II**). This Document 00 5251 defines the Services for the Preconstruction Phase (Phase 1) and describes without limitation some of the Services for the Construction Phase (Phase 2).

**1.02.** During the Preconstruction Phase CMR performs a range of Construction Manager (CM) services described in this Document 00 5251, working collaboratively with the Owner and its representatives, Architect/Engineer and other Project team members.

Upon completion of the Preconstruction Phase, including procurement of trade Subcontracts, CMR becomes the Project General Contractor (GC) during the Construction Phase.

**1.03.** In performing Construction Manager services during the Preconstruction Phase, including without limitation preparing the Project for the Construction Phase, CMR shall assume a professional role as an experienced California hospital construction contractor (OSHPD 1 construction) holding a California Class B contractor's license; in recommending improvements in Contract Documents to better achieve Project objectives of controlling time and cost, enhancing quality and minimizing risk. In performing such services affecting Project cost, CMR shall act in the highest good faith in making recommendations affecting cost and implementing them as Owner approves.

**1.04.** In general, during Preconstruction Phase, CMR shall:

- A. Work diligently, proactively and cooperatively with Owner and the design team, to provide constructability review, value engineering, bidding services, scheduling, estimating, phasing plan, logistic plan, infection control plan, interim life safety measures (ILSM), signage plan, shutdown plan, method of procedure plan, and other services, to permit establishment of a final guaranteed maximum price (Final GMP).
- B. Work diligently, proactively to competitively bid or otherwise procure the contracts for the trades on the Project.
- C. Perform estimating services for each of the trade-work bid packages and for the entire Project.
- D. Additionally, if requested by Owner, work with Owner to identify any major trade subcontracts warranting use of a process that prequalifies potential bidders, and that also may involve, if requested by Owner, contract awards based on a competitive best-value analysis.

**1.05.** Preconstruction Phase will conclude upon fixing the Final GMP for Project Component Group C, execution of a change order (Appendix C to Agreement) documenting same and issuance of Notice to Proceed for Construction for Project Component Group C. Because of Contractor's Preconstruction Services, there will be a limited change-order right for "preventable" costs that could have been avoided by proper performance of the CMR's Preconstruction Phase services as set forth in more detail in Document 00 5201 (Agreement). CMR shall be at risk for preventable costs above the contingencies.

**ARTICLE II – PHASE 1 SERVICES: SCOPE DEFINITION**

**2.01.** Refer to Document 01 1001, paragraph 1.03 for the summary of work.

The Project will require careful coordination and systematic phasing in order to maintain continuous and uninterrupted operations of the San Mateo Medical Center, and each Project Component may have its own set of drawings, specifications, OSHPD permit and Deferred Approvals.

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- 2.02.** CMR will conduct Scope Definition and Clarification Workshops with Project Manager, Estimator, MEP Coordinator, Subcontractors, Architect and design team, and Owner representatives, in order to verify the scope identified by Owner, and to identify, isolate, and segregate the required scope for each individual subcontractor bid package required to execute the intended scope of the phases that make up the Project.

**ARTICLE III – PHASE 1 SERVICES: PROJECT MANAGEMENT PLAN**

- 3.01.** During Preconstruction Phase, CMR shall gather information and develop a project management plan. Meet with Owner and its Project Team including Owner representatives, and Architect/Engineer to identify information, goals and constraints. Develop a Project strategy and proposed project management plan to meet the project goals, working around constraints. Review the proposed plan with the Owner and its representatives and based on their feedback, finalize the plan.
- 3.02.** The Project Management Plan shall include, at a minimum, the following elements:
- A. Master Schedule to include Trade Subcontractor Bidding/Procurement (including reasonable allowances for bid protests), important Owner milestones, timing for Preconstruction Phase and Construction Phase, other contracts to be incorporated into the Project, and other Project-related items as requested by Owner. CMR shall provide initial Master Schedule to Owner within 30 days of Preconstruction Phase commencement.
  - B. CMR Staffing Plan. CMR will provide for itself a Staffing Plan applicable to both Preconstruction Phase and Construction Phase, as provided in Document 00 4514 (Proposed Project Plan, Proposed Staffing Plan, and Proposed Safety Plan).
  - C. Additional Consultants or Information Required. CMR shall provide input and make recommendations to Owner for the engagement of other consultants or securing of additional information by Owner as required for efficient and successful completion of the Project. If requested, CMR shall engage such consultants or secure such data on behalf of Owner following Owner procedures; and shall support Owner in negotiating fees and preparing and processing agreements as required. These consultants, upon approval by Owner, may be retained by Owner or CMR by amendment to the Agreement.
  - D. Public Relations Activities. CMR will assist Owner in all public relations including, but not limited to, preparation of Project information and administering internal and public meetings as required, including site meetings and meetings with City, civic, and regulatory agencies. Designated Owner representatives shall be the point of public contact during all phases of Work in regards to any complaints, questions, safety issues, noise problems, dust problems, and such except for such specific areas Owner representative delegates to CMR.
  - E. Regulatory Approvals. CMR will assist Owner in monitoring and processing all regulatory approvals required for Project development and construction, including without limitation City of San Mateo, San Mateo County, City and County Fire Marshals, Fire and Life Safety Officer, OSHPD, and any other Jurisdiction Having Authority.
  - F. Mobilization Plan. CMR will prepare, and with Owner's approval implement, the Project mobilization plan, including acquisition and installation of all required trailers and other on-Site facilities.

**ARTICLE IV – PHASE 1 SERVICES: PROJECT REPORTING AND MEETINGS**

- 4.01.** CMR shall attend regular meetings, regularly scheduled, special meetings and all meetings required by Document 01 3100 and provide input.
- 4.02.** CMR shall report to and receive instructions from Owner. CMR shall keep Owner's responsible Project personnel, as designated from time to time, advised and informed on Project status and issues. CMR shall immediately report to Owner any conflicting instructions received from Owner representatives. All CMR field personnel assigned to the Project shall have cellular telephones sufficient to permit 24 hour a day access for response to emergency situations that may arise.



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**ARTICLE V – PHASE 1 SERVICES: REVIEW PLANS AND SPECIFICATIONS AND SITE CONDITIONS**

- 5.01.** During Preconstruction Phase, CMR shall provide technical assistance and advice in reviewing the Project Plans and Specifications for constructability and coordination. The review process will include a site verification to see that existing conditions are correctly addressed in the Plans and Specifications. The constructability review shall evaluate actual obstructions or difficulties building the designs as shown, design coordination, dimensions, interferences, conflicts, OSHPD compliance (from the standpoint of an experienced OSHPD contractor), any coordination issues apparent, and also design details or requirements that, in CMR's opinion, are unnecessarily costly or subject to achievement in different, better and/or less expensive ways. The review will also evaluate whether alternate materials, methods or systems should be considered and will aim to eliminate or minimize interferences, conflicts, unnecessary expense and potential omission or overlap of work between trades and avoid the need for clarifications or changes during Construction Phase, to improve the function of the Project and to save time and cost. CMR shall provide a written list of suggested improvements to Plans and Specifications to Project team and monitor later documents to see that agreed on changes are incorporated into the Plans and Specifications before trade bidding. Finally, CMR shall verify completeness of all Construction Documents and ensure that Subcontractor bid packages include a complete scope of the entire Work of Project.
- 5.02.** CMR's constructability review regarding OSHPD requirements shall extend to matters of constructability that are within the scope and experience of an experienced California hospital construction contractor (OSHPD 1 construction) holding a California Class B contractor's license; it shall not extend to matters solely within the expertise of a licensed hospital design professional.
- 5.03.** Also during Preconstruction Phase, CMR shall conduct a comprehensive review of Project site conditions and contiguous site conditions, sufficient to successfully perform all aspects of the Work, including, without limitation:
- A. Site logistics, site access restrictions or requirements, traffic, noise restrictions, hourly work restrictions, requirements of public and/or private authorities with jurisdiction, and any other restriction or consideration that may affect Contractor's Work.
  - B. Existing conditions information provided by Owner including, but not limited to, review and study of all available as-built information, geotechnical reports, engineering studies, previous contracts, measurements, surveys, documents and materials described and/or provided in Document 00 3020, and any other item required by Document 00 5201 (Agreement) Article VI.
  - C. Correlating its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents. CMR will give Project Manager prompt written notice of all conflicts, errors, ambiguities or discrepancies that it has discovered in or among the Contract Documents and as built and actual conditions, and notify Project Manager of any written resolution thereof by Project Manager which is not acceptable to CMR.
  - D. Any other investigations deemed necessary by CMR to fully acquaint itself with existing conditions for purposes of Work.
  - E. Based on the foregoing, CMR shall recommend any further site investigations (e.g. subsurface soundings or potholing), make written recommendations to address all observable site conditions, and advise Owner of methods of Trade Subcontractor bidding to address unique site conditions such as unclear or indefinite scope that pose a risk of added change order costs. (These could include, without limitation, including an estimated quantity for indefinite work scope [e.g. unusable soil removal] that Trade Subcontractors are to include in their bids at unit price rates, with final cost to be based on the actual quantity at the unit rate bid.) Such recommendations should minimize the incentive for Trade Subcontracts to bid anticipating open ended add change orders for indefinite quantity work.
  - F. CMR shall also indicate any additional information it requires in assessing existing conditions. Owner and CMR shall work collaboratively to secure any further, additional information which CMR reasonably requires.

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- 5.04.** CMR shall provide comments on sequencing of construction, phasing, means and methods, duration of construction of various building methods and provide recommendations on expediting the construction schedule. .
- 5.05.** Also, during Preconstruction Phase CMR shall review the Project Plans and Specifications for value engineering opportunities to save cost or time. Value engineering means the least cost way to achieve a function in the project design. During the review of Plans and Specifications, CMR shall list suggestions for cost savings or value engineering. CMR shall discuss these with the Project team, reach agreement on those to be adopted and see that they are incorporated in later Plans and Specifications.
- 5.06.** CMR shall evaluate and advise Owner regarding opportunities to improve Project maintainability and sustainability and reduce lifecycle costs and energy use throughout the expected Project life.
- 5.07.** CMR shall suggest ways to bring Subcontractors not yet procured into the Preconstruction Phase including their participation in constructability reviews within their respective scopes of work, subject to management and coordination by CMR. Such recommendations may include early bidding of specific trades and shall address Owner's legal competitive bidding requirements and need to minimize the risk of making financial commitments commensurate with a reasonable level of cost certainty.
- 5.08.** Owner may or may not approve any changes to Contract Documents proposed by CMR in connection with its constructability review, value engineering or life-cycle cost analysis, in its sole discretion.
- 5.09.** For any of the foregoing changes which are not incorporated into the Plans and Specifications, CMR shall notify the Project team in writing and take appropriate actions to resolve any comments the CMR believes should be incorporated or otherwise addressed.
- 5.10.** CMR shall incorporate estimate and other information described in Article VII below in Services performed under this Article V.

**ARTICLE VI – BUILDING INFORMATION MODELING (BIM)**

See Document 01 3120 Building Information Modeling (BIM) and Coordination Drawings

**ARTICLE VII – COST ESTIMATES AND BREAKDOWN**

- 7.01.** Promptly following issuance of the Notice to Proceed for Pre-Construction, CMR shall provide a detailed Project cost breakdown, including (i) estimated cost of construction by all Trade Subcontractors, both in the aggregate and for each anticipated Trade Subcontract separately, (ii) estimated cost of construction through CMR entity self-performance, if authorized by Owner, and (iii) all other CMR Cost Items, for the purpose of establishing whether Project cost, including all elements of the anticipated Contract Sum (see Document 00 5201 Agreement), is within the Project Construction Budget (hard cost). CMR shall completely update this estimate at least once at 100% SD, 100% DD and 80% CD completion of its Phase I Services.
- 7.02.** CMR shall conduct market survey and research to test the accuracy of its estimates. CMR acknowledges Owner's special termination for convenience rights if estimates exceed Owner's approved budgets.
- 7.03.** During Preconstruction Phase, CMR shall continuously review and revise its estimates and breakdown in light of the above market and survey information, the results of constructability and value engineering Services under Article IV, and all other reasonably available information. CMR shall continue such efforts during Construction Phase, including at each major project milestone through construction completion.

**ARTICLE VIII – PHASE 1 SERVICES: SCHEDULING, PHASING AND WORK SEQUENCING**

- 8.01.** In addition to CMR's other scheduling obligations under Contract Documents (e.g., Document 01 3200 Construction Progress Documentation), CMR shall work with Owner's Project team to create a schedule and plan to address timing and coordination of different phases of construction, potential early release

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of certain Trade Subcontractor packages, CMR Work and storage areas, traffic control, access, parking, utility outages, delivery and (if applicable) installation of furniture, fixtures and equipment by separate Owner contractors and vendors, and other elements. CMR shall submit the schedule and plan for Owner approval.

- 8.02. Permits and Approvals.** CMR shall secure all necessary permits and approvals. Verification and Assistance
1. Information. CMR shall provide necessary information to Office of Statewide Health Planning and Development (OSHPD) and other regulatory and permitting agencies as Owner may request and/or may be required.
  2. Permits. CMR shall perform necessary research, investigations and inquiry to determine and verify that Owner, CMR, and any other Project participants have applied for and secured all building permits, special permits, and approvals necessary for CMR to perform its Work.
  3. Statutory Approvals. CMR shall assist in obtaining statutory approvals or local approvals, for example, OSHPD, Department of Health Care Services, City of San Mateo, County of San Mateo, City and State Fire Marshal, Fire and Life Safety Officer, and any other Jurisdiction Having Authority.
  4. Construction Phase Staffing. All CMR Construction Phase staff shall be mobilized and assigned to the Project in accordance with the Construction Staffing Plan approved by Owner during Preconstruction Phase.

**ARTICLE IX – PHASE 1 SERVICES: BID PACKAGING AND BID MANAGEMENT**

- 9.01.** CMR shall develop a strategy for packaging the Project's construction Work into separate bid/procurement packages for each Trade Subcontract in full compliance with the Contract Documents and all applicable laws, including without limitation the Subcontractor Listing Law and other applicable portions of the Public Contract Code.
- 9.02.** Following Owner approval, at the appropriate time, CMR shall then carry out this packaging, working with the Architect/Engineer to compile the necessary Plans and Specifications to receive separate bids for all elements of the Work while retaining a fully coordinated Project.
- 9.03.** CMR shall solicit interest from potential Trade Subcontractor bidders before and after developing the bid packaging. CMR shall incorporate this market feedback into the bid packaging strategy and estimates in Article V above. CMR shall also take the necessary procedures to administer or assist Owner in administering any prequalification of potential Trade Subcontractors as directed by Owner. CMR shall make recommendations for actions designed to minimize adverse effects of labor shortages. CMR shall continue to solicit interest from qualified Trade Subcontractors.
- 9.04.** CMR shall arrange for advertising of all Trade Subcontractor bid packages. Without limiting the foregoing, if and to the extent requested by Owner, CMR shall:
- A. Prepare bidding documents, agreement, and other contract documents for each Trade Subcontract, based on Owner-provided forms to the extent requested, consistent with Contract Documents, Project schedule, and legal requirements. No such item shall be a Contract Document for this CMR-Owner Contract, nor shall any such item limit or excuse any obligation contained in the CMR Contract Documents, including without limitation the obligations of this paragraph. Any changes to any Owner-provided form which would have any effect before assignment and novation of the applicable Trade Subcontract to CMR are subject to Owner's approval in its sole discretion. However, no Owner-provided form, Owner-requested changes or Owner approval shall in any way diminish CMR's obligations under the Contract Documents.
  - B. Prepare complete contract documents for each Trade Subcontract, which, in addition to the items identified in paragraph A. above, include a flow-down of all items required by CMR's Contract Documents to the extent of the Trade Contractor's scope of work.
  - C. The scope of the contract documents for each Trade Subcontractor shall be the same as the scope for the bid packages as identified in future Scope Definition and Clarification Workshops. CMR shall

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notify Owner in writing and prior to any bidding of any changes, revisions, or deletions to Trade Subcontractor bid packages from the scope agreed upon in the Scope Definition and Clarification Workshops, and of any constructability issues discovered subsequent to the Scope Definition and Clarification Workshops. All such changes in scope identified prior to bidding and approved by Owner shall be included in the Trade Subcontractor bid packages. All other changes in scope shall be cost reimbursable but all other expenses, general conditions, general requirements or mark-up will be deducted from CMR's contingency.

- 9.05.** CMR shall arrange for advertising of all Trade Subcontractor bid packages in compliance with the Subcontractor Listing Law and otherwise applicable public contracting laws, conduct pre-bid conferences and receive and award Trade Subcontractor bids. Without limiting the foregoing, CMR shall:
- A. Distribute bidding and contract documents to prospective bidders;
  - B. Attend pre-bid meetings and site visits, and respond to bidder inquiries;
  - C. Prepare addenda and distribute them to bidders;
  - D. Compile bids (taking into account any Owner-specified bid preferences) and prepare recommendations for award;
  - E. Prepare and distribute notices of intent to award and notices of award after owner concurrence;
  - F. Prepare final contract documents and transmittals for Trade Subcontractor and Owner execution;
  - G. Prepare and distribute notices to proceed.
- 9.06.** CMR shall conduct its Preconstruction Phase Services to facilitate the uninterrupted bidding of the trade subcontracts necessary for the Project. CMR will develop and expedite bidding procedures for bid document issuance, bid tracking, and receipt of bids with regard to each of the subcontracts.
- 9.07.** CMR shall be fully responsible for flowing down (i) to each Trade Subcontractor all terms, conditions and requirements of CMR's Contract Documents which are applicable to the Trade Subcontractor's portion of the Project, and (ii) to all Trade Subcontractors collectively all Work of CMR's Contract Documents, excluding only the scope of CMR's specific Cost Items 1, 2, 3 and 4. These flow-down items include, without limitation:
- A. Insurance and bonding requirements.
  - B. Indemnity, defense and hold harmless requirements.
  - C. Warranties and guarantees relating to the Work.
  - D. Consequences of delay and defective work.
  - E. All labor, and small and local business requirements, including without limitations all requirements relating to prevailing wages and any project labor agreement.
  - F. The Projects will be expected to achieve a minimum of LEED certification and Zero Net Energy (ZNE) for the new Administration Building and Link Building per the County of San Mateo Municipal Green Building Policy dated December 5, 2017.
  - G. Teamwork and collaboration requirements.
  - H. OSHPD and regulatory agency compliance.

**ARTICLE X – NOT USED.**

**ARTICLE XI – PHASE 2 SERVICES: DELINEATION OF CMR'S PHASE 2 CONSTRUCTION RESPONSIBILITIES**

- 11.01.** Following the award of the Trade Subcontracts, CMR shall become a general contractor for the Project working under a fixed price for the scope of work under the Contract, responsible for construction and quality control, as well as project management services. CMR shall issue a written notice to Owner five business days prior to the start of construction for each Trade Subcontractor package. CMR shall require Trade Subcontractors to comply with all applicable provisions of the Contract Documents, and strictly enforce the prime contract terms incorporated into each Trade Subcontract, including, but not limited to, cost record terms, and claims notice and documentation terms.

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CMR shall provide construction administration and management services to construct the Project in an efficient and cost-effective fashion consistent with the best interests of County of San Mateo to deliver the Project on time and on budget. During the Construction Phase, CMR shall perform the following:

- A. Establish and implement an effective proven quality control program throughout construction to oversee and assure the quality performance of work.
- B. Work in coordination with the Architects, Owner, Inspector of Record and all applicable Authorities Having Jurisdiction (“AHJ”) including but are not limited to OSHPD, the County of San Mateo Building and Planning department, City of San Mateo, State and City of San Mateo Fire Marshal, County of San Mateo Environmental Health Department, etc. for all required inspections and approvals.
- C. Oversee the construction of the Project and manage/submit required records to comply with all Project requirements including, but not limited to, applicable statutory permits, LEED certification, Zero Net Energy per the County of San Mateo Municipal Green Building Policy, etc.
- D. Coordinate and address trade subcontractors’ Requests for Information (RFIs) with the Architects. RFIs shall be tracked through the field office by the CMR. Architects shall be responsible for technical interpretations and clarifications of the Contract Documents. CMR shall be responsible for managing the clarification and interpretation process.
- E. Provide direct supervision, coordination, scheduling and problem resolution for trade subcontractors. Monitor that the trade subcontractors are maintaining as-constructed drawings. Coordinate the construction schedule with the subcontractors and vendors to ensure that any owner provided items are installed at the appropriate time to minimize damage to previously installed work and to coordinate with space availability. CMR shall work with the County’s direct vendors to coordinate their work.
- F. Assist County Project Manager in reporting construction progress to the Board of Supervisors and Senior Management of County of San Mateo at regular intervals throughout the Project. The CMR shall prepare occasional presentations to other organizations as requested by the County Project Manager regarding construction issues of special importance.

**END OF DOCUMENT 00 5251**

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**DOCUMENT 00 5501-A**

**NOTICE TO PROCEED FOR PRE-CONSTRUCTION (PHASE I)**

Dated: \_\_\_\_\_, 20\_\_

To: \_\_\_\_\_  
(CMR)

Address: \_\_\_\_\_

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CONTRACT FOR: **SAN MATEO HEALTH SYSTEM UPGRADE PROJECTS**

You are notified that Contract Time for pre-construction phase services under the above Contract will commence to run on \_\_\_\_\_ [201\_\_]. On that date, you are to start performing your pre-construction phase services obligations under the Contract Documents. In accordance with Article II of Document 00 5201 (Agreement), the date of Substantial Completion of the pre-construction phase services is \_\_\_\_\_, [201\_\_].

Before you may start any of the pre-construction phase services, you must:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**COUNTY OF SAN MATEO**

By : \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**END OF DOCUMENT 00 5501-A**

**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Projects**

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DOCUMENT 00 5501-B

**NOTICE TO PROCEED FOR CONSTRUCTION (PHASE II)  
(CMR)**

Dated: \_\_\_\_\_, 20\_\_

To: \_\_\_\_\_  
(CMR)

Address: \_\_\_\_\_

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CONTRACT FOR:      **SAN MATEO HEALTH SYSTEM UPGRADE PROJECT**

You are notified that the Contract Time for construction phase services and work under the above Contract will commence to run on \_\_\_\_\_ [201\_\_]. On that date, you are to start performing your construction obligations under the Contract Documents. In accordance with Article II of Document 00 5201 (Agreement), the dates of Substantial Completion and Final Completion for the entire Work are \_\_\_\_\_, [201\_\_] and \_\_\_\_\_, [201\_\_], respectively.

**Before you may start any Work at the Site, you must:**

1. Submit one original of Document 00 6113.12 (Construction Performance Bond), executed by you and your surety.
2. Submit one original of Document 00 6113.18 (Construction Labor and Material Payment Bond), executed by you and your surety.
3. Submit certified Safety Program and related information
4. Submit copies of applicable permits
5. **[Other]**

**COUNTY OF SAN MATEO**

By : \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**END OF DOCUMENT 00 5501-B**

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San Mateo Health System Campus Upgrade Project**

**DOCUMENT 00 6113.12**

**CONSTRUCTION PERFORMANCE BOND**

KNOW ALL PERSONS BY THESE PRESENTS:

- 1.01** THAT WHEREAS, the COUNTY OF SAN MATEO (**Owner**), a political subdivision of the State of California, has awarded to (**Name of Contractor**) \_\_\_\_\_ as Principal Contract Number \_\_\_\_\_ dated the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ (the **Contract**) for the SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE PROJECT at the San Mateo Medical Center located in San Mateo, California.
- 1.02** AND WHEREAS, Principal is required to furnish a bond in connection with the Contract, guaranteeing the faithful performance thereof;
- 1.03** NOW, THEREFORE, we, the undersigned Principal and (**Name of Surety**) \_\_\_\_\_ as Surety are held and firmly bound unto Owner in the sum of [Insert **“Total Proposal Price”** identified in **CMR’s Proposal**; subject to further revision as Trade Subcontracts are bid out, or otherwise procured, and assigned and novated to CMR per Contract Documents (e.g., Documents 00 5201 Agreement and 00 5205 Assignment and Novation Agreement)] to be paid to Owner or its successors and assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.
- 1.04** THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its heirs, executors, administrators, successors, or assigns approved by Owner, shall promptly and faithfully perform the covenants, conditions, and agreements of the Contract during the original term and any extensions thereof as may be granted by Owner, with or without notice to Surety, and during the period of any guarantees or warranties required under the Contract, and shall also promptly and faithfully perform all the covenants, conditions, and agreements of any alteration of the Contract made as therein provided, notice of which alterations to Surety being hereby waived, on Principal's part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify, defend, protect, and hold harmless Owner as stipulated in the Contract, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and effect.
- 1.05** No extension of time, change, alteration, modification, or addition to the Contract, or of the work required thereunder, or work or actions by Owner to mitigate the damages resulting from any breach in performance by Contractor, shall release or exonerate Surety on this bond or in any way affect the obligation of this bond; and Surety does hereby waive notice of any such extension of time, change, alteration, modification, or addition.
- 1.06** Whenever Principal shall be and declared by Owner in default under the Contract, Surety shall promptly remedy the default, or shall promptly, and in no event later than thirty (30) days from notice:
- A. Undertake through its agents or independent Contractors (but having qualifications and experience reasonably acceptable to Owner), to complete the Contract in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including without limitation, all obligations with respect to warranties, guarantees, indemnities, and the payment of liquidated damages; or
  - B. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and, upon determination by Owner of the lowest responsible bidder, arrange for a contract between such bidder and Owner and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Sum, and to pay and perform all obligations of Principal under the Contract, including, without limitation, all



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obligations with respect to warranties, guarantees, and the payment of liquidated damages; but, in any event, Surety's total obligations hereunder shall not exceed the amount set forth in the third paragraph hereof. The term "balance of the Contract Sum," as used in this paragraph, shall mean the total amount payable by Owner to the Principal under the Contract and any amendments thereto, less the amount paid by Owner to Principal.

- 1.07** Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing Owner's rights against the others.
- 1.08** Surety may not use Contractor to complete the Contract absent Owner's Consent. Owner shall have the right in its sole discretion to continue the work of the Contract, as necessary following a default and/or termination, as necessary to prevent risks of personal injury, property damage or delay to the Project.
- 1.09** No right of action shall accrue on this bond to or for the use of any person or corporation other than Owner or its successors or assigns.
- 1.10** Surety shall join in any proceedings brought under the Contract upon Owner's demand, and shall be bound by any judgment.
- 1.11** Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**CONTRACTOR AS PRINCIPAL**

**SURETY**

Company: \_\_\_\_\_ (Corp. Seal)

Company: \_\_\_\_\_ (Corp. Seal)

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Address: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**END OF DOCUMENT 00 6113.12**

**San Mateo County – Project Development Unit  
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**DOCUMENT 00 6113.18**

**CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND**

KNOW ALL PERSONS BY THESE PRESENTS:

- 1.01** THAT WHEREAS, the COUNTY OF SAN MATEO (**Owner**), a political subdivision of the State of California, has awarded to (**Name of Contractor**) \_\_\_\_\_ as Principal Contract Number \_\_\_\_\_ dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ (the **Contract**) for the SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE PROJECT at the San Mateo Medical Center located in San Mateo, California.
- 1.02** AND WHEREAS, Principal is required to furnish a bond in connection with the Contract to secure the payment of claims of laborers, mechanics, material suppliers, and other persons as provided by law;
- 1.03** NOW, THEREFORE, we, the undersigned Principal and (Name of Surety) \_\_\_\_\_, as Surety, are held and firmly bound unto Owner in the sum of **[Insert 100% of the “Total Bid Price” identified in CMR’s Bid; subject to further revision as Trade Subcontracts are bid out and assigned and novated to CMR per Contract Documents (e.g., Documents 00 5201 Agreement and 00 5205 Assignment and Novation Agreement)]** for which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.
- 1.04** THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its executors, administrators, successors, or assigns approved by Owner, or its subcontractors shall fail to pay any of the persons named in California Civil Code § 3181, or amounts due under the State of California Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the State of California Employment Development Department from the wages of employees of Principal and subcontractors pursuant to Section 13020 of the State of California Unemployment Insurance Code with respect to such work and labor, that Surety will pay for the same in an amount not exceeding the sum specified in this bond, plus reasonable attorneys’ fees, otherwise the above obligation shall become and be null and void.
- 1.05** This bond shall inure to the benefit of any of the persons named in California Civil Code § 3181, as to give a right of action to such persons or their assigns in any suit brought upon this bond. The intent of this bond is to comply with the California Mechanic’s Lien Law.
- 1.06** Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder.
- 1.07** Surety’s obligations hereunder are independent of the obligations of any other surety for the payment of claims of laborers, mechanics, material suppliers, and other persons in connection with Contract; and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing Owner’s rights against the other.
- 1.08** Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

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IN WITNESS WHEREOF, we have hereunto set our hands this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**CONTRACTOR AS PRINCIPAL**

**SURETY**

Company: (Corp. Seal)

Company: (Corp. Seal)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Address: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**END OF DOCUMENT 00 6113.18**

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**DOCUMENT 00 6301**

**GUARANTY**

TO: The COUNTY OF SAN MATEO (**Owner**), for construction of the SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE PROJECT located at 222 West 39<sup>th</sup> Avenue, San Mateo, San Mateo County, California.

The undersigned guarantees all construction performed on this Project and also guarantees all material and equipment incorporated therein.

Contractor hereby grants to Owner for a period of one year following the date of Final Acceptance of the Work completed, or such longer period specified in the Contract Documents, its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers in connection with the Work.

Neither final payment nor use nor occupancy of the Work performed by the Contractor shall constitute an acceptance of Work not done in accordance with this Guaranty or relieve Contractor of liability in respect to any express warranties or responsibilities for faulty materials or workmanship. Contractor shall remedy any defects in the Work and pay for any damage resulting therefrom, which shall appear within one year, or longer if specified, from the date of Final Acceptance of the Work completed.

If within one year after the date of Final Acceptance of the Work completed, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be Defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom.

If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement.

Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.

Inspection of the Work shall not relieve Contractor of any of its obligations under the Contract Documents. Even though equipment, materials, or Work required to be provided under the Contract Documents have been inspected, accepted, and estimated for payment, Contractor shall, at its own expense, replace or repair any such equipment, material, or Work found to be Defective or otherwise not to comply with the requirements of the Contract Documents up to the end of the guaranty period.

All abbreviations and definitions of terms used in this Agreement shall have the meanings set forth in the Contract Documents.

The foregoing Guaranty is in addition to any other warranties of Contractor contained in the Contract Documents, and not in lieu of, any and all other liability imposed on Contractor under the Contract Documents and at law with respect to Contractor's duties, obligations, and performance under the Contract Documents. In the event of any conflict or inconsistency between the terms of this Guaranty and any warranty or obligation of the Contractor under the Contract Documents or at law, such inconsistency or conflict shall be resolved in favor of the higher level of obligation of the Contractor.

**San Mateo County – Project Development Unit**  
**San Mateo Health System Campus Upgrade Project**

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Date: \_\_\_\_\_, 2013

\_\_\_\_\_  
Contractor's name

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
City, State, Zip code

**END OF DOCUMENT 00 6301**

**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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**DOCUMENT 00 6530**

**AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS  
[Public Contract Code § 7100]**

THIS AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS (**Agreement and Release**), made and entered into this [ date ] day of [ Month ], [201   ], by and between the County of San Mateo (**Owner**), and [ Name of Contractor ] (**Contractor**), whose place of business is at [ Address of Contractor ].

**RECITALS**

- A. Owner and Contractor entered into a Contract for construction of Owner's San Mateo Health System Campus Upgrade Project located at 222 West 39<sup>th</sup> Avenue, San Mateo, San Mateo County, California (**Contract**).
- B. The Work under the Contract has been completed.

**AGREEMENT**

NOW THEREFORE, it is mutually agreed between Owner and Contractor as follows:

- 1. Contractor will not be assessed liquidated damages except as detailed below:

Original Contract Sum	\$ _____
Modified Contract Sum	\$ _____
Payment to Date	\$ _____
Liquidated Damages	\$ _____
Payment Due Contractor	\$ _____
- 2. Subject to the provisions of this Agreement and Release, Owner will forthwith pay to Contractor the sum of [ \_\_\_\_\_ ] Dollars and \_\_\_\_\_ Cents (\$ \_\_\_\_\_) under the Contract, less any amounts withheld under the Contract or represented by any Notice to Withhold Funds on file with Owner as of the date of such payment.
- 3. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against Owner arising from the Contract, except for the claims described in paragraph 4 of this Document 00 6530. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against Owner, and all if its agents, employees, consultants, inspectors, representatives, assignees and transferees, except for the Claims set forth in paragraph 4 of this Document 00 6530. Nothing in this Agreement and Release shall limit or modify Contractor's continuing obligations described in Paragraph 6 of this Document 00 6530.
- 4. The following claims submitted under Document 00 7200 (General Conditions), Article XII, are disputed (hereinafter, the **Claims**) and are specifically excluded from the operation of this Agreement and Release.

**San Mateo County – Project Development Unit  
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[Insert information in Chart below, affix attachment if necessary]

CLAIM NO.	DATE SUBMITTED	DESCRIPTION OF CLAIM	AMOUNT OF CLAIM

5. Consistent with California Public Contract Code § 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 2 of this Document 00 6530, Contractor hereby releases and forever discharges Owner, and all of its agents, employees, consultants, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.
6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.
7. Contractor shall immediately defend, indemnify and hold harmless Owner, any of the Owner's Representatives, Project Manager, and all of their agents, employees, consultants, inspectors, assignees and transferees, from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor's suppliers and/or Subcontractors of any tier and/or any suppliers to them for any and all labor, materials, supplies and equipment used, or contemplated to be used in the performance of the Contract, except for the Claims set forth in paragraph 4 of this Document 00 6530.
8. Contractor hereby waives the provisions of California Civil Code section 1542, which provide as follows:

**A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH  
THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS  
OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE,  
WHICH IF KNOWN BY HIM OR HER, MUST HAVE MATERIALLY  
AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.**
9. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal or other law, ruling, or regulation, then such provision, or part thereof shall remain in force and effect only to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.
10. Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Agreement and Release, and that it has full right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connection with this Agreement and Release.

**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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11. All rights of Owner shall survive completion of the Work or termination of the Contract, and execution of this Agreement and Release.

**\* \* \* CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING \* \* \***

**OWNER**

By: \_\_\_\_\_  
Signature

Name: \_\_\_\_\_  
Print

Its: \_\_\_\_\_  
Title

**ATTEST:**

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Print

**[CONTRACTOR]**

By: \_\_\_\_\_  
Signature

Name: \_\_\_\_\_  
Print

Its: \_\_\_\_\_  
Title



**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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**[CONTRACTOR]**

By: \_\_\_\_\_  
Signature

Name: \_\_\_\_\_  
Print

Its: \_\_\_\_\_  
Title

REVIEWED AS TO FORM:

Dated: \_\_\_\_\_, [201\_\_]

Counsel for Owner

Name: \_\_\_\_\_  
Print

**END OF DOCUMENT 00 6530**

**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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**DOCUMENT 00 6600**

**SUBSTITUTION REQUEST FORM**

To: **County of San Mateo, Owner**

<b>PROJECT: SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE PROJECTS</b>	<b>Contractor/CMR:</b>
---	------------------------

<b>Substitution Request By:</b>	<b>Firm:</b>
-------------------------------------	--------------

Transmittal Record	Attn:	Firm:	Date Sent:	Date Rec'd:	Date Due:
Contractor/CMR to Owner					
Contractor/CMR to Architect					
Owner / Architect to Consultant					
Architect to Owner Representative					
Owner Representative to Contractor/CMR					

We hereby submit for your consideration the following product instead of the specified item for the Project:

Section / Drawing	Article	Specified Item
<b>Proposed Substitution:</b>		

We have (a) attached manufacturer's literature, including complete technical data and laboratory test results, if applicable, (b) attached an explanation of why proposed substitution is a true equivalent to specified item, (c) included complete information on changes to Contract Documents that the proposed substitution will require for its proper installation, and (d) filled in the blanks below:

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**Contractor/CMR to complete questions that follow and certifies to the accuracy of all answers:**

A.	Does the substitution affect dimensions shown on Drawings? Yes ___ / No ___. If No, please explain proposed mitigation and why substitution is equivalent to originally specified item:
B.	Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? Yes ___ / No ___. If No, please state reasons explain why substitution is equivalent to originally specified item:
C.	What effect does the substitution have on other trades? No effect: ___ / Some effect___. If substitution will affect other trades, please explain the effect and why substitution is equivalent to originally specified item:
D.	Will substitution cause change to Project Schedule, or to critical delivery dates? Add? Shorten? If the substitution will add to schedule dates or affect critical activities, please explain why substitution is equivalent to originally specified item:
E.	Please describe differences between proposed substitution and specified item? Please explain and identify any and all differences, and please explain why substitution is equivalent to originally specified item:
F.	What is the Cost Differential to Contractor/CMR in original specified item and proposed substitution including all mark-ups? [If substitution requested during bid period, skip this question.]

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San Mateo Health System Campus Upgrade Project**

G.	Are Manufacturer's guarantees for the proposed item the same as for item specified? Yes ____; No _____. If No, please explain why substitution is equivalent to originally specified item:
H.	Contractor/CMR accepts full responsibility for delays caused by redesign of other items of the Work necessitated by substitution? Yes ___ / No ___. If No, please state reasons and explain why substitution is equivalent to originally specified item:
I.	Contractor/CMR states that the function, appearance and quality are equivalent or superior to the specified item? Yes ___ / No ___. If No, please explain why substitution is equivalent to originally specified item:

We certify that the function, appearance, and quality of the proposed substitution are equivalent or superior to those of the specified item, except as we may specifically state otherwise in this request.

Submitted by: \_\_\_\_\_ Signature: \_\_\_\_\_

Firm: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_ Phone/ Fax: \_\_\_\_\_

Remarks: \_\_\_\_\_

<b>Consultant Response:</b> <input type="radio"/> Accepted <input type="radio"/> Not Accepted <input type="radio"/> Accepted As Noted <input type="radio"/> Received Too Late	<b>Owner Representative Response:</b> <input type="radio"/> Accepted <input type="radio"/> Not Accepted <input type="radio"/> Accepted As Noted <input type="radio"/> Received Too Late
<b>Remarks:</b> _____ _____	<b>Remarks:</b> _____ _____
<b>By:</b> _____	<b>By:</b> _____

**END OF DOCUMENT 00 6600**

**San Mateo County – Project Development Unit  
San Mateo Health System Campus Upgrade Project**

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**DOCUMENT 00 6801**

**ESCROW AGREEMENT FOR SECURITY DEPOSIT IN LIEU OF RETENTION**

California Public Contract Code § 22300

THIS ESCROW AGREEMENT (**Escrow Agreement**) is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 201\_\_, by and between **The County of San Mateo (Owner)**, whose address is 1402 Maple Street, Redwood City, California, (**Name of Contractor**) \_\_\_\_\_ (**Contractor**), whose place of business is located at (**Contractor's Address**) \_\_\_\_\_, and [ ] Owner, as escrow agent **OR** [ ] (**Name of Bank**) \_\_\_\_\_, a state or federally chartered bank in the State of California, whose place of business is located at \_\_\_\_\_ (**Escrow Agent**).

For the consideration hereinafter set forth, Owner, Contractor and Escrow Agent agree as follows:

1. Pursuant to California Public Contract Code § 22300, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to the Contract entered into between Owner and Contractor for the SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE PROECT located at 222 West 39<sup>th</sup> Avenue, San Mateo, San Mateo County, California, in the amount of \$ \_\_\_\_\_ dated \_\_\_\_\_, 201\_\_ (the **Contract**). Alternatively, on written request of Contractor, Owner shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify Owner within ten Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between Owner and Contractor. Securities shall be held in name of \_\_\_\_\_, and shall designate Contractor as the beneficial owner.
2. Owner shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in paragraph 1 of this Document 00 6801.
3. When Owner makes payment(s) of retention earned directly to Escrow Agent, Escrow Agent shall hold said payment(s) for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when Owner pays Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of Owner. Such expenses and payment terms shall be determined by Owner, Contractor, and Escrow Agent.
5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to Owner.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Owner to Escrow Agent that Owner consents to withdrawal of amount sought to be withdrawn by Contractor.
7. Owner shall have the right to draw upon the securities in event of default by Contractor. Upon seven Days written notice to Escrow Agent from Owner of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by Owner.

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8. Upon receipt of written notification from Owner certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.
9. Escrow Agent shall rely on written notifications from Owner and Contractor pursuant to paragraphs 5 through 8, inclusive, of this Document 00 6801 and Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth.
10. Names of persons who are authorized to give written notice or to receive written notice on behalf of Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are stated below. Any party to this Escrow Agreement may change the name of the person who is authorized to give or to receive written notice on its behalf by delivering written notification of such change to all other parties to this Escrow Agreement at the addresses set forth below.

**ON BEHALF OF OWNER:**

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
City/State/Zip Code

**ON BEHALF OF CONTRACTOR:**

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
City/State/Zip Code

**ON BEHALF OF ESCROW AGENT:**

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
City/State/Zip Code

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IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on the date first set forth above.

**OWNER**

---

Title

---

Name

---

Signature

---

**CONTRACTOR**

---

Title

---

Name

---

Signature

---

**ATTEST**

Signature

---

Print Name

---

Secretary

**ESCROW AGENT**

---

Title

---

Print Name

---

Signature

---

**REVIEWED AS TO FORM:**

Counsel for Owner

---

Print Name

---

---

**San Mateo County – Project Development Unit**  
**San Mateo Health System Campus Upgrade Project**

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Date

At the time the Escrow Account is opened, Owner and Contractor shall deliver to Escrow Agent a fully executed counterpart of this Document 00 6801.

**END OF DOCUMENT 00 6801**



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San Mateo Health System Campus Upgrade Project**

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**DOCUMENT 00 7200**

**GENERAL CONDITIONS  
(CMR)**

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**GENERAL CONDITIONS**

**ARTICLE I**

**1.01. Defined Terms**

- A. All abbreviations and definitions of terms used and not otherwise defined in this Document 00 7200 are set forth in Document 01 4200 (References and Definitions). This Document 00 7200 subdivides at first level into Articles, and then into paragraphs, then into subparagraphs.

**1.02. Contract Documents**

- A. Contract Documents are complementary; what is called for by one is as binding as if called for by all. Contract Documents shall not be construed to create a contractual relationship of any kind between (1) Architect/Engineer or any Owner Representative and Contractor; (2) Owner and/or its representatives and (except as provided in Article XIII below) a Subcontractor, sub-Subcontractor, or supplier of any Project labor, materials, or equipment; or (3) between any persons or entities other than Owner and Contractor.

**1.03. Precedence Of Documents**

- A. In the case of discrepancy or ambiguity in the Contract Documents, the following order of precedence shall prevail:
1. Modifications in inverse chronological order (i.e., most recent first), and in the same order as specific portions they are modifying;
  2. Agreement, and terms and conditions referenced therein, and such other documents within the Division 00 5000 series (i.e., starting at 00 5200 and continuing to 00 5299) and the Division 00 6000 series (i.e., starting at 00 6000 and continuing to 00 6999);
  3. Supplementary Conditions;
  4. This Document 00 7200 (General Conditions);
  5. Division 1 Specifications;
  6. Drawings and Technical Specifications;
  7. Written numbers over figures, unless obviously incorrect;
  8. Figured dimensions over scaled dimensions;
  9. Large-scale drawings over small-scale drawings.
- B. Any conflict between Drawings and Division 2 through 49 Specifications will be resolved in favor of the document of the latest date (i.e., the most recent document), and if the dates are the same or not determinable, then in favor of Specifications.
- C. Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete Work required by Contract Documents, will be resolved in favor of the actual quantities.
- D. In the event the Specifications include divisions above Division 33 (e.g., Division 34 and above), then such divisions shall be included within the Contract Documents unless identified otherwise.

**ARTICLE II – REQUIRED INVESTIGATIONS AND SUBCONTRACTORS**

**2.01. Contractor's Investigations**

- A. Prior to submitting its Proposal and again during its Phase I Services, Contractor must investigate fully the Work of the Contract. Contractor must visit the Site, examine thoroughly and understand fully the nature and extent of the Contract Documents, Work, Site, locality, actual conditions and as-built conditions, and all other information made available for preparing and submitting a proposal. Contractor's investigation shall include, but is not limited to, a thorough examination of all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate

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- to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto. Contractor shall completely and thoroughly correlate all such information and consider such information fully, prior to and as a condition of submitting its Proposal. Contractor shall make inquiry as required in Document 00 3020.
- B. Prior to submitting its Proposal and again during its Phase 1 Services, Contractor shall take care to note the existence and potential existence of Underground Facilities, in particular, above and below grade structures, drainage lines, storm drains, sewers, water, gas, steam, condensate return, chilled water supply and return, medical gas supply, electrical, chemical, hot water, and other similar items and utilities. Contractor shall carefully consider all supplied information, request additional information Contractor may deem necessary, and visually inspect the Site for above ground indications of Underground Facilities (such as, for example not by way of limitation, the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site.)
- C. Prior to submitting its Proposal and again during its Phase 1 Services, Contractor must correlate its experience, knowledge and the results of its required investigation with the terms and conditions of the Contract Documents, and must give Owner prompt written notice of all conflicts, errors, ambiguities, or discrepancies of any type, that it may discover in or among the Contract Documents, as-built drawings (if any) and/or actual conditions. Contractor shall give this notice during the Proposal period and submission of a Proposal indicates Contractor's agreement that Owner responded to the notice through Addenda issued by Owner which is acceptable to Contractor
- D. Prior to submitting its Proposal and again during its Phase 1 Services, Contractor must consider fully the fact that information supplied regarding existing Underground Facilities at or contiguous to the Site is in many cases based on information furnished to Owner by others (e.g., the builders of such Underground Facilities or others), and that due to their age or their chain of custody since preparation, may not meet current industry standards for accuracy. Contractor must also consider local underground conditions and typical practices for Underground Facilities, either through its own direct knowledge or through its subcontractors, and fully consider this knowledge in assessing the existing information and the reasonableness of its reliance.
- E. Prior to submitting its Proposal and again during its Phase 1 Services, Contractor shall conduct (or request that Owner have conducted) any such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto or which Contractor deems necessary to determine its Proposal for performing and furnishing the Work in accordance with the time, price and other terms and conditions of Contract Documents.
- F. Prior to submitting its Proposal and again during its Phase 1 Services, Contractor may rely on Owner supplied information regarding existing conditions only where such conditions are underground and not subject to reasonable verification. If existing information supplied by Owner indicates a discrepancy or a substantial risk of inaccuracy or omission, then Contractor must request specific additional information. Contractor shall advise Owner in writing during the Proposal period of any questions, suppositions, inferences or deductions Contractor may have, for Owner's review and response by Addenda, and may not assert any such matters later that were not brought forth during the Proposal period.
- G. Prior to submitting its Proposal, during its pre-construction Phase 1 investigation and during performance of the Contract, Contractor will be charged with knowledge of all information that it should have learned in performing its required pre-Proposal and Phase 1 investigations, and shall not be entitled to change orders (time or compensation) due to information or conditions that Contractor should have known as a part of these investigations.

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**2.02. Supplied Information On Underground Existing Conditions**

- A. Regarding Underground Facilities shown in the Contract Documents or supplied through Document 00 3020, Owner has compiled this information in good faith, relying on its records and third party records. Because of the nature and location of Owner and the Project, the existence of Underground Facilities is deemed inherent in the Work of the Contract, as is the fact that Underground Facilities are not always accurately shown or completely shown on as-built records, both as to their depth and location. In Article XIV of this Document 00 7200, this Contract establishes a heightened standard for claims involving Underground Facilities. Contractor shall consider this fact in preparing its Proposal and in its planning and execution of the Work involving Underground Facilities.
- B. Regarding subsurface conditions other than Underground Facilities, shown on the Contract Documents or supplied in Document 00 3020 (Geotechnical Data and Existing Conditions), Contractor may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated in the Contract Documents. Owner is not responsible for the completeness of any subsurface condition information for preparing and submitting a proposal or for construction, Contractor's conclusions or opinions drawn from any subsurface condition information, or subsurface conditions that are not specifically shown. (For example, Owner is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown.)

**2.03. Supplied Information On Above Ground Existing Conditions**

- A. Regarding aboveground and as-built conditions shown on the Contract Documents or supplied through Document 00 3020 (Geotechnical Data and Existing Conditions), such information has been compiled in good faith, however, Contractor must independently verify such information. Owner does not expressly or impliedly warrant or represent that information as to aboveground conditions or as-built conditions indicated in the Contract Documents or Document 00 3020, is correctly shown or indicated, or otherwise complete for construction purposes.
- B. As a condition to submitting a proposal, Contractor shall verify by independent investigation all such aboveground and as-built conditions, and bring any discrepancies to Owner's attention through written question. In submitting its Proposal, Contractor shall rely on the results of its own independent investigation and shall not rely on Owner-supplied information regarding aboveground conditions and as-built conditions, and Contractor shall accept full responsibility for its verification work sufficient to complete the Work as intended.

**2.04. Subcontractors (During Phase II)**

- A. Consistent with Public Contract Code sections 4101 et seq., Contractor shall not substitute any other person or firm in place of any Subcontractor listed in the Proposal. Subcontractors shall not assign or transfer their subcontracts or permit them to be performed by any other contractor without Owner's written approval. At Owner's request, Contractor shall provide Owner with a complete copy of all executed subcontracts or final commercial agreements with Subcontractors and/or suppliers.
- B. Subcontract agreements shall preserve and protect the rights of Owner under the Contract Documents so that subcontracting will not prejudice such rights. To the extent of the Work to be performed by a Subcontractor, Contractor shall require the Subcontractor's written agreement (1) to be bound to the terms of Contract Documents and (2) to assume vis-à-vis Contractor all the obligations and responsibilities that Contractor assumes toward Owner under the Contract Documents. (These agreements include for example, and not by way of limitation, all warranties, claims procedures and rules governing submittals of all types to which Contractor is subject under the Contract Documents.)
- C. Contractor shall provide for the assignment to Owner of all rights any Subcontractor may have against any manufacturer, supplier, or distributor for breach of warranties and guaranties relating to the Work performed by the Subcontractor under the Contract Documents.

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- D. Owner shall be deemed to be an intended third-party beneficiary of all Subcontracts (of any tier) for the provision of labor, services, supplies or material to the Project, and each such agreement shall so provide.

**ARTICLE III – CONTRACT AWARD AND COMMENCEMENT OF THE WORK**

**3.01. Time Allowances For Performance Of Contract Documents**

- A. When Contractor and Owner have signed the Contract Documents, Owner will serve a Notice to Proceed upon Contractor to that effect, either by depositing notice in a post office or post office box regularly maintained by United States Postal Service in a pre-paid wrapper directed to Contractor at legal address or (at Owner's option) by delivery by other means authorized for notices under the Contract documents at legal address.
- B. The start date for Contract Time shall be on the date indicated in the applicable Notice to Proceed. If no date is indicated, the start date for Contract Time shall be the fifth Day from the date that Contractor receives, by hand or overnight delivery or facsimile transmission, Owner's written Notice to Proceed, unless the Notice to Proceed is served by mail only, in which case the start date for Contract Time shall be the fifth Day following the mailing date.
- C. The total number of Days for completion of the Work under the Contract Documents shall be as provided in the Agreement.

**3.02. Commencement Of Work**

- A. The Contract Time will commence to run on the later of the 30th Day after the issuance of the Notice of Award or, if a Notice to Proceed is given, on the date indicated in the Notice to Proceed. Owner may give a Notice to Proceed at any time after the Notice of Award. Contractor shall not do any Work at the Site prior to the date on which the Contract Time commences to run.
- B. Owner may give a Notice to Proceed with Phase II construction at any time during Phase I, and Contract Time shall commence to run as provided in paragraph 3.01.B. above. Contractor shall not do any Work at the Site prior to the date on which the Contract Time commences to run.
- C. Owner may give authorization to CMR to mobilize on site in preparation for Phase II Construction, prior to the issuance of a Notice to Proceed. Mobilization shall be limited to trailer set-up, hook-up of utilities and temporary fencing around the trailer. Contract Time will commence as stated in 3.02.A above.

**ARTICLE IV – INSURANCE AND INDEMNIFICATION**

**4.01. Insurance**

- A. See Document 00 7311 (Insurance and Indemnification), incorporated herein by this reference.

**ARTICLE V – DRAWINGS AND SPECIFICATIONS**

**5.01. Intent**

- A. Drawings and Specifications are intended to describe a functionally complete and operable Project (and all parts thereof) to be constructed in accordance with the requirements of Contract Documents. Contractor shall perform any work, provide services and furnish any materials or equipment that may reasonably be inferred from the requirements of Contract Documents or from prevailing custom or trade usage as being required to produce this intended result. Contractor shall interpret words or phrases used to describe work (including services), materials or equipment, that have well-known technical or construction industry or trade meaning in accordance with that meaning. Drawings' intent specifically includes the intent to depict construction that complies with all applicable laws, codes and standards.
- B. As part of the "Work," Contractor shall provide all labor, materials, equipment, machinery, tools, facilities, services, employee training and testing, hoisting facilities, shop drawings, storage,

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- testing, security, transportation, disposal, the securing of all necessary or required field dimensions, the cutting or patching of existing materials, notices, permits, documents, reports, agreements and any other items required or necessary to timely and fully complete Work described and the results intended by Contract Documents and, in particular, Drawings and Specifications. Divisions and Specification Sections and the identification on any Drawings shall not control Contractor in dividing Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.
- C. Contractor shall perform reasonably implied parts of Work as “incidental work” although absent from Drawings and Specifications. Incidental work includes any work not shown on Drawings or described in Specifications that is necessary or normally or customarily required as a part of the Work shown on Drawings or described in Specifications. Incidental work includes any Work necessary or required to make each installation satisfactory, legally operable, functional, and consistent with the intent of Drawings and Specifications or the requirements of Contract Documents including required tasks to be performed under Division 1 of Specifications. Contractor shall perform incidental work without extra cost to Owner. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and the expense of incidental work shall be included in price in the Proposal and in the Contract Sum.

**5.02. Drawing Details**

- A. A typical or representative detail on Drawings shall constitute the standard for workmanship and material throughout corresponding parts of Work. Where necessary, and where reasonably inferable from Drawings, Contractor shall adapt such representative detail for application to such corresponding parts of Work. The details of such adaptation shall be subject to prior approval by Owner. Repetitive features shown in outline on Drawings shall be in exact accordance with corresponding features completely shown.

**5.03. Interpretation Of Drawings And Specifications**

- A. Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in Drawings and Specifications, or should Contractor have any questions or requests relating to Drawings or Specifications, Contractor shall refer the matter to Owner, in writing. Owner will issue with reasonable promptness written responses, clarifications or interpretations as Owner may determine necessary, which shall be consistent with the intent of and be reasonably inferable from Contract Documents. Such written clarifications or interpretations shall be binding upon Contractor. If Contractor believes that a written response, clarification or interpretation justifies an adjustment in the Contract Sum or Contract Time, Contractor shall give Owner prompt written notice as provided in Document 01 2600 (Contract Modification Procedures). If the parties are unable to agree to the amount or extent of the adjustment, if any, then Contractor shall perform the Work in conformance with Owner’s response, clarification, or interpretation and may make a written claim for the adjustment as provided in Article XII of this Document 00 7200.

**5.04. Checking Of Drawings**

- A. Before undertaking each part of Work, Contractor shall carefully study and compare Contract Documents and check and verify pertinent figures shown in the Contract Documents and all applicable field measurements. Contractor shall be responsible for any errors that might have been avoided by such comparison. Figures shown on Drawings shall be followed; Contractor shall not scale measurements. Contractor shall promptly report to Owner, in writing, any conflict, error, ambiguity or discrepancy that Contractor may discover. Contractor shall obtain a written interpretation or clarification from Owner before proceeding with any Work affected thereby. Contractor shall provide Owner with a follow-up correspondence every ten days until it receives a satisfactory interpretation or clarification.



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**5.05. Standards To Apply Where Specifications Are Not Furnished**

- A. The following general specifications shall apply wherever in the Specifications, or in any directions given by Owner in accordance with or supplementing Specifications, it is provided that Contractor shall furnish materials or manufactured articles or shall do work for which no detailed specifications are shown. Materials or manufactured articles shall be of the best grade, in quality and workmanship, obtainable in the market from firms of established good reputation. If not ordinarily carried in stock, the materials or manufactured articles shall conform to industry standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be put. Material specified by reference to the number, symbol or title or a specific standard, such as a commercial standard, a Federal specification, a trade association standard, or other similar standard, must comply with the requirements thereof. Work shall conform to the usual standards or codes, such as those cited in Document 01 4100 (Regulatory Requirements), for first-class work of the kind required. Contractor shall specify in writing to Owner the materials to be used or Work to be performed under this paragraph ten Business Days prior to furnishing such materials or performing such Work.

**5.06. Deviation From Specifications and Drawings**

- A. Contractor shall perform Work in accordance with Drawings and Specifications, and Contractor shall not be relieved of this responsibility by the activities of the Architect/Engineer in the performance of their duties thereunder. Deviations from Drawings and from the dimensions therein given, or from the Specifications, whether or not error is believed to exist, shall be made only when approved in writing by Owner. Contractor may deviate from Drawings or the dimensions given in the Drawings, and may deviate from the Specifications, only upon Owner's advance written approval of the proposed deviation, either by Change Order or by Instruction Bulletin.
- B. Instruction Bulletins changing the approved drawings and technical specifications may also be used to prevent undue delay.
- C. Contractor acknowledges that changes are a normal feature of construction projects. Contractor shall rely on its experience and proactively cooperate, coordinate and schedule RFI's, submittals, field questions, inspections, and document assembly, to facilitate the prompt and efficient use of the Change Order and Instruction Bulletin procedure as necessary to prevent delay in actual field construction.
- D. Owner may order that locations, lines and grades for Work vary from those shown on Drawings. Changes may be made in locations, lines or grades for Work under any item of Contract Documents. No payment in addition to unit price fixed in the Contract Documents for Work under respective items will be allowed on account of variations from Drawings in unit price items. In lump sum contracts, or where there are no unit price items covering Work affected by variations of locations, lines or grades, all changes in the Contract Documents will be made as set forth in Article XIV of this Document 00 7200.

**5.07. Ownership And Use Of Drawings, Specifications And Contract Documents**

- A. Drawings, Specifications and other Contract Documents were prepared for use for Work of Contract Documents only. No part of Contract Documents shall be used for any other construction or for any other purpose except with the written consent of Owner. Any unauthorized use of Contract Documents is prohibited and at the sole liability of the user.

**ARTICLE VI – CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

**6.01. Owner's Right To Perform Construction And To Award Separate Contracts**

- A. Owner may perform with its own forces, construction or operations related to the Project. Owner may also award separate contracts in connection with other portions of the Project or other construction or operations, on the Site or areas contiguous to the Site, under conditions similar to these Contract Documents, or may have utility owners perform other work. When separate contracts are awarded for different portions of the Project or other construction or operations

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on the Site, the term “Contractor” in these Contract Documents shall mean the Contractor herein.

- B. Currently anticipated separate construction contracts (if any) are described in Document 01 1000 (Summary).

**6.02. Mutual Responsibility**

- A. Contractor shall afford all other contractors, utility owners and Owner (if Owner is performing work with its own forces), proper and safe access to the Site, and reasonable opportunity for the installation and storage of their materials. Contractor shall ensure that the execution of its Work properly connects and coordinates with others’ work, and shall cooperate with them to facilitate the progress of the Work.
- B. Contractor shall coordinate its Work with the work of other separate contractors, Owner, and utility owners. Contractor shall hold coordination meetings with other contractors, Owner and its representatives, and utility owners as required by Document 01 3100 (Project Management and Coordination).
- C. Unless otherwise provided in the Contract Documents, Contractor shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. Contractor shall not endanger any work of other separate contractors, Owner or utility owners by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of Owner and the others whose work will be affected.
- D. To the extent that any part of Contractor’s Work is to interface with work performed or installed by other contractors or utility owners, Contractor shall inspect and measure the in-place work. Contractor shall promptly report to Owner in writing any defect in in-place work that will impede or increase the cost of Contractor’s interface unless corrected. Owner will require the contractor responsible for the Defective Work to make corrections so as to conform to its contract requirements, or, if the defect is the result of an error or omission in the Contract Documents, issue a Change Order. If Contractor fails to measure, inspect and/or report to Owner in writing defects that are reasonably discoverable, Contractor shall bear all costs of accomplishing the interface acceptable to Owner. This provision shall be included in any and all other contracts or subcontracts for Work to be performed where such a conflict could exist.

**6.03. Owner Authority Over Coordination**

- A. Owner will have authority over coordination of the activities of multiple contractors in cases where Owner performs work with its own forces or contracts with others for the performance of other work on the Project, or utilities work on the Site. Owner may at any time and in its sole discretion, designate a person or entity other than Owner to have authority over the coordination of the activities among the various contractors. Owner’s authority with respect to coordination of the activities of multiple contractors and utility owners shall not relieve Contractor of its obligation to other contractors and utility owners to coordinate its Work with other contractors and utility owners as specified in this Document 00 7200. Contractor shall promptly notify Owner in writing when another contractor on the Project fails to coordinate its work with the Work of Contract Documents.
- B. Contractor shall suspend any part of the Work or carry on the same in such manner as directed by Owner when such suspension or prosecution is necessary to facilitate the work of other contractors or workers. No damages or claims by Contractor will be allowed if the suspension or Work change is due in whole or in part to Contractor’s failure to perform its obligation herein to coordinate its Work with other contractors and utility owners. Claims will be allowed only to the extent of fault by Owner if the suspension or Work change is due in whole or in part to another contractor’s failure to coordinate its work with Contractor, other contractors, and utility owners.

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**ARTICLE VII – PAYMENT BY OWNER**

**7.01. Receipt And Processing Of Applications For Payment**

- A. As required by Document 01 2900 (Payment Procedures), Contractor shall prepare the schedules, submit Applications for Payment and warrant title to all Work covered by each Application for Payment. Owner will review Contractor's Applications for Payment and Owner will and make payment thereon, and Contractor shall make payments to Subcontractors, suppliers and others, as required by Document 01 2900.

**ARTICLE VIII – CONTROL OF THE WORK**

**8.01. Subcontractors**

- A. Contractor is fully responsible for Contractor's own acts and omissions. Contractor is responsible for all acts and omissions of its Subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work, labor, materials, or equipment under a direct or indirect contract with Contractor.

**8.02. Supervision Of Work By Contractor**

- A. Contractor shall coordinate the Work and not delegate any responsibility for coordination to any subcontractor. Contractor shall anticipate the inter-relationship of all subcontractors and their relationship with the total Work. Contractor shall coordinate the work of subcontractors and material suppliers, so that their work is performed in a manner to minimize interference with and to facilitate the progress of the Work.
- B. Contractor shall supervise, inspect, and direct Work competently and efficiently, devoting the attention and applying such personal skills and expertise as may be required and necessary to perform Work in accordance with Contract Documents. Contractor shall be solely responsible for and have control and charge of construction means, methods, techniques, sequences and procedures, safety precautions and programs in connection with the Work. Contractor shall be responsible to see that the completed Work complies accurately with Contract Documents.
- C. Contractor shall designate and keep on the Site at all times during Work progress a competent resident Superintendent or Project Manager, who once designated, shall not be replaced without Owner's express written consent. All disclosures and requirements applicable to Contractor's Superintendent or Project Manager set forth in Document 00 4516 (Request for Statement of Qualifications) and Document 004516.1 (Supplement to Response to Request for Statement of Qualifications) shall apply to any proposed replacement Superintendent or Project Manager. If Contractor proposes to replace any Superintendent or Project Manager, the existing Superintendent or Project Manager shall remain on the Project until a new Superintendent or Project Manager is approved by Owner. The Superintendent or Project Manager shall be Contractor's representative at the Site and shall have complete authority to act on behalf of Contractor. All communications to and from the Superintendent or Project Manager shall be as binding as if given to or by Contractor.

**8.03. Observation Of Work By Owner**

- A. Owner Representative(s). Owner Representative(s) will have limited authority to act on behalf of Owner as set forth in the Contract Documents. Except as otherwise provided in these Contract Documents or subsequently identified in writing by Owner, Owner will issue all communications to Contractor through Owner Representative, and Contractor shall issue all communications to Owner through Owner Representative in a written document delivered to Owner. Should any direct communications between Contractor and Owner's consultants, architects or Architect/Engineers not identified in Article II of the Agreement occur during field visits or by telephone, Contractor shall immediately confirm them in a written document copied to Owner.
- B. Means And Methods Of Construction. Subject to those rights specifically reserved in the Contract Documents, Owner will not supervise, or direct, or have control over, or be responsible

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- for, Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or Contractor's failure to comply with laws and regulations applicable to the furnishing or performance of Work. Owner will not be responsible for Contractor's failure to perform or furnish the Work in accordance with Contract Documents.
- C. In exercising its responsibilities and authorities under the Contract Documents, Owner does not assume any duties or responsibilities to any Subcontractor or supplier and does not assume any duty of care to Contractor, Contractor's Subcontractors or suppliers. Except as expressly set forth in the Contract Documents, in exercising their respective responsibilities and authorities under the Contract Documents, neither Architect/Engineer nor any Owner Representative assume any duties or responsibilities to any Subcontractor, sub-Subcontractor or supplier nor assume any duty of care to Contractor or any Subcontractor, sub-Subcontractor or suppliers.
  - D. Work shall be performed under Owner's general observation and administration. Contractor shall comply with Owner's directions and instructions in accordance with the terms of Contract Documents, but nothing contained in these General Conditions shall be taken to relieve Contractor of any obligations or liabilities under the Contract Documents. Owner's failure to review or, upon review, failure to object to any aspect of Work reviewed, shall not be deemed a waiver or approval of any non-conforming aspect of Work.
  - E. Owner may engage an independent consultant or Architect/Engineer (collectively for purposes of this paragraph, "**Consultant**") to assist in administering the Work. If so engaged, Consultant will advise and consult with Owner, but will have authority to act on behalf of Owner only to extent provided in the Contract Documents or as set forth in writing by Owner. Consultant will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with Work. Consultant will not be responsible for or have control over the acts or omissions of Contractor, Subcontractors or their agents or employees, or any other persons performing Work.
  - F. Consultant may review Contractor's submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with design concept of Work and with information given in the Contract Documents.
  - G. Consultant may visit the Site at intervals appropriate to stage of construction to become familiar generally with the progress and quality of Work and to determine in general if Work is proceeding in accordance with Contract Documents. Based on its observations, Consultant may recommend to Owner that it disapprove or reject Work that Consultant believes to be defective or will not produce a complete Project that conforms to Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by Contract Documents. Owner will also have authority to require special inspection or testing of Work, whether or not the Work is fabricated, installed or completed.
  - H. Consultant may conduct inspections to recommend to Owner the dates that Contractor has achieved Substantial Completion and Final Acceptance, and will receive and forward to Owner for review written warranties and related documents required by Contract Documents.

**8.04. Access To Work**

- A. During performance of Work, Owner and its agents, officers, consultants, and employees may at any time enter upon Work, shops or studios where any part of the Work may be in preparation, or factories where any materials for use in Work are being or are to be manufactured, and Contractor shall provide proper and safe facilities for this purpose, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as Owner's interests may require. Other contractors performing work for Owner may also enter upon Work for all purposes required by their respective contracts. Subject to the rights reserved in the Contract Documents, Contractor shall have sole care, custody, and control of the Site and its Work areas.

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- B. Owner may, at any time, and from time to time, during the performance of the Work, enter the Work Site for the for the purpose of installing any necessary work by Owner labor or other contracts, and for any other purpose in connection with the installation of facilities. In doing so, Owner shall endeavor not to interfere with Contractor and Contractor shall not interfere with other work being done by or on behalf of Owner.
- C. If, prior to completion and final acceptance of all the Work, Owner takes possession of any structure or facility (whether completed or otherwise) comprising a portion of the Work with the intent to retain possession thereof (as distinguished from temporary possession contemplating return to Contractor), then, while Owner is in possession of the same, Contractor shall be relieved of liability for loss or damage to such structure other than that resulting from Contractor's fault or negligence. Such taking of possession by Owner shall not relieve Contractor from any provisions of the Contract respecting such structure, other than to the extent specified in the preceding sentence, nor constitute a final acceptance of such structure or facility. See also Document 01 1000 (Summary).
- D. If, following installation of any equipment or facilities furnished by Contractor, defects requiring correction by Contractor are found, Owner shall have the right to operate such unsatisfactory equipment or facilities and make reasonable use thereof until the equipment or facilities can be shut down for correction of defects without injury to Owner.

**ARTICLE IX – CONTRACTOR'S WARRANTY, GUARANTY, AND INSPECTION OF WORK**

**9.01. Warranty And Guaranty**

- A. General Representations and Warranties: Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every Phase of the Work. Contractor warrants that all pre-construction services (if any) and construction services shall be performed in accordance with generally accepted professional standards of good and sound pre-construction and construction practices, as applicable, and all requirements of Contract Documents. Contractor warrants that Work, including but not limited to each item of materials and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use, and free from defects in materials, construction and workmanship; and to the extent Work includes design-build scope or compliance with performance specifications, Work shall also be free from defects in design, architecture and/or engineering. Contractor warrants that Work shall conform in all respects with all applicable requirements of federal, state and local laws, applicable construction codes and standards, licenses, and permits, Drawings and Specifications and all descriptions set forth therein, and all other requirements of Contract Documents. Contractor shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, design parameters and means or methods of construction where that is specifically shown and expressly required by Contract Documents.
- B. Extended Guaranties: For guaranties exceeding one year, Contractor's co-guarantor obligation shall apply only to the extent the guaranty involves water-tightness (above grade or below grade) or any type of moisture intrusion. Otherwise, any guaranty exceeding one year provided by the supplier or manufacturer of any equipment or materials used in the Project shall be extended for such term. Contractor expressly agrees to supply Owner with all warranty and guaranty documents relative to equipment and materials incorporated in the Project and guaranteed by their suppliers or manufacturers, and reasonably assist Owner in enforcing such warranties and guaranties throughout their respective terms.
- C. Environmental and Toxics Warranty: The covenants, warranties and representations contained in this paragraph are effective continuously during Contractor's Work on the Project and following cessation of labor for any reason including, but not limited to, Project completion. Contractor covenants, warrants and represents to Owner that:
  - 1. To Contractor's knowledge after due inquiry, no lead or asbestos-containing materials were installed or discovered in the Project at any time during Contractor's construction thereof. If any lead or asbestos-containing materials were discovered, Contractor made immediate written disclosure to Owner.

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2. To Contractor's knowledge after due inquiry, no electrical transformers, light fixtures with ballasts or other equipment containing PCBs are or were located on the Project at any time during Contractor's construction thereof.
3. To Contractor's knowledge after due inquiry, no storage tanks for gasoline or any other toxic substance are or were located on the Project at any time during Contractor's construction thereof. If any such materials were discovered, Contractor made immediate written disclosure to Owner.
4. Contractor's operations concerning the Project are and were not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code or regulation, or requiring or calling attention to the need for any work, repairs, construction, alteration, or installation on or in connection with the Project in order to comply with any such laws, ordinances, codes, or regulations, with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide Owner with copies thereof.

**9.02. Inspection Of Work**

- A. All materials, equipment, and workmanship used in Work shall be subject to inspection and testing at all times during construction and/or manufacture in accordance with the terms of Contract Documents. Work and materials, and manufacture and preparation of materials, from beginning of construction until final completion and acceptance of Work, shall be subject to inspection and rejection by Owner, its agents, representatives or independent contractors retained by Owner to perform inspection services, or governmental agencies with jurisdictional interests. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and program so that they may comply therewith as applicable. Upon request or where specified, Owner shall be afforded access for inspection at the source of supply, manufacture or assembly of any item of material or equipment, with reasonable accommodations supplied for making such inspections.
- B. Contractor shall give Owner and all inspection personnel timely notice of readiness of Work for all required inspections, tests or approvals, shall schedule and coordinate the same, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests. Contractor shall also coordinate, schedule and give adequate notice to the appropriate inspection personnel of any Work that can only be inspected as it is placed or assembled (for example, concrete or masonry work), to enable the constant presence of such inspection personnel during such Work.
- C. In the event that a scheduled inspection is canceled in less than 24 hours' notice by Contractor and Owner incurs costs associated with the cancellation, Contractor will reimburse Owner for the actual costs of the canceled inspections. The amount will be deducted from payment owed Contractor.
- D. If applicable laws or regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, and furnish Owner with the required certificates of inspection, or approval. Owner will pay the cost of initial testing and Contractor shall pay all costs in connection with any follow-up or additional testing. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.
- E. If Contractor covers any Work, or the work of others, prior to any required inspection, test or approval without written approval of Owner, Contractor shall uncover the Work at Owner's request. Contractor shall bear the expense of uncovering Work and replacing Work.

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- F. In any case where Contractor covers Work contrary to Owner's request, Contractor shall uncover Work for Owner's observation or inspection at Owner's request. Contractor shall bear the cost of uncovering Work.
- G. Whenever required by Owner, Contractor shall furnish tools, labor and materials necessary to make examination of Work that may be completed or in progress, even to extent of uncovering or taking down portions of finished Work. Should Work be found unsatisfactory, cost of making examination and of reconstruction shall be borne by Contractor. If Work is found to be satisfactory, Owner, in manner herein prescribed for paying for alterations, modifications, and extra Work, except as otherwise herein specified, will pay for examination.
- H. Inspection of the Work by or on behalf of Owner, or Owner's failure to do so, shall not under any circumstances be deemed a waiver or approval of any non-conforming aspect of the Work. Rather, in the absence of a written Change Order or Instruction Bulletin signed by Owner, Contractor's duty to perform Work in conformance with the Contract Documents shall be absolute.
- I. Any inspection, evaluation, or test performed by or on behalf of Owner relating to the Work is solely for the benefit of Owner, and shall not be relied upon by Contractor. Contractor shall not be relieved of the obligation to perform Work in accordance with the Contract Documents, nor relieved of any guaranty, warranty, or other obligation, as a result of any inspections, evaluations, or tests performed by Owner, whether or not such inspections, evaluations, or tests are permitted or required under the Contract Documents. Contractor shall be solely responsible for testing and inspecting Work already performed to determine whether such Work is in proper condition to receive later Work.

**9.03. Correction Of Defective Work**

- A. If Contractor fails to supply sufficient skilled workers, suitable materials or equipment, or to furnish or perform the Work in such a way that the completed Work will conform to Contract Documents, Owner may order Contractor to replace any Defective Work, or stop any portion of Work to permit Owner (at Contractor's expense) to replace such Defective Work. These Owner rights are entirely discretionary on the part of Owner, and shall not give rise to any duty on the part of Owner to exercise the rights for the benefit of Contractor or any other party.
- B. Owner may direct Contractor to correct any Defective Work or remove it from the Site and replace it with Work that is not defective and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting from the correction or removal. Contractor shall be responsible for any and all claims, costs, losses and damages caused by or resulting from such correction or removal. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may decide the proper amount or, in its discretion may elect to leave the Contract Sum unchanged and deduct from moneys due Contractor, all such claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with Owner's calculations, it may make a claim as provided in Article XII of this Document 00 7200. (Owner exercise of its rights under this Article IX shall be entirely discretionary and, like all other Owner rights and remedies under the Contract, in addition to any other rights and remedies it may have under the Contract Documents or by law.)
- C. Correction period.
  - 1. With respect to equipment and machinery supplied by Contractor and incorporated into the Work, if within one year after the date of Final Completion of the portion of the Work incorporating the equipment and/or machinery (or, to the extent expressed by Change Order or Certificate of Final Completion, one year after Owner's written acceptance of such equipment), or such longer period as may be prescribed by laws or regulations, or by the terms of the Contract Documents, any equipment or machinery is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work

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2. With respect to structures within the scope of Work, if within one year after the date of Final Acceptance, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work.
  3. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced.
  4. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.
- D. Additionally, in special circumstances where a part of the Work is occupied or a particular item of equipment is placed in continuous service before Final Acceptance of all the Work, the correction period for that part of Work or that item may start to run from an earlier date if so provided by Change Order or Certificate of Substantial Completion.
- E. Where Defective Work or rejected Work (and damage to other Work resulting therefrom) has been removed and replaced under this provision after the commencement of the correction period, the correction period hereunder with respect to such Work shall be extended for an additional period of one year after such removal and replacement has been satisfactorily completed.
- F. If following installation of any equipment, machinery, or facilities furnished by Contractor, defects requiring correction by Contractor are found, Owner shall have the right to operate such defective equipment or facilities and make reasonable use thereof until the equipment, machinery, or facilities can be shut down for correction of defects without causing injury to Owner.

**9.04. Acceptance And Correction Of Defective Work By Owner**

- A. Owner may accept Defective Work. Contractor shall pay all claims, costs, losses and damages attributable to Owner's evaluation of and determination to accept such Defective Work. If Owner accepts any Defective Work prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may deduct from moneys due Contractor, all claims, costs, losses, damages, expenses and liabilities attributable to the Defective Work. If Contractor disagrees with Owner's calculations, Contractor may make a claim as provided in Article XII of this Document 00 7200. If Owner accepts any Defective Work after final payment, Contractor shall pay to Owner, an appropriate amount as determined by Owner.
- B. Owner may correct and remedy deficiency if, after five Days' written notice to Contractor, Contractor fails to correct Defective Work or to remove and replace rejected Work in accordance with this Article IX; or provide a plan for correction of Defective Work acceptable to Owner; or perform Work in accordance with Contract Documents. In connection with such corrective and remedial action, Owner may exclude Contractor from all or part of the Site; take possession of all or part of Work and suspend Contractor's Work related thereto; take possession of all or part of Contractor's tools, appliances, construction equipment and machinery at the Site; and incorporate in Work any materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, its representatives, agents, employees, and other contractors and Owner's consultants access to the Site to enable Owner to exercise the rights and remedies under this Article IX. Contractor shall be responsible for all claims, costs, losses, damages, expenses and liabilities incurred or sustained by Owner in exercising such rights and remedies. A Change Order will



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be issued incorporating the necessary revisions in the Contract Documents with respect to Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may deduct from moneys due Contractor, all claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with Owner's calculations, Contractor may make a claim as provided in Article XII of this Document 00 7200.

**9.05. Rights Upon Inspection Or Correction**

- A. Contractor shall not be allowed an extension of Contract Time because of any delay in the performance of Work attributable to the exercise by Owner of its rights and remedies under this Article IX. Where Owner exercises its rights under this Article IX, it retains all other rights it has by law or under the Contract Documents including, but not limited to, the right to terminate Contractor's right to proceed with the Work under the Contract Documents and/or make a claim or back charge where a Change Order cannot be agreed upon.
- B. Inspection by Owner shall not relieve Contractor of its obligation to have furnished material and workmanship in accordance with Contract Documents. Payment for Work completed through periodic progress payments or otherwise shall not operate to waive Owner's right to require full compliance with Contract Documents and shall in no way be deemed as acceptance of the Work paid therefor. Contractor's obligation to complete the Work in accordance with Contract Documents shall be absolute, unless Owner agrees otherwise in writing.

**9.06. Samples and Tests of Materials and Work**

- A. Contractor shall furnish, in such quantities and sizes as may be required for proper examination and tests, samples or test specimens of all materials to be used or offered for use in connection with Work. Contractor shall prepare samples or test specimens at its expense and furnish them to Owner. Contractor shall submit all samples in ample time to enable Owner to make any necessary tests, examinations, or analyses before the time it is desired to incorporate the material into the Work. Tests must be by a Laboratory accepted by Owner and paid for by Contractor. Contractor must pay all costs of all tests; if a test fails, Contractor must pay for subsequent tests until passage. The Laboratory must submit certified copies of all test reports directly to Owner and Contractor by 10 a.m. of the second workday after performing each test.
- B. Owner may inspect the production of any material, or the manufacture of any product at the source of supply. Such inspection, however, will not be undertaken until Owner is assured of the cooperation and assistance of both Contractor and producer. Owner or its authorized representatives shall have free entry at all times to the parts of the plant Manufacturing or producing such materials. Adequate facilities must be provided free of charge to make the necessary inspections. Owner assumes no obligation to inspect materials at source of supply.
- C. Owner may permit the use of certain materials or assemblies before sampling and testing if accompanied by a Certificate of Compliance stating that the materials comply in all respects with the requirements of the Contract Documents. The Manufacturer of the material or assembly must sign the Certificate of Compliance. A Certificate of Compliance must be submitted with each lot of material delivered to the Project and the lot so certified must be clearly identified in the Certificate of Compliance.
- D. Owner may sample and test all materials used pursuant to a Certificate of Compliance at any time. The fact that material is used pursuant to a Certificate of Compliance does not relieve Contractor of responsibility for incorporating material in the Work which conforms to the requirements of the Contract Documents; and any such material not conforming to such requirements will be subject to rejection whether in place or not.
- E. Owner reserves the unrestricted right to refuse to permit the use of material pursuant to a Certificate of Compliance.
- F. Owner will set the form of the Certificate of Compliance and its disposition.

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**9.07. Proof Of Compliance Of Contract Provisions**

- A. In order that Owner may determine whether Contractor has complied or is complying with requirements of Contract Documents not readily enforceable through inspection and tests of Work and materials, Contractor shall at any time, when requested, submit to Owner properly authenticated documents or other satisfactory proofs of compliance with all applicable requirements.

**9.08. Acceptance**

- A. Inspection by Owner or its authorized agents or representatives, any order or certificate for the payment of money, any payment, acceptance of the whole or any part of Work by Owner, any extension of time, any verbal statements on behalf of Owner or its authorized agents or representatives shall not operate as a waiver or modification of any provision of the Contract Documents, or of any power reserved to Owner herein or therein or any right to damages provided in the Contract Documents. Any waiver of any breach of the Contract Documents shall not be held to be a waiver of any other subsequent breach.

**ARTICLE X – CONTRACTOR’S ORGANIZATION AND EQUIPMENT**

**10.01. Contractor’s Legal Address**

- A. Address and facsimile number given in Contractor’s Proposal are hereby designated as Contractor’s legal address and facsimile number. Contractor may change its legal address and facsimile number by notice in writing, delivered to Owner, which in conspicuous language advises Owner of a change in legal address or facsimile number, and which Owner accepts in writing. Delivery to Contractor’s legal address or depositing in any post office or post office box regularly maintained by the United States Postal Service, in a wrapper with postage affixed, directed to Contractor at legal address, or of any drawings, notice, letter or other communication, shall be deemed legal and sufficient service thereof upon Contractor. Facsimile to Contractor’s designated facsimile number of any letter, memorandum, or other communication on standard or legal sized paper, with proof of facsimile transmission, shall be deemed legal and sufficient service thereof upon Contractor.

**10.02. Contractor’s Office At The Work Site**

- A. Contractor shall maintain an office at the Site, which office shall be headquarters of a Contractor representative authorized to transmit to and receive from Owner, communications, instructions or Drawings. Communications, instructions, or Drawings given to Contractor’s representative or delivered at the Site office in representative’s absence shall be deemed to have been given to Contractor.

**10.03. Contractor’s Superintendents Or Forepersons**

- A. Contractor shall at all times be represented on Site by one or more superintendents, project managers or forepersons authorized and competent to receive and carry out any instructions that Owner may give, and shall be liable for faithful observance of instructions delivered to Contractor or to authorized representative or representatives on Site.

**10.04. Proficiency In English**

- A. Supervisors, security guards, safety personnel and employees who have unescorted access to the Site shall possess proficiency in the English language in order to understand, receive and carry out oral and written communications or instructions relating to their job functions, including safety and security requirements.

**10.05. Contractor’s And Subcontractors’ Employees**

- A. Contractor shall employ, and shall permit its Subcontractors to employ, only competent and skillful personnel to do Work. If Owner notifies Contractor that any of its employees, or any of

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its Subcontractors' employees on Work is incompetent, unfaithful, disorderly or profane, or fails to observe customary standards of conduct or refuses to carry out any provision of the Contract Documents, or uses threatening or abusive language to any person on Work representing Owner, or violates sanitary rules, or is otherwise unsatisfactory, and if Owner requests that such person be discharged from Work, then Contractor or its Subcontractor shall immediately discharge such person from Work and the discharged person shall not be re-employed on the Work except with consent of Owner.

**10.06. Contractor To List Trades Working**

- A. Contractor shall list the trades working on the Site and their scheduled activities on a daily basis, and provide a copy of that daily list to Owner at least weekly, preferably daily.

**10.07. Contractor's Use Of The Site**

- A. Contractor shall not make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between Owner and any owner, former owner or tenant of such land, structure or buildings. Contractor may not occupy Owner-owned property outside the limit of the Work as indicated on the Drawings unless it obtains prior written approval from Owner.

**ARTICLE XI – PROSECUTION AND PROGRESS OF THE WORK**

**11.01. Contractor To Submit Required Schedules**

- A. Contractor shall submit schedules and reports, Shop Drawings and Submittal Procedures in the appropriate quantity and within the required time, arrange conferences and meetings and proceed with the Work in accordance with Contract Documents, including Documents 01 3100 (Project Management and Coordination), 01 3200 (Progress Schedules and Reports), and 01 3300 (Contractor Submittal Procedures).
- B. Contractor shall submit to Owner for review and discussion at the Preconstruction Conference described in Document 01 3100 (Project Management and Coordination), and again prior to the first payment application: the schedule of values submittals described in Document 01 2900 (Payment Procedures), progress schedules and reports as required by Document 01 3200 (Construction Progress Documentation), and schedule of submittals described in Document 01 3300 (Submittals). No progress payment shall be due or owing to Contractor until such schedules are submitted to and acceptable to Owner and/or Architect/Engineer as meeting the requirements of the Contract Documents, including Documents 01 2900 (Payment Procedures), 01 3200 and 01 3300. Owner's acceptance of Contractor's schedules will not create any duty of care or impose on Owner any responsibility for the sequencing, scheduling or progress of Work nor will it interfere with or relieve Contractor from Contractor's full responsibility therefor.
- C. Before commencing any portion of Work, Contractor shall inform Owner in writing as to time and place at which Contractor wishes to commence Work, and nature of Work to be done, in order that proper provision for inspection of Work may occur, and to assure measurements necessary for record and payment. Information shall be given to Owner a reasonable time in advance of time at which Contractor proposes to begin Work, so that Owner may complete necessary preliminary work without inconvenience or delay to Contractor.

**11.02. Contractor To Submit Submittals And Shop Drawings**

- A. Contractor shall submit submittals and Shop Drawings to Owner (or Architect/Engineer if Owner so designates) for review in strict accordance with Document 01 3300 (Submittals). Submission of a Shop Drawing shall constitute Contractor's representation that all requirements of Document 01 3300 have been complied with. All submittals will be identified as Owner may require and in the number of copies specified in Document 01 3300.

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- B. Contractor shall not perform Work that requires submission of a Shop Drawing or Sample or other submittal prior to submission and favorable review of the Shop Drawing or Sample or submittal. Where a Shop Drawing or Sample or other submittal is required by Contract Documents or the final Schedule of Shop Drawing and Sample Submittals accepted by Owner, any related Work performed prior to Owner's approval of the pertinent submittal shall be at the sole expense, responsibility and risk of Contractor.

**11.03. Contractor To Maintain Cost Data**

- A. Contractor shall maintain full and correct information as to the number of workers employed in connection with each subdivision of Work, the classification and rate of pay of each worker in form of certified payrolls, the cost to Contractor of each class of materials, tools and appliances used by Contractor in Work, and the amount of each class of materials used in each subdivision of Work. Contractor shall provide Owner with monthly summaries of this information. If Contractor maintains or is capable of generating summaries or reports comparing actual Project costs with Proposal estimates or budgets, Contractor shall provide Owner with a copy of such report upon Owner's request and whenever it is generated.
- B. Contractor shall maintain daily job reports recording all significant activity on the job, including the number of workers on Site, Work activities, problems encountered and delays. Contractor shall provide Owner with copies for each Day Contractor works on the Project, to be delivered to Owner either the same Day or the following morning before starting work at the Site. Contractor shall take monthly progress photographs of all areas of the Work. Contractor shall maintain copies of all correspondence with Subcontractors and records of meetings with Subcontractors.
- C. Owner shall have the right to audit and copy Contractor's books and records of any type, nature or description relating to the Project (including but not limited to financial records reflecting in any way costs claimed on the Project), and to inspect the Site, including Contractor's trailer, or other job Site office, and this requirement shall be contained in the subcontracts of Subcontractors working on Site. By way of example, Owner shall have the right to inspect and obtain copies of all Contract Documents, planning and design documents, proposal and negotiation documents, cost records and job cost variance reports, design modification proposals, value engineering or other cost reduction proposals, revisions made to the original design, job progress reports, photographs, and as-built drawings maintained by Contractor. Owner and any other applicable governmental entity shall have the right to inspect all information and documents maintained under this Article XI at any time during the Project and for a period of five years following Final Completion. This right of inspection shall not relieve Contractor of its duties and obligations under the Contract Documents. This right of inspection shall be specifically enforceable in a court of law, either independently or in conjunction with enforcement of any other rights in the Contract Documents.
- D. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Contract Modifications, Change Orders, Work Directives, Force Account orders, and written interpretations and clarifications in good order and annotated to show all changes made during construction. These Project Record Documents, together with all approved Samples and a counterpart of all approved Shop Drawings, shall be maintained and available to Owner for reference. Upon completion of the Work, Contractor shall deliver to Owner, the Project Record Documents, Samples and Shop Drawings and as-built drawings.

**11.04. Contractor To Supply Sufficient Workers And Materials**

- A. Unless otherwise required by Owner under the terms of Contract Documents, Contractor shall at all times keep on the Site materials and employ qualified workers sufficient to prosecute Work at a rate and in a sequence and manner necessary to complete Work within the Contract Time. This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.
- B. At any time during progress of Work should Contractor directly or indirectly (through Subcontractors) refuse, neglect, or be unable to supply sufficient materials or employ qualified

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workers to prosecute the Work as required, then Owner may require Contractor to accelerate the Work and/or furnish additional qualified workers or materials as Owner may consider necessary, at no cost to Owner. If Contractor does not comply with the notice within three Business Days of date of service thereof, Owner shall have the right (but not a duty) to provide materials and qualified workers to finish the Work or any affected portion of Work, as Owner may elect. Owner may, at its discretion, exclude Contractor from the Site, or portions of the Site or separate work elements during the time period that Owner exercises this right. Owner will deduct from monies due or which may thereafter become due under the Contract Documents, the sums necessary to meet expenses thereby incurred and paid to persons supplying materials and doing Work. Owner will deduct from funds or appropriations set aside for purposes of Contract Documents the amount of such payments and charge them to Contractor as if paid to Contractor. Contractor shall remain liable for resulting delay, including liquidated damages and indemnification of Owner from claims of others.

- C. Exercise by Owner of the rights conferred upon Owner in this subparagraph is entirely discretionary on the part of Owner. Owner shall have no duty or obligation to exercise the rights referred to in this subparagraph and its failure to exercise such rights shall not be deemed an approval of existing Work progress or a waiver or limitation of Owner's right to exercise such rights in other concurrent or future similar circumstances. (The rights conferred upon Owner under this subparagraph are, like all other such rights, cumulative to Owner's other rights under any provision of the Contract Documents.)

**11.05. Contractor To Locate Underground Facilities**

- A. During construction, Contractor shall comply with Government Code sections 4216 to 4216.9, and in particular section 4216.2 which provides, in part: "Except in an emergency, every person planning to conduct any excavation shall contact the appropriate regional notification center at least two working days, but no more than 14 calendar days, prior to commencing that excavation, if the excavation will be conducted in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the excavator, and, if practical, the excavator shall delineate with white paint or other suitable markings the area to be excavated. The regional notification center shall provide an inquiry identification number to the person who contacts the center and shall notify any member, if known, who has a subsurface installation in the area of the proposed excavation."
- B. Contractor shall contact USA, and schedule the Work to allow ample time for the center to notify its members and, if necessary, for any member to field locate and mark its facilities. Contractor is charged with knowledge of all subsurface conditions reflected in USA records. Prior to commencing excavation or trenching work, Contractor shall provide Owner with copies of all USA records secured by Contractor. Contractor shall advise Owner of any conflict between information provided in Document 00 3020 (Geotechnical Data and Existing Conditions), the Drawings and that provided by USA records. Contractor's excavation shall be subject to and comply with the Contract Documents, including without limitation Articles II and VIII of this Document 00 7200.
- C. Contractor shall also investigate the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site, even if not shown or indicated in Document 00 3020 (Geotechnical Data and Existing Conditions), the Drawings or that provided by USA records. Contractor shall immediately secure all such available information and notify Owner and the utility owner, in writing, of its discovery.

**11.06. Contractor To Protect Underground Facilities**

- A. At all times during construction, all operating Underground Facilities shall remain in operation, unless the Contract Documents expressly indicate otherwise. Contractor shall maintain such Underground Facilities in service where appropriate; shall repair any damage to them caused by the Work; and shall incorporate them into the Work, including reasonable adjustments to

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- the design location (including minor relocations) of the existing or new installations. Contractor shall take immediate action to restore any in service installations damaged by Contractor's operations.
- B. Prior to performing Work at the Site, Contractor shall lay out the locations of Underground Facilities that are to remain in service and other significant known underground installations indicated by the Underground Facilities Data. Contractor shall further locate, by carefully excavating with small equipment, potholing and principally by hand, all such utilities or installations that are to remain and that are subject to damage. If additional utilities whose locations are unknown are discovered, Contractor shall immediately report to Owner for disposition of the same. Additional compensation or extension of time on account of utilities not shown or otherwise brought to Contractor's attention, including reasonable action taken to protect or repair damage, shall be determined as provided in this Document 00 7200.
- C. The cost of all of the following will be included in the Contract Sum and Contractor shall have full responsibility for (a) reviewing and checking all available information and data including, but not limited to, Document 00 3020 (Geotechnical Data and Existing Conditions) and information on file at USA; (b) locating all Underground Facilities shown or indicated in the Contract Documents, available information, or indicated by visual observation including, but not limited to, and by way of example only, engaging qualified locating services and all necessary backhoeing and potholing; (c) coordination of the Work with the owners of such Underground Facilities during construction; and (d) the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

**11.07. Contractor To Not Disrupt Owner Operation**

- A. Contractor shall schedule and execute all Work in a manner that does not interfere with or disrupt Owner operations, including but not limited to, parking, utilities (electricity, gas, water), noise, access by employees and administration, access by vendors, physicians, patients and any other person or entity using Owner facilities or doing business with Owner. Contractor shall produce and supply coordination plans and requests to Owner, following Owner procedures, for all necessary interference of construction with Owner, which Owner will reasonably cooperate with, as further described in Document 01 1000 (Summary).

**ARTICLE XII – CLAIMS BY CONTRACTOR / NON-JUDICIAL SETTLEMENT PROCEDURE**

**12.01. Scope**

- A. The claim notice and documentation procedure described in this Article XII applies to all claims and disputes arising under the Contract Documents, including without limitation any claim or dispute by any Subcontractor or material supplier, and any claims arising under tort law as well as contract law. All Subcontractor and supplier claims of any type shall be brought only through Contractor as provided in this Article XII. Under no circumstances shall any Subcontractor or supplier make any direct claim against Owner.
- B. "Claim" means a written demand or written assertion by Contractor seeking, as a matter of right, the payment of money, the adjustment or interpretation of Contract Documents terms, or other relief arising under or relating to Contract Documents. In order to qualify as a "claim," the written demand must state that it is a claim submitted under this Article XII. A voucher, invoice, proposed change, Application for Payment, cost proposal, RFI, change order request, or other routine or authorized form of request for payment is not a claim under the Contract Documents. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a claim under the Contract Documents by submitting a separate notice and claim in compliance with claim submission requirements herein.
- C. The provisions of this Article XII constitute a non-judicial claim settlement procedure, and also step one of a two-step claim presentment procedure by agreement under Section 930.2 of the California Government Code. Specifically, step one is compliance with this contract claims

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procedure and filing/administering timely contract claims in accordance with the Contract Documents. Step two is filing a timely Government Code section 910 claim in accordance with the California Government Code. Any Government Code section 910 claims shall be presented in accordance with the Government Code and shall affirmatively indicate Contractor's prior compliance with the claims procedure herein and previous dispositions under this Article.

- D. The provisions of this Article XII shall survive termination, breach or completion of the Contract Documents. Contractor shall bear all costs incurred in the preparation and submission of a claim.

**12.02. Procedure**

- A. Disputed Work. Should any clarification, determination, action or inaction by Owner or Architect/Engineer, Work, third party, or any other event whatsoever, in the opinion of Contractor, exceed the requirements of or not comply with Contract Documents in any way, or otherwise result in Contractor seeking additional compensation in time or money or damages for any reason (collectively "Disputed Work"), then Contractor shall so notify Owner. Contractor and Owner shall make good faith attempts to resolve informally any and all such issues, claims and/or disputes.
- B. Duty to Work During Disputes. Notwithstanding any dispute or Disputed Work, Contractor shall continue to prosecute the Work and the Disputed Work in accordance with the determinations of Owner. Contractor's sole remedy for Disputed Work is to pursue the remedies in this Article XII and follow the determinations of Owner.
- C. Timely Notice of Disputed Work Required. Before commencing any Disputed Work, or within ten (10) Days after Contractor's first knowledge of the Disputed Work, whichever is earlier, Contractor shall file a written notice and preliminary cost proposal for the Disputed Work with Owner stating clearly and in detail its objection and reasons for contending the Disputed Work is outside or in breach of the requirements of Contract Documents. The written notice must identify the subcontractors, vendors, suppliers effected, if any, sufficient for Owner to visit the site to inspect the work and/or conduct a telephonic interview of the persons involved, and/or to photograph the work in question; and Contractor is encouraged to supply digital photographs by email if possible. The preliminary cost proposal must provide a good faith preliminary estimate of the labor (workers, crews), equipment and/or materials involved, and a corresponding good faith preliminary estimate of cost. Unless an extension of time is allowed under paragraph 12.06.C. below, if a written notice and preliminary cost proposal for Disputed Work is not issued within this time period, or if Contractor proceeds with the Disputed Work without first having given the notice of the Disputed Work, Contractor shall waive its rights to further claim on the specific issue.
- D. Timely Notice of Potential Claims Required. Owner will review Contractor's timely notice and preliminary cost proposal for Disputed Work and provide a decision. If, after receiving the decision, Contractor disagrees with it or still considers the Work required of it to be outside of the requirements of Contract Documents, then Contractor shall so notify Owner, in writing, within ten (10) Days after receiving the decision, by submitting a notice of potential claim, stating that a formal claim will be issued. (If Owner should fail to provide a decision on a notice and preliminary cost proposal within thirty (30) days, then Contractor shall submit a notice of potential claim within ten days following the thirtieth (30th) day, i.e., or by the 40th day following the notice and preliminary cost proposal.) Contractor shall continue to prosecute the Disputed Work to completion.
- E. Quarterly Claims Required. At the end of each calendar year quarter (March 31, June 30, September 30 and December 31) of each year, for each and every notice of potential claim that Contractor may have submitted in that quarter, Contractor shall submit a formal claim in

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the form specified herein. Contractor may file a single consolidated claim each quarter, or may file separate claims each quarter, as Contractor sees fit, provided Contractor complies with the requirements below. (Contractor may defer until the next reporting period the filing of a formal claim for any notices of potential claim timely issued within the last 15 days of the prior quarter.) The formal claim(s) shall include all arguments, justification, cost or estimates, schedule analysis, and detailed documentation supporting Contractor's position, for each notice of potential claim that Contractor intends to pursue as a formal claim (further described below).

- F. Claim Updates Required. If Disputed Work persists longer than a single calendar quarter, then Contractor shall, every quarter until the Disputed Work ceases, submit to Owner a document titled "Claim Update" that shall update and quantify all elements of the claim as completely as possible. Contractor's failure to submit a Claim Update or to quantify costs every quarter shall result in waiver of the claim for that period. Claims or Claim Updates stating that damages, total damages (direct and indirect), schedule impact and/or any time extension will be determined at a later date shall not comply with this subparagraph and shall result in Contractor waiving its claim(s). Contractor shall also maintain a continuing "claims log" that shall list all outstanding claims and their value, and provide such log to Owner quarterly.
- G. Claim Negotiations required. Upon receipt of Contractor's formal claim(s) including all arguments, justifications, cost or estimates, schedule analysis, and documentation supporting its position as required herein, Owner or its designee will review the issue and render a final determination. Contractor and Owner may mutually agree upon a claims resolution protocol, a neutral facilitator or mediator, or other alternative dispute resolution procedures, as appropriate. Owner may in its discretion conduct an administrative hearing on Contractor's claim, in which case Contractor shall appear, participate, answer questions and inquiries, and present any further document, schedules or analysis requested by Owner to evaluate and decide Contractor's claim.

**12.03. Claim Format**

- A. Contractor shall submit the formal claim(s) with a cover letter and certification of the accuracy of the formal claim.
- B. The formal claim(s) shall list separately each notice of potential claim that Contractor intends to pursue as a formal claim(s), and for each such item separately, Contractor shall provide the following:
1. Summary of the claim, including underlying facts, entitlement, schedule analysis, quantum calculations, contract provisions supporting relief;
  2. List of documents relating to claim including Specifications, Drawings, clarifications/requests for information, schedules, notices of delay, and any others;
  3. Chronology of events and correspondence;
  4. Analysis of claim merit;
  5. Analysis of claim cost; and
  6. Attach supporting cost and schedule documents as required in this Article and elsewhere in the Contract Documents (e.g., Document 01 2600).
- C. For each notice of potential claim that Contractor intends to pursue as a formal claim, Contractor shall establish in the formal claim a direct causal link between the separate item of cost/time requested, the separate notices of potential claim timely issued, and the specific changed Work asserted. Total cost claims shall not be allowed.
- D. Claims shall be calculated in the same manner as Change Orders per Document 01 2600 (Contract Modification Procedures). EXCEPT WHERE PROVIDED BY LAW, OR ELSEWHERE IN THESE CONTRACT DOCUMENTS (IF APPLICABLE), OWNER SHALL NOT BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES, AND CONTRACTOR



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SHALL NOT INCLUDE THEM IN ITS CLAIMS. CONTRACTOR SHALL BE LIMITED IN ITS RECOVERY ON CLAIMS TO THE CHANGE ORDER CALCULATIONS SET FORTH IN DOCUMENT 01 2600.

**12.04. Action on Claims and Mediation**

- A. Final Decision. Upon receipt of CMR's formal claim(s) including all arguments, justifications, cost or estimates, schedule analysis, and documentation supporting its position as required herein, and if the claims negotiations are unsuccessful, Owner or its designee will review the issue and render a final determination. If Owner should fail to provide a decision, then such claims shall be deemed denied after 45 days following their receipt.
- B. If Contractor's claims submitted in accordance with this Article XII at Project completion total less than \$375,000, then claims resolution shall first proceed in the manner prescribed by Article 1.5, Chapter 1, Part 3 of Division 2 of the California Public Contract Code.
- C. If Contractor's claims submitted in accordance with this Article XII at Project completion exceed \$375,000, then, as a condition precedent to litigation (or if otherwise permitted by the Contract Documents, arbitration) thereon, such claims must first be mediated. Mediation shall be non-binding and utilize the services of a mediator mutually acceptable to the parties and, if the parties cannot agree, a mediator selected by the American Arbitration Association from its panel of approved mediators trained in construction industry mediation, having a minimum of twenty (20) years' experience in the construction industry. All statutes of limitation shall be tolled from the date of the demand for mediation until a date two weeks following the mediation's conclusion. All unresolved Contractor claims shall be submitted to the same mediator. The cost of mediation shall be equally shared.

**12.05. Subcontractor Claims**

- A. Contractor shall present as its claims all Subcontractor, sub-Subcontractor and supplier claims of any type, and prove them under the terms of the Contract Documents. Owner shall not be directly liable to any Subcontractor, any supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages or extra costs of any type arising out of or resulting from the Project.

**12.06. Waiver**

- A. If Contractor fails to comply with this Article XII as to any claim, then Contractor shall waive its rights to such claim. All claim(s), Disputed Work items or issue(s) not raised in a timely notice, timely notice of potential claim and then timely claim submitted under this Article XII, may not be asserted in any subsequent Government Code section 910 claim, litigation or legal action.
- B. Contractor may request an extension of time to comply with the claims procedure herein, but must do so in advance of time periods expiring and Owner must give its approval in writing (which approval may be withheld in Owner discretion.) Further, if Contractor provides its written notice and preliminary cost proposal under paragraph 12.03.B. above within 11 to 25 Days of first knowledge of the Disputed Work (i.e., up to 15 Days late), then Owner will approve the late submission provided Contractor demonstrates a manifest lack of prejudice to Owner. As to any other feature of the claim procedure herein (and its claims waiver feature), it may not be waived or altered absent a written change order signed by both parties and approved as to form by their legal counsel.
- C. Owner shall not be deemed to waive or alter any provision under this Article XII, if at Owner's sole discretion, a claim is administered in a manner not in accord with this Article XII.
- D. Owner in its sole discretion, may consider CMR's substantial compliance with the required initial notice and cost proposal, provided CMR demonstrates good faith and a manifest lack of

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prejudice to Owner from late written notice, for example, contemporaneous Owner/CMR discussions and review of Disputed Work with full opportunity to investigate and verify costs and work performed. Under no circumstances may substantial compliance be considered when the required written notice is more than 21 calendar days late.

**12.07. Intent**

- A. The claim notice and documentation procedure described in this Article 12 is intended to require notice and sufficient documentation of claims, potential claims, disputes and disagreements, to permit discussions and negotiations of the matters in question, between and among all parties involved, prior to and contemporaneously with the matters in question, in sufficient time for the parties to make informed decisions, mitigate and document costs and potential costs.
- B. Under no circumstances may this procedure be interpreted, modified or viewed to permit, claims, potential claims or change order requests for Disputed Work that has been performed, covered up or otherwise become unavailable for reasonable contemporaneous verification and negotiation with involved parties

**ARTICLE XIII – LEGAL AND MISCELLANEOUS**

**13.01. Laws And Regulations**

- A. Contractor shall keep fully informed of and shall comply with all laws, ordinances, regulations and orders of any properly constituted authority affecting the Contract Documents, Work and persons connected with Work, and shall, to the greatest extent permitted by law, protect and indemnify Owner and its officers, employees, consultants and agents against any claim or liability, including attorney's fees, arising from or based on violation of law, ordinance, regulation or order, whether by Contractor or by Subcontractors, employees or agents. Authorized persons may at any time enter upon any part of Work to ascertain compliance of all applicable laws, ordinances, regulations and orders.
- B. Whenever Drawings and Specifications require larger sizes or higher standards than are required by any applicable law, ordinance, regulation or order, Drawings and Specifications shall govern. Whenever Drawings and Specifications require something that will violate such laws, ordinances, regulations or orders, then such laws, ordinances, regulations or orders shall govern.
- C. Contractor shall comply with applicable portions of Title 8 (Industrial Relations), Title 19 (Public Safety), Title 22 (Social Security, Division of Health) and Title 24 (California Building Standards Code), California Code of Regulations (Uniform Building Code) (most recent edition), Public Contract Code. Whenever Contract Documents require larger sizes or higher standards than are required by any applicable law, ordinance, regulation or order, Contract Documents shall govern. Whenever Contract Documents require something that will violate such laws, ordinances, regulations or orders, then such laws, ordinances, regulations or orders shall govern.
- D. Contractor shall maintain in the Project Office a current copy of Title 19 and Title 24 of the California Code of Regulations at all times during construction.

**13.02. Permits And Taxes**

- A. Owner shall procure OSHPD building permit. Contractor shall procure all other permits and licenses applicable to the Work (including environmental matters to the extent applicable), pay all charges and fees, including fees for street opening permits, comply with, implement and acknowledge effectiveness of all permits, initiate and cooperate in securing all required notifications or approvals therefore, and give all notices necessary and incident to due and lawful prosecution of Work, unless otherwise provided herein. Contractor shall pay all sales and/or use taxes levied on materials, supplies, or equipment purchased and used on or incorporated into Work, and all other taxes properly assessed against equipment or other property used in connection with Work, without any increase in the Contract Sum. Contractor

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shall make necessary arrangements with proper authorities having jurisdiction over roads, streets, pipelines, navigable waterways, railroads, and other works in advance of operations, even where Owner may have already obtained permits for the Work.

**13.03. Suspension Of Work**

- A. Owner may, without cause, order Contractor in writing to suspend, delay or interrupt Work in whole or in part for such period of time as Owner may determine. An adjustment shall be made for increases in cost of performance of Work of the Contract Documents caused by any such suspension, delay or interruption, calculated using the measures set forth in Document 01 2600 (Contract Modification Procedures). No adjustment shall be made to extent that:
1. Performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible; or
  2. An equitable adjustment is made or denied under any other provision of Contract Documents; or
  3. The suspension of Work was the direct or indirect result of Contractor's failure to perform any of its obligations hereunder. Adjustments made in cost of performance may have a mutually agreed fixed or percentage fee; if the parties cannot agree, Contractor may file a claim under Article XII of this Document 00 7200.

**13.04. Termination Of Contract For Cause**

- A. Owner may declare Contractor in default of Contract Documents and Owner may terminate Contractor's right to proceed under the Contract Documents for cause:
1. Should Contractor make an assignment for the benefit of creditors; admit in writing its inability to pay its debts as they become due; file a voluntary petition in bankruptcy; be adjudged a bankrupt or insolvent; be the subject of an involuntary petition in bankruptcy which is not dismissed within 60 Days; file a petition or answer seeking for itself any reorganization, arrangement, composition, readjustment, liquidation, dissolution, or similar relief under any present or future statute, law, or regulation; file any answer admitting or not contesting the material allegations of a petition filed against Contractor in any such proceeding; or seek, consent to, or acquiesce in, the appointment of any trustee, receiver, custodian or liquidator of Contractor or of all or any substantial part of its properties or if Contractor, its directors or shareholders, take action to dissolve or liquidate Contractor; or
  2. Should Contractor commit a material breach of the Contract Documents. If Owner declares Contractor in default due to material breach, however, Owner must allow Contractor an opportunity to cure such breach within ten Days of the date of notice from Owner to Contractor providing notice of the default; or, if such breach is curable but not curable within such ten-Day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for Contractor to avail itself of a time period in excess of ten Days, Contractor must provide Owner within the ten-Day period with a written plan ["cure plan"] acceptable to Owner to cure said breach which includes, for example, evidence of necessary resources, actual Subcontractor commitments, actual labor commitments, schedules and recovery schedules meeting Contract Document requirements and showing a realistic and achievable plan to cure the breach. Contractor must then diligently commence and continue such cure according to the written cure plan); or
  3. Should Contractor violate or allow (by a Subcontractor or other person or entity for which Contractor is responsible) a violation of any valid law, statute, regulation, rule, ordinance, permit, license or order of any governmental agency applicable to the Project or Work and does not cure (or cause to be cured) such violation within ten Days of the date of the notice from Owner to Contractor demanding such cure; or, if such violation is curable but not curable within such ten-Day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for Contractor to avail itself of a time period in excess of ten Days, Contractor shall provide Owner within the ten-Day period with a written plan to cure said violation acceptable to Owner, and then diligently commence and continue performance of such cure according to the written plan.)

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- B. If Owner at any time reasonably believes that Contractor is or may be in default under the Contract Documents as provided above, then Owner may in its sole discretion notify Contractor of this fact and request written assurances from Contractor of performance of Contract Documents and a written plan from Contractor to remedy any default under the terms of Contract Documents which Owner may advise Contractor of in writing. Contractor shall, within 10 Days of Owner's request, deliver a written cure plan which meets the requirements of the written cure plan deliverable defined above. Failure of Contractor to provide such written assurances of performance and the required written cure plan, within ten Days of request, will constitute a material breach of Contract Documents sufficient to justify termination for cause.
- C. In event of termination for cause, Owner will immediately serve written notice thereof upon Surety and Contractor. Surety shall have the rights and obligations set forth in Document 00 6113.12 (Construction Performance Bond). Subject to the Surety's rights under the Performance Bond (which rights are waived upon a default thereunder), Owner may take over the Work and prosecute it to completion by contract or by any other methods it may deem advisable.
- D. In the event of termination for cause:
  - 1. Owner will compensate Contractor for the value of the Work delivered to Owner upon termination as determined in accordance with the Contract Documents, subject to all rights of offset and back charges, and provided that Contractor provides Owner with updated as-builts and Project Record Documents showing the Work performed up to the date of termination. However, Owner will not compensate Contractor for its costs in terminating the Work or any cancellation charges owed to third parties.
  - 2. Contractor shall deliver to Owner possession of the Work in its then condition including, but not limited to, all designs, architectural and engineering, Project records, Project Record Documents, cost data of all types, Drawings and Specifications and contracts with vendors and Subcontractors, all other documentation associated with the Project, and all construction supplies and aids dedicated solely to performing the Work which, in the normal course of construction, would be consumed or only have salvage value at the end of the construction period. Contractor shall remain fully liable for the failure of any Work completed and materials and equipment provided through the date of such termination to comply with the provisions of the Contract Documents. The provisions of this subparagraph shall not be interpreted to diminish any right which Owner may have to claim and recover damages for any breach of Contract Documents or otherwise, but rather, Contractor shall compensate Owner for all loss, cost, damage, expense, and/or liability suffered by Owner as a result of such termination and failure to comply with Contract Documents.
  - 3. Owner's rights under this subparagraph shall be specifically enforceable to the greatest extent permitted by law. Owner shall, to the extent applicable, have all other rights and remedies set forth in any Request for Proposal Document.
- E. Owner may terminate portions or parts of the Work for cause, provided these portions or parts (1) have separate geographic areas from parts or portions of the Work not terminated or (2) are limited to the work of one or more specific trades or Subcontractors. In such case, Contractor shall cooperate with a completing contractor as required under Article VI of this Document 00 7200.
- F. In the event a termination for cause is later determined to have been made wrongfully or without cause, then Contractor shall have no greater rights than if a termination for convenience had been effected (to include, as appropriate, the recovery rights specified therefore.) Any Contractor claim arising out of a termination for cause, however, shall be made in accordance with Article XII of this Document 00 7200. No other loss cost, damage, expense or liability may be claimed, requested or recovered by Contractor.

**13.05. Termination Of Contract For Convenience**

- A. Owner may terminate for convenience the performance of the Work under the Contract Documents in accordance with this clause in whole, or from time to time in part, whenever

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Owner shall determine that termination is in Owner's best interest. Termination for convenience may only be effected by Owner delivering to Contractor a written "Notice of Termination for Convenience", specifying the extent to which performance of the Work under the Contract Documents is terminated and the effective date of the termination.

- B. After receiving a notice of termination for convenience under this subparagraph, and except as otherwise directed by Owner, Contractor shall:
1. Stop Work under the Contract Documents on date and to extent specified in notice of termination for convenience;
  2. Place no further orders or subcontracts for materials, services, or facilities except as necessary to complete portion of Work under the Contract Documents which is not terminated;
  3. Terminate all orders and subcontracts to extent that they relate to performance of Work terminated by the notice of termination;
  4. Assign to Owner in manner, at times, and to extent directed by Owner, all right, title, and interest of Contractor under orders and subcontracts so terminated. Owner shall have the right, in its sole discretion, to settle or pay any or all claims arising out of termination of orders and subcontracts;
  5. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with approval or ratification of Owner to extent Owner may require. Owner's approval or ratification shall be final for purposes of this subparagraph;
  6. Transfer title to Owner, and deliver in the manner, at the times, and to the extent, if any, directed by Owner, all fabricated or unfabricated parts, Work in process, completed Work, supplies, and all other material produced as part of, or acquired in connection with performance of, Work terminated by the notice of termination, and completed or partially completed drawings, drawings, specifications, information, and other property which, if the Project had been completed, would have been required to be furnished to Owner;
  7. Use its best efforts to sell, in manner, at times, to extent, and at price or prices that Owner directs or authorizes, any property of types referred to in this subparagraph, but Contractor shall not be required to extend credit to any purchaser, and may acquire any such property under conditions prescribed and at price or prices approved by Owner. Proceeds of transfer or disposition shall be applied to reduce payments to be made by Owner to Contractor under the Contract Documents or shall otherwise be credited to the price or cost of Work covered by Contract Documents or paid in such other manner as Owner may direct;
  8. Complete performance of the part of the Work which was not terminated by the notice of termination; and
  9. Take such action as may be necessary, or as Owner may direct, to protect and preserve all property related to Contract Documents which is in Contractor's possession and in which Owner has or may acquire interest.
- C. After receipt of a notice of termination for convenience, Contractor shall submit to Owner its termination for convenience claim, in form and with all certifications required by Article XII of this Document 00 7200. Contractor's termination for convenience claim shall be submitted promptly, but in no event later than 6 months from effective date of the termination. Contractor and Owner may agree upon the whole or part of the amount or amounts to be paid to Contractor because of a total or partial termination of Work under this subparagraph. If Contractor and Owner fail to agree on the whole amount to be paid to Contractor because of the termination of the Work under this subparagraph, Owner's total liability to Contractor by reason of the termination shall be the total (without duplication of any items) of:
1. The reasonable cost to Contractor, without profit, for all Work performed prior to the effective date of the termination, including Work done to secure the Project for termination. Reasonable cost may not exceed the applicable percentage completion values derived from the progress schedule and the schedule of values. Deductions shall be made for cost of materials to be retained by Contractor, cost of Work defectively performed, amounts realized by sale of materials, and for other appropriate credits against cost of Work.

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Reasonable cost will include reasonable allowance for Project overhead and general administrative overhead not to exceed a total of ten percent of direct costs of such Work. When, in Owner's opinion, the cost of any item of Work is excessively high due to costs incurred to remedy or replace defective or rejected Work, reasonable cost to be allowed will be the estimated reasonable cost of performing the Work in compliance with requirements of Contract Documents and excessive actual cost shall be disallowed.

2. A reasonable allowance for profit on actual and allowable cost of Work performed as determined in this subparagraph, provided that Contractor establishes to Owner's satisfaction that Contractor would have made a profit had the Project been completed, and provided further that the profit allowed shall not exceed 5 percent of cost.
  3. Reasonable costs to Contractor of handling material returned to vendors, delivered to Owner or otherwise disposed of as directed by Owner.
  4. A reasonable allowance for Contractor's internal administrative costs in preparing termination claim.
  5. Except as provided in this subparagraph, Owner shall not be liable for costs incurred by Contractor or Subcontractors after receipt of a notice of termination. Such non-recoverable costs include, but are not limited to, anticipated profits on Work not performed as of the date of termination, post-termination employee salaries, post-termination general administrative expenses, post-termination overhead or unabsorbed overhead, costs of preparing and submitting Contractor's Proposal, attorney's fees of any type, and all costs relating to prosecution of claim or lawsuit.
  6. Owner shall have no obligation to pay Contractor under this subparagraph unless and until Contractor provides Owner with updated and acceptable as-builts and Project Record Documents for Work completed prior to termination.
- D. In arriving at the amount due Contractor under this clause, there shall be deducted in whole (or in the appropriate part[s] if the termination is partial):
1. All unliquidated advances or other payments on account previously made to Contractor, including without limitation all payments applicable to the terminated portion of Contract Documents;
  2. Any claim which Owner may have against Contractor in connection with Contract Documents; and
  3. The agreed price for, or proceeds of sale of, any materials, supplies, or other things kept by Contractor or sold under provisions of this subparagraph, and not otherwise recovered by or credited to Owner.

**13.06. Contingent Assignment Of Subcontracts**

- A. Contractor hereby assigns to Owner each Subcontract for a portion of the Work, provided that:
1. The assignment is effective only after Owner's termination of Contractor's right to proceed under the Contract Documents (or portion thereof relating to that Subcontract) pursuant to the termination for cause subparagraphs herein.
  2. The Assignment is effective only for the Subcontracts which Owner expressly accepts by notifying the Subcontractor in writing;
  3. The assignment is subject to the prior rights, if any, of the Surety, obligated by Document 00 6113.12 (Construction Performance Bond) provided under the Contract Documents, where the Surety exercises its rights to complete the Contract;
  4. After the effectiveness of an assignment, Contractor shall, at its sole cost and expense, sign all instruments and take all actions reasonably requested by Owner to evidence and confirm the effectiveness of the assignment in Owner; and
  5. Nothing in this subparagraph shall modify or limit any of Contractor's obligations to Owner arising from acts or omissions occurring before the effectiveness of any Subcontract assignment, including but not limited to all defense, indemnity and hold-harmless obligations arising from or related to the assigned Subcontract.

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**13.07. Remedies and Contract Integration**

- A. Subject to Contract Documents provisions regarding Contractor claims, claim review, and claim resolution, and subject to the limitations therein, the exclusive jurisdiction and venue for resolving all claims, counter-claims, disputes and other matters in question between Owner and Contractor arising out of or relating to Contract Documents, any breach thereof or the Project shall be the Superior Court of the State of California for County of San Mateo. All Owner remedies provided in the Contract Documents shall be taken and construed as cumulative and not exclusive; that is, in addition to each and every other remedy herein provided; and in all instances Owner shall have any and all other equitable and legal rights and remedies which it would have according to law.
- B. The Contract Documents, any Contract Modifications and Change Orders shall represent the entire and integrated agreement between Owner and Contractor regarding the subject matters hereof and thereof and shall constitute the exclusggive statement of the terms of the parties' agreement. The Contract Documents, and any Contract Modifications and Change Orders, shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied, that relate in any way to the subject matter of the Contract Documents or written modifications. Owner and Contractor represent and agree that, except as otherwise expressly provided in the Contract Documents, they are entering into the Contract Documents and any subsequent written modification in sole reliance upon the information set forth or referenced in the Contract Documents or Contract Modifications and the parties are not and will not rely on any other information.
- C. In any proceeding to enforce the Contract Documents, Contractor and Owner agree that the finder of fact shall receive detailed instructions on the meaning and operation of the Contract Documents, including their conditions, limitationggggt54rrrrrrrs of liability, claims and time extension procedures, and any other provisions impacting major defenses and theories of liability of the parties. Detailed findings of fact shall be requested, to verify Contract enforcement.
- D. Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the Contract Documents at any time shall not in any way affect, limit, modify or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision hereof, any course of dealing or custom of the trade or oral representations notwithstanding.

**13.08. Patents**

- A. Fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with performance of the Work or any part thereof shall be included in the Proposal price for doing the Work. To the greatest extent permitted by law, Contractor shall defend, indemnify and hold harmless Owner and each of its officers, employees, consultants and agents, including, but not limited to, the Board, Architect/Engineer and each Owner representative, from all damages, claims for damages, costs or expenses in law or equity, including attorney's fees, arising from or relating to any claim that any article supplied or to be supplied under the Contract Documents infringes on the patent rights, copyright, royalties, trade name, trademark, service mark, trade secret or other intellectual property right of any person or persons or that the person or entity supplying the article does not have a lawful right to sell the same. Such costs or expenses for which Contractor agrees to indemnify and hold harmless the above indemnities include but are not limited to any and all license fees, whether such fees are agreed by any indemnities or ordered by a court or administrative body of any competent jurisdiction.

**13.09. Substitution For Patented And Specified Articles**

- A. Except as noted specifically in Specifications, whenever in Specifications, material or process is designated by patent or proprietary name or by name of manufacturer, such designation shall be deemed to be used for purpose of facilitating description of material and process desired, and shall be deemed to be followed by the words "or equal" and Contractor may offer

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any substitute material or process that Contractor considers equal in every respect to that so designated and if material or process offered by Contractor is, in opinion of Owner, equal in every respect to that so designated, its use will be approved. However, Contractor may utilize this right only by timely submitting Document 00 6600 (Substitution Request Form) as provided in Document 00 2001(Instructions for Proposals). A substitution will be approved only if it is a true "equal" item in every aspect of its design and quality, including but not limited to its dimensions, weights, service requirements, durability, functioning, impact on contiguous construction elements, overall schedule and design.

**13.10. Interest Of Public Officers**

- A. No representative, officer, or employee of Owner, no member of the governing body of the locality in which the Project is situated, no member of the locality in which Owner was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the Project, during the tenure of the official or for one year thereafter, shall, as principal, agent, attorney or otherwise, be directly or indirectly interested, in the Contract Documents or the proceeds thereof.

**13.11. Limit Of Liability**

- A. OWNER, AND EACH OF ITS OFFICERS, BOARD MEMBERS, EMPLOYEES, CONSULTANTS AND AGENTS INCLUDING, BUT NOT LIMITED TO, ARCHITECT/ENGINEER AND EACH OTHER OWNER REPRESENTATIVE, SHALL HAVE NO LIABILITY TO CONTRACTOR FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, EXCEPT TO THE LIMITED EXTENT THAT THESE CONTRACT DOCUMENTS OR APPLICABLE PUBLIC CONTRACTING STATUTES MAY SPECIFY THEIR RECOVERY.

**13.12. Severability**

- A. Any provisions or portions thereof of Contract Documents that are prohibited by, unlawful, or unenforceable under any applicable law of any jurisdiction shall as to such jurisdiction be ineffective without affecting other provisions or portions thereof in the Contract Documents.

**13.13. Force Majeure**

- A. Neither party shall hold the other responsible for damages or delay in performance caused by acts of God, strikes, lockouts, accidents, or other events beyond the control of the other or the other's employees, agents, or representatives.

**13.14. Ownership & Use of Instruments of Service**

- A. All materials prepared by Contractor pursuant to this Agreement, including plans, specifications, and related Project documents are the property of Owner. Contractor must provide Owner with such materials at appropriate times during this Agreement, and on termination or suspension of this Contract. Contractor may retain a copy for its records. Contractor conveys, assigns and transfers the intellectual property rights it has to such materials to Owner.
- B. In the event Owner re-uses the completed construction documents prepared pursuant to this Contract Agreement, in total or in part, on this Project site or any other site, or to complete any incomplete portion of construction documentation which Owner has already paid Contractor, Owner will defend, indemnify, and hold Contractor harmless from any and all claims, loss, damage, defense costs, expense, and other costs resulting from such use of Contractor prepared documents, unless Owner enters into an agreement with Contractor for Services in connection therewith.

**13.15. Smoking Prohibited**

- A. Contractor will observe County law and policies prohibiting smoking in designated areas, including, but not limited to, on and around the San Mateo Health System Campus.



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**13.16. Construction**

- A. The parties intend that any legal principle favoring construction of language for or against the drafter in case of dispute does not apply to this Agreement.

**13.17. Compliance with Applicable Laws and Regulations**

- A. Contractor shall comply with all laws, codes, regulations, rules and orders (collectively, "Regulations") applicable to the services to be provided hereunder. Contractor's violation of this provision shall be deemed a material default by Consultant, giving County a right to terminate the contract. Examples of such Regulations include but are not limited to California Occupational Safety and Health Act of 1973, Labor Code §6300 et. seq. the Fair Packaging and Labeling Act, and the standards and regulations issued there under.
- B. Contractor agrees to indemnify and hold harmless the County for any loss, damage, fine, penalty, or any expense whatsoever as a result of Contractor's failure to comply with the act and any standards or regulations issued there under.

**13.18. Contracting Principles**

- A. All entities that contract with the County to provide services where the contract value is \$100,000 or more per budget unit per fiscal year and/or as otherwise directed by the Board, shall be fiscally responsible entities and shall treat their employees fairly. To ensure compliance with these contracting principles, all consultants and contractors shall: (1) comply with all applicable federal, state and local rules, regulations and laws; (2) maintain financial records, and make those records available upon request; (3) provide to the County copies of any financial audits that have been completed during the term of the contract; (4) upon the County's request, provide the County reasonable access, through representatives of the Consultant/Contractor, to facilities, financial and employee records that are related to the purpose of the contract, except where prohibited by federal or state laws, regulations or rules.

**13.19. Severability**

- A. It is the intent of the parties that in case any one or more of the provisions contained in this Agreement shall be held to be invalid illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect the other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

**13.20. Waiver**

- A. If either party should waive any breach of any provision of this Agreement, it shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision hereof. No delay or failure to require performance of any provision of this Agreement shall constitute a waiver of that provision as to that or any other instance. Any waiver granted by a party shall be in writing and shall apply to the specific instance expressly stated.

**13.21. Governing Law; Venue; Jurisdiction**

- A. This Agreement and any claims arising out of or relating to this Agreement and its subject matter shall be governed by and construed under the laws of California, without reference to its conflicts of law principles. All disputes hereunder shall be subject to the exclusive jurisdiction of the San Mateo County Superior Court ("Selected Venue") and each party hereby irrevocably and unconditionally consents to personal jurisdiction of the Selected Venue.

**13.22. Health Insurance Portability and Accountability (HIPAA) and Patient Privacy Law**

- A. Contractor is providing services at one or more San Mateo Health System facilities, including but not limited to the San Mateo County Medical Center (SMMC). Contractor and its

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employees, subcontractors and agents may have direct or incidental contact with patients or Protected Health Information (PHI) while providing services under this Agreement.

- B. Contractor and its employees, subcontractors and agents shall maintain the confidentiality of any patient or employee information or PHI they have direct or incidental contact while providing services under this Agreement.
- C. Contractor and its employees, subcontractors and agents shall comply with all applicable federal, state and local laws, rules, regulations (“Laws”) that are in effect at the inception of this Agreement and that become effective during the term of Agreement, including without limitations Civil Code Section 56.10 et seq. and the Health Insurance Portability and Accountability Act (42 USC sections 1320d et. seq.).
- D. If, as part of the scope of the services provided herein, Contractor or its employees, agents, or subcontractors will have direct contact with patients or PHI, such individuals are required to sign a Confidentiality Agreement to be provided at a later time.
- E. Contractor shall indemnify, defend and hold harmless the County for any loss or damage resulting from a violation of this provision or any local, state or federal laws related to patient privacy.

**13.23. (Not Used)**

**13.24. Contract Execution**

- A. Unless otherwise prohibited by law or County policy, the parties agree that an electronic copy of a signed contract, or an electronically signed contract, has the same force and legal effect as a contract executed with an original ink signature. The term “electronic copy of a signed contract” refers to a transmission by facsimile, electronic mail, or other electronic means of a copy of an original signed contract in a portable document format. The term “electronically signed contract” means a contract that is executed by applying an electronic signature using technology approved by the County. If Contractor provides an electronic copy of a signed contract to the County, Contractor shall provide the original signed contract to the County within 10 days of providing the electronic copy to the County in order to enforce its rights under the contract.

**13.25. 13.25 Assignment of Clayton Act, Cartwright Act Claims**

- A. Contractor hereby assigns to the County 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 Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the Contractor for sale to the County pursuant to this Agreement.

**13.26. Authority**

- A. Each party executing the Contract Agreement on behalf of such entity represents that he or she is duly authorized to execute and deliver this Contract Agreement on the entity's behalf.

**13.27. Wage Theft Prevention**

- A. Compliance with Wage and Hour Laws: Contractor and any subcontractors it employs to complete work under this Agreement, must comply with all applicable federal, state, and local wage and hour laws. Applicable laws may include, but are not limited to, the Federal Fair Labor Standards Act, the California Labor Code, and any local Minimum Wage Ordinance or Living Wage Ordinance.
- B. County's Right to Withhold Payment: Where Contractor or any subcontractor it employs to perform work under this Agreement has been found in violation of any applicable wage and

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hour law by a final judgment, decision, or order of a court or government agency, the County reserves the right to withhold payment to Contractor until such judgment, decision, or order has been satisfied in full.

- C. **Material Breach:** Failure to comply with any part of this Section constitutes a material breach of this Agreement. Such breach may serve as a basis for termination of this Agreement and/or any other remedies available under this Agreement and/or law.

**13.28. Living Wage**

- A. Unless otherwise exempted or prohibited by law or County policy, where applicable, as required by Chapter 2.88 of the San Mateo County Ordinance Code, Contractor certifies all contractor(s) and subcontractor(s) obligated under this contract shall fully comply with the provisions of the San Mateo Living Wage Ordinance, including but not limited to paying all Covered Employees the current Living wage and providing notice to all Covered Employees and Subcontractors as required under the Ordinance.

**13.29. California Public Records Act**

- A. The County is a public agency subject to the disclosure requirements of the California Public Records Act ("CPRA"). If the County receives a CPRA request for documents (as defined by the CPRA) and said request relates to the Services provided pursuant to this Agreement, the County will notify Contractor of the request. If Contractor contends that any documents are confidential or proprietary material, not subject to the CPRA, and/or exempt from the CPRA, and Contractor wishes to prevent disclosure of said documents, Contractor shall obtain a protective order, injunctive relief or other appropriate remedy from a court of law in San Mateo County before the County's deadline to respond to the CPRA request. If Contractor fails to obtain such remedy within the County's deadline, the County may disclose the requested information without liability. Contractor shall defend, indemnify and hold the County harmless against any claim, action or litigation (including but not limited to all judgments, costs, fees, and reasonable attorney's fees) that may result from denial, withholding or redaction of a CPRA request for information arising from any representation, or any action (or inaction), by the Contractor.

**13.30. Conflicts of Interest**

- A. Contractor shall comply, and require its subcontractors to comply, with all applicable (i) requirements governing avoidance of impermissible client conflicts; and (ii) federal, state and local conflict of interest laws and regulations including, without limitation, California Government Code section 1090 et. seq., the California Political Reform Act (California Government Code section 87100 et. seq.) and the regulations of the Fair Political Practices Commission concerning disclosure and disqualification (2 California Code of Regulations section 18700 et. seq.). Failure to do so constitutes a material breach of this Agreement and is grounds for immediate termination of this Agreement by the County.
- B. In accepting this Agreement, Contractor covenants that it presently has no interest, and will not acquire any interest, direct or indirect, financial or otherwise, which would conflict in any manner or degree with the performance of this Agreement. Contractor further covenants that, in the performance of this Agreement, it will not employ any Consultant or person having such an interest. Consultant, including but not limited to Consultant's employees and sub-consultants, may be subject to the disclosure and disqualification provisions of the California Political Reform Act of 1974 (the "Act"), that (1) requires such persons to disclose economic interests that may foreseeably be materially affected by the work performed under this Agreement, and (2) prohibits such persons from making or participating in making decisions that will foreseeably financially affect such interests.
- C. If the disclosure provisions of the Political Reform Act are applicable to any individual providing service under this Agreement, Contractor shall, upon execution of this Agreement, provide the

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County with the names, description of individual duties to be performed, and email addresses of all individuals, including but not limited to Contractor's employees, agents and subcontractors, that could be substantively involved in "making a governmental decision" or "serving in a staff capacity and in that capacity participating in making governmental decisions or performing duties that would be performed by an individual in a designated position," (2 CCR 18701(a)(2)), as part of Contractor's service to the County under this Agreement. Contractor shall immediately notify the County of the names and email addresses of any additional individuals later assigned to provide such service to the County under this Agreement in such a capacity. Contractor shall immediately notify the County of the names of individuals working in such a capacity who, during the course of the Agreement, end their service to the County.

- D. If the disclosure provisions of the Political Reform Act are applicable to any individual providing service under this Agreement, Contractor shall ensure that all such individuals identified pursuant to this section understand that they are subject to the Act and shall conform to all requirements of the Act and other laws and regulations listed in subsection (A) including, as required, filing of Statements of Economic Interests within 30 days of commencing service pursuant to this Agreement, annually by April 1, and within 30 days of their termination of service pursuant to this Agreement.

**13.31. Assignment**

- A. No assignment of this Agreement or of the rights and obligations hereunder shall be valid without the prior written consent of the other party.

**13.32. Third Party Beneficiaries**

- A. This agreement does not, and is not intended to, confer any rights or remedies upon any person or entity other than the parties.

**ARTICLE XIV – MODIFICATIONS OF CONTRACT DOCUMENTS**

**14.01. Alterations, Modifications And Force Account Work**

- A. No modification or deviation from the Drawings and Specifications will be permitted except by written addenda, written Change Order or written Supplemental Instruction.
- B. Owner may, without notice to the sureties, make alterations, deviations, additions to, or deletions from Contract Documents; increase or decrease the quantity of any item or portion of the Work; expand, contract or otherwise change the Contract Time; delete any item or portion of the Work; and require extra Work. Contractor shall perform such Work under applicable provisions of the Contract Documents, unless specifically provided otherwise at the time the change is ordered. In the case of any ordered extra Work, Owner reserves the right to furnish all or portions of associated labor, material, and equipment, which Contractor shall accept and use without payment for costs, markup, profit, or otherwise for such Owner-furnished labor, materials, and equipment.
- C. Owner may make changes to the Work during the course of construction to bring the Work into compliance with environmental requirements or standards established by state and federal statutes and regulations enacted after the Contract has been awarded. Contractor shall be compensated for changes affecting the Contract Time or Contract Sum of the Work as set forth in this Article XIV and in Document 01 2600 (Contract Modification Procedures).
- D. Changes affecting the Contract Time or Contract Sum of the Work shall be set forth in a written Change Order that shall specify:
  - 1. The Work performed in connection with the change to be made;
  - 2. The amount of the adjustment of the Contract Sum, if any, and the basis for compensation for the Work ordered; and
  - 3. The extent of the adjustment in the Contract Time, if any.
- E. A Change Order will become effective when signed by Owner. If Owner exercises its right to decide disputed issues pertaining to changed Work as set forth in Articles XII and XIV of this

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Document 00 7200, then the resulting Change Order shall be effective when signed by Owner, notwithstanding that Contractor has not signed it.

- F. Changes not affecting the Contract Time or Contract Sum of the Work, in Owner's discretion, may be set forth in a written RFI-Reply executed by Owner. Execution of such an RFI-Reply constitutes Contractor's agreement to make the specified change without change to the Contract Sum or the Contract Time.
- G. Changes or deviations from Contract Documents affecting the Contract Time or Contract Sum of the Work shall not be made without the authority of an effective Change Order or Construction Change Directive as provided in Document 01 2600 (Contract Modification Procedures), except in cases of emergency discussed in this Document 00 7200.
- H. If changes ordered in design, workmanship or materials are of such a nature as to increase or decrease the cost of any part of the Work, the price fixed in the Contract Documents shall be increased or decreased by the amount that Contractor and Owner may agree upon as a reasonable and proper allowance for the cost increase or decrease. If an agreement cannot be reached, then Owner will reach a determination, which shall be final, subject to Contractor's rights under Article XII of this Document 00 7200. In all cases Contractor shall perform the changed Work as directed by Owner subject to Contractor's rights under Article XII of this Document 00 7200.
- I. Contractor shall, upon Owner's request, permit inspection of the original unaltered Proposal estimate, subcontract agreements, purchase orders relating to the change, and documents substantiating all costs associated with its cost proposal or claims arising from changes in the Work.
- J. Changes in the Work made pursuant to this Article XIV and extensions of Contract Time necessary by reason thereof shall not in any way release the guaranties and warranties given by Contractor pursuant to provisions of the Contract Documents, nor shall such changes in the Work relieve or release the Sureties of bonds executed pursuant to said provisions. The Sureties, in executing such bonds, shall be deemed to have expressly agreed to any such change in the Work and to any extension of time made by reason thereof.
- K. Procedures for Modifications of Contract Documents and for calculating the cost of extra Work are given in Document 01 2600 (Contract Modification Procedures). Regarding delay and impact costs of any nature, Contractor may not seek delay compensation for on-Site or off-Site costs based on formulas, e.g., "Eichlay" or other formula. Rather, Contractor shall prove actual costs resulting from such delays or impacts. If Contractor requests compensation for delay to the construction, then Contractor shall prove and document actual costs plus markup per the cost categories and procedures in Document 01 2600 in order to request, claim or prove compensation for delay.
- L. Change Orders and authorization for extra cost must follow the Contract pursuant to Public Contract Code section 7501(d)(2).

**14.02. Time Allowances**

- A. The Contract Time may only be changed by Change Order or by Contract Modification, and all time limits stated in the Contract Documents are of the essence of Contract Documents.
- B. The Contract Time will be adjusted in an amount equal to the time lost due to:
  - 1. Changes in the Work ordered by Owner;
  - 2. Acts or neglect by Owner, Architect/Engineer, any Owner representative, utility owners or other contractors performing other work, provided that Contractor has fully and completely performed its responsibilities under the Contract Documents; or
  - 3. Fires, floods, epidemics, abnormal weather conditions beyond the parameters otherwise set forth in this subparagraph, earthquakes, civil or labor disturbances, strikes or acts of God, provided damages resulting therefrom are not the result of Contractor's failure to protect the Work as required by Contract Documents.
- C. The Contract Time shall not be extended for any cause identified immediately above, however, unless:

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1. Contractor actually has been prevented from completing any part of the Work within the Contract Time due to delay that is beyond Contractor's control and due to reasons for which Contractor is not responsible (delays attributable to and within the control of a Subcontractor, or its subcontractors, or supplier shall be deemed to be delays within the control of Contractor);
2. A claim for delay is made as provided herein; and
3. Contractor submits a Time Impact Evaluation as required under Document 01 3200 (Construction Progress Documentation) that demonstrates actual delay to critical Work activities that actually delay the progress of the Work in the amount of time requested.

**14.03. Notice Of Delay**

- A. Within seven Days of the beginning of any delay, Contractor shall notify Owner in writing, by submitting a notice of delay that shall describe all anticipated delays resulting from the delay event in question. Any request for extension of time shall include a written schedule document that demonstrates delay to the critical path using a Time Impact Evaluation as specified in Document 01 3200 (Construction Progress Documentation). Owner will determine all claims and adjustments in the Contract Time. No claim for an adjustment in the Contract Time will be valid and such claim will be waived if not submitted in accordance with the requirements of this subparagraph.

**14.04. Non-Compensable Time Extensions; Adverse Weather Parameters**

- A. Where Contractor is prevented from completing any part of the Work within the Contract Time due to delay beyond the control of both Owner and Contractor (including, but not limited to, adverse weather conditions exceeding Contract Documents parameters, earthquakes, Acts of God and epidemics, acts of other contractors or utilities), an extension of Contract Time, in an amount equal to the time lost due to such delay (without compensation), shall be Contractor's sole and exclusive remedy for such delay.
- B. Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the parameters listed or referenced immediately below in this subparagraph. Adverse weather delays may be allowed only if the number of workdays of adverse weather exceeds these parameters and Contractor proves adverse weather actually caused delays to work that is on the critical path. Contractor shall give written notice of intent to claim an adverse weather day within one Day of an adverse weather day occurring. Rain parameters are as follows, pro-rated in the month Contractor starts and finishes Work:
  1. January, [8];
  2. February, [6];
  3. March, [6];
  4. April, [5];
  5. May, [2];
  6. June, [0];
  7. July, [0];
  8. August, [0];
  9. September, [0];
  10. October, [2];
  11. November, [8]; and
  12. December, [8].

In order to qualify as an adverse weather delay with respect to the foregoing parameters, daily rainfall must exceed .1 of an inch or more at the Newark, California station, as measured by the National Oceanic & Atmospheric Administration, and Contractor shall prove that the rain actually caused delay to the Work, following the procedures in this paragraph and the Contract Documents. Notwithstanding the foregoing allowances, Contractor shall at all times employ all available mitigation measures to enable Work to continue. Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the parameters listed above.

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- C. Contractor shall include the foregoing precipitation parameters as a monthly activity in its progress schedule. As Work on the critical path is affected by precipitation, Contractor shall notify Owner and request that the days be moved to the affected activities. Any adverse weather days remaining shall be considered Project float.
- D. Adverse weather delay for precipitation shall be recognized for the actual period of time Contractor proves it was delayed by precipitation exceeding the specified parameters. For example, and not by way of limitation, if precipitation exceeding the specified parameters does not in fact delay Contractor's progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves to Owner's satisfaction that precipitation exceeding the specified parameters causes delay to Contractor for a period longer than the number of precipitation days incurred (e.g., if it rains or snows during grading work), then Contractor shall be entitled to a time extension equal to the actual period of such delay.
- E. Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, lime treatment, and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for Owner to not grant a time extension due to adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

**14.05. Compensable Time Extensions**

- A. Contractor may receive a time extension and be compensated for delays caused directly and solely by Owner. Provided Contractor provides proper notice and documentation under Document 01 3200, such compensation may include extended field or home office overhead, field supervision, escalation charges, acceleration costs and extended subcontractor costs.
- B. Contractor shall not be entitled to any time extension or compensation, however, for any delays caused in whole or in part by Contractor's failure to perform its obligations under the Contract Documents, or during periods of delay concurrently caused by Contractor and either Owner or others.
- C. Contractor shall not be entitled to damages for delay to the Work caused by the following reasons:
  - 1. Owner's right to sequence the Work in a manner which would avoid disruption to Owner's tenants and their contractors or other prime contractors and their respective subcontractors, exercised as a result of Contractor's failure to perform its cooperation and coordination responsibilities required by Contract Documents; Owner's enforcement of any government act or regulation; or the provisions of the Contract Documents; and
  - 2. Extensive requests for clarifications to Contract Documents or Contract Modifications thereto, provided such clarifications or Contract Modifications are processed by Owner or its consultants in a reasonable time commensurate with Contract Documents requirements.

**14.06. Liquidated Damages**

- A. Time is of the essence. Execution of Contract Documents by Contractor shall constitute acknowledgement by Contractor that Contractor understands, has ascertained and agrees that Owner will actually sustain damages in the amount fixed in the Contract Documents for each and every Day during which completion of Work required is delayed beyond expiration of time fixed for completion or extensions of time allowed pursuant to provisions hereof. Contractor and Owner agree that specified measures of liquidated damages shall be presumed to be the damages actually sustained by Owner as defined below, and that because of the nature of the Project, it would be impracticable or extremely difficult to fix the actual damages.
- B. Liquidated damages shall be considered not as a penalty but as agreed monetary damage sustained by Owner for increased Project administration expenses, including extra inspection, construction management and architectural and engineering expenses related to the Project and Contract Documents because Contractor failed to perform and complete Work within time fixed for completion or extensions of time allowed pursuant to provisions hereof.

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- C. Owner may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages. Should Contractor fall behind the approved Progress Schedule, Owner may deduct liquidated damages based on its estimated period of late completion, in compliance with Document 00 5201 (Agreement). Owner need not wait until Final Completion to withhold liquidated damages from Contractor's progress payments. Should money due or to become due to Contractor be insufficient to cover aggregate liquidated damages due, then Contractor forthwith shall pay the remainder of the assessed liquidated damages to Owner.

**14.07. Differing Site Conditions**

- A. In the event that Contractor encounters underground conditions that exceed the scope of the Work, then Contractor shall promptly give Owner written notice of the condition, and shall give such notice before the conditions are disturbed, to include: (1) material that 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, and is not within the scope of Work ("hazardous waste"); (2) subsurface or latent physical conditions at the site differing from those indicated by information about the site made available for Proposals prior to the deadline for submitting Proposals, that Contractor did not and could not have known about by performing its required pre-Proposal investigations; or (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 the contract, that Contractor did not and could not have known about by performing its required pre-Proposal investigations.
1. Owner shall promptly investigate the underground conditions, and if it finds that (i) the conditions do materially so differ in a manner Contractor did not anticipate and could not have anticipated, or do involve hazardous waste outside the scope of the Work, and (ii) cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, then (iii) Owner shall initiate a change order under the procedures described in the contract, including but not limited to, issuing either a Request for Proposal or a Construction Change Directive under the procedures described in the Contract Documents, including without limitation Document 01 2600 (Contract Modification Procedures).
  2. If Owner determines that underground conditions at the Site do not materially so differ in a manner Contractor did not anticipate and could not have anticipated, or do not involve hazardous waste outside the scope of the Work, or do not cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, or for any other reason that no change in terms of the Contract Documents is justified, Owner will so notify Contractor in writing, stating reasons.
  3. In the event that a dispute arises between Owner and Contractor whether the conditions do materially so differ, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, 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 the Contract or by law which pertain to the resolution of disputes and protests between contracting parties.
- B. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed hazardous waste or materials, claimed Latent or materially different Site conditions (whether above or below grade) if:
1. Contractor knew of the existence of such conditions at the time Contractor submitted its Proposal; or
  2. Contractor should have known of the existence of such conditions at the time Contractor submitted its Proposal, or should have learned of such conditions and mitigated their impact, as a result of having complied with the requirements of Contract Documents,



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including without limitation, the investigation requirements herein at Articles II and X of this Document 00 7200;

3. The information or conditions claimed by Contractor to be Latent or materially different consist of information, conclusions, opinions or deductions made from underground conditions reports, of the kind that this Document 00 7200 precludes reliance upon; or,
  4. Contractor was required to give written notice and failed to do so within the time required.
- C. If, because of a differing site condition as defined herein, Contractor does not agree to continue with the Work based on a reasonable belief that it is unsafe, or does not agree to resume Work under special conditions, Owner may order the disputed portion of Work deleted from the Work, or performed by others, or Owner may invoke its right to terminate Contractor's right to proceed under the Contract Documents in whole or in part, for convenience or for cause as the facts may warrant. If Contractor does not agree with Owner's determination of any adjustment in the Contract Sum or Contract Time as a result, Contractor may make a claim as provided in Article XII of this Document 00 7200.

**14.08. Change Orders Related to Underground Facilities**

- A. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated in the materials supplied by Owner or in information on file at USA or is not otherwise reasonably known to Contractor by performing its obligations in Articles II and X of this Document 00 7200, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than seven Days), and prior to performing any Work in connection therewith (except in an emergency as required by Article XV of this Document 00 7200), identify the owner of such Underground Facility and give written notice to that owner and to Owner. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- B. Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, for Underground Facilities either not shown or inaccurately shown in the Contract Documents, the information supplied pursuant to Document 00 3020 (Geotechnical Data and Existing Conditions) or in information on file at USA, only where the inaccuracy was (i.) material and outside of the normal experience on projects of this nature, (ii.) was not reasonably inferable from existing information, and (iii.) directly results in a material, justifiable and actual increase in the cost of Contractor's work. For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an Underground Facility, or if the Underground Facility could be determined or its cost impact mitigated by performing the obligations in Articles II and/or X of this Document 00 7200, then an increase in the Contract Price or an extension of the Contract Time will not be due, even if the Underground Facility was not indicated or was shown at a different place or a different elevation in the Contract Documents, in the information supplied to Contractor pursuant to Document 00 3020, or in information on file at USA.
- C. Main Line and Trunk Line Utilities (Government Code section 4215). Consistent with Government Code section 4215, as between Owner and Contractor, Owner will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or Document 00 3020 (Geotechnical Data and Existing Conditions). Owner will compensate for the cost of locating and repairing damage not due to Contractor's failure to exercise reasonable care, removing and relocating such main or trunk line utility facilities not indicated in the Contract Documents or Document 00 3020 with reasonable accuracy, and equipment on the Project necessarily idled during such work. Contractor shall not be assessed liquidated damages for delay in completion of the Project, when such delay was caused by the failure of Owner or the utility to provide for removal or relocation of such utility facilities.

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**ARTICLE XV – WORKING CONDITIONS AND PREVAILING WAGES**

**15.01. Use Of Site/Sanitary Rules**

- A. All portions of the Work shall be maintained at all times in neat, clean and sanitary condition. Contractor shall furnish toilets for use of Contractor's and Subcontractors' employees on the Site where needed, and their use shall be strictly enforced. All toilets shall be properly secluded from public observation, and shall be located, constructed and maintained subject to Owner's approval.
- B. Contractor's employees, or others subject to the Contractor's control, are not permitted to reside on the Project Site in temporary living facilities.
- C. The use or possession of alcohol, weapons, or illegal controlled substances by the Contractor, or others subject to the Contractor's control, on County property is prohibited.
- D. The Contractor must ensure and maintain a workplace environment free of personal harassment and intimidation. Conduct that creates an intimidating, hostile, or offensive workplace environment is prohibited. Such conduct includes, but is not limited to, the following: verbal harassment, e.g., epithets, derogatory comments or slurs; physical harassment, e.g., assault, impeding or blocking movement, gestures, or any physical interference with normal work or movement; and visual forms of harassment, e.g., derogatory posters, letters, poems, graffiti, cartoons, or drawings. Unwelcome and unwanted sexual advances constitute sexual harassment that is prohibited. It is the responsibility of the Contractor to: inform its employees and Subcontractors that behavior that creates an intimidating, hostile, or offensive workplace environment is prohibited; create a workplace environment that is free from harassment; and take corrective action to stop prohibited behavior/conduct. If in the opinion of the Owner's Authorized Representative, any employee of the Contractor or Contractor's Subcontractors violate the prohibitions of this Article XV, Contractor must immediately remove that person or Subcontractor from the Project upon Owner's request, and such person or Subcontractor must not be permitted to perform further Work on the Project Site.
- E. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Site and land areas identified in and permitted by Contract Documents and other land and areas permitted by applicable laws and regulations, rights of way, permits and easements or as designated by Owner, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, any improvement located thereon, or to the owner or occupant thereof resulting from the performance of Work.
- F. During the progress of the Work, Contractor shall keep the Site and the Project free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall remove all waste materials, rubbish and debris from and about the Site as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the premises clean and ready for occupancy by Owner at Substantial Completion of Work. Contractor shall restore to original condition all property not designated for alteration by Contract Documents.
- G. Contractor shall not load nor permit any part of any structure or pavement to be loaded in any manner that will endanger the structure or pavement, nor shall Contractor subject any part of Work or adjacent property to stresses or pressures that will endanger it. Contractor shall conduct all necessary existing conditions investigation regarding structural, mechanical, electrical or any other system existing, shall perform Work consistent with such existing conditions, and shall have full responsibility for insufficiencies or damage resulting from insufficiencies of existing systems, equipment or structures to accommodate performing the Work.

**15.02. Protection Of Work, Persons, Property And Operations**

- A. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with Work. Contractor shall comply with all safety requirements specified in any safety program established by Owner, or required by state, federal or local

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laws and ordinances. Contractor shall be responsible for all damage to Work, property or structures, all injuries to persons, and all damage and interruptions to Owner's operations, arising from the performance of Work of the Contract Documents. Except as otherwise expressly approved by Owner in writing, Contractor shall at all times perform all Work in a manner which does not interrupt, damage or otherwise adversely impact any facilities, operations, or real or personal property of Owner, its officers, employees, agents, invitees, licensees, lessees or contractors.

- B. Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.
- C. Contractor shall remedy all damage, injury, loss or interruption to any property or operations of Owner or continuous owners of property interests, caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable. Contractor's duties and responsibility for safety and for protection of Work shall continue until such time as all the Work is completed and Final Acceptance of the Work. Owner and its agents do not assume any responsibility for collecting any indemnity from any person or persons causing damage to Contractor's Work. Contractor shall give all notices required by potentially responsible insurance carriers and require that its subcontractors and suppliers do the same.
- D. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- E. Owner may, at its option, retain such moneys due under the Contract Documents as Owner deems necessary until any and all suits or claims against Contractor for injury to persons, property or operations shall be settled and Owner receives satisfactory evidence to that effect.

**15.03. Responsibility For Safety And Health**

- A. Contractor shall ensure that its and each tier of Subcontractors' employees, agents and invitees comply with applicable health and safety laws while at the Site. These laws include the Occupational Safety and Health Act of 1970 and rules and regulations issued pursuant thereto, and Owner's safety regulations as amended from time to time. Contractor shall comply with all Owner directions regarding protective clothing and gear.
- B. Contractor shall be fully responsible for the safety of its and its Subcontractors' employees, agents and invitees on the Site. Contractor shall notify Owner, in writing, of the existence of hazardous conditions, property or equipment at the Site that are not under Contractor's control. Contractor shall be responsible for taking all the necessary precautions against injury to persons or damage to the property of Contractor, Subcontractors or persons from recognized hazards until the responsible party corrects the hazard.
- C. Contractor shall confine all persons acting on its or its Subcontractors' behalf to that portion of the Site where Work under the Contract Documents is to be performed: Owner designated routes for ingress and egress thereto and any other Owner designated area. Except those routes for ingress and egress over which Contractor has no right of control, within such areas, Contractor shall provide safe means of access to all places at which persons may at any time have occasion to be present.

**15.04. Emergencies**

- A. In emergencies affecting the safety or protection of persons or Work or property at the Site or adjacent thereto, Contractor, without special instruction or authorization from Owner, is obligated to act to prevent threat and damage, injury or loss, until directed otherwise by Owner. Contractor shall give Owner prompt written notice if Contractor believes that any significant

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changes in Work or variations from Contract Documents have been caused thereby. If Owner determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Change Order or Construction Change Directive will be issued to document the consequences of such action.

**15.05. Use Of Roadways And Walkways**

- A. Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic. Before beginning any interference and only with Owner's prior concurrence, Contractor may provide detour or temporary bridge for traffic to pass around or over the interference, which Contractor shall maintain in satisfactory condition as long as interference continues. Unless otherwise provided in the Contract Documents, Contractor shall bear the cost of these temporary facilities.

**15.06. Nondiscrimination**

- A. No person or entity shall discriminate in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sexual preference, or gender of such persons, except as provided in Section 12940 of the Government Code. Every contractor for public works violating the provisions of Section 1735 of the Labor Code is subject to all the penalties imposed for a violation of Chapter 1, Part 7, Division 2 of the Labor Code.

**15.07. Prevailing Wages**

- A. Contractor shall pay to persons performing labor in and about Work provided for in the Contract Documents an amount equal to or more than the general prevailing rate of per diem wages for (1) work of a similar character in the locality in which the Work is performed and (2) legal holiday and overtime work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations and Owner to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this Contract. Contractor shall also cause a copy of this determination of the prevailing rate of per diem wages to be posted at each Site.
- B. Contractor shall forfeit, as a penalty to Owner, up to Two Hundred Dollars (\$200.00) for each laborer, workman, or mechanic employed in performing labor in and about the Work provided for in the Contract Documents for each Day, or portion thereof, that such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under the Contract Documents by him or her or by any Subcontractor under him or her, in violation of Articles I and II of Chapter 1 of Part 7 of Division II of the California Labor Code. The sums and amounts which shall be forfeited pursuant to this subparagraph and the terms of the Labor Code shall be withheld and retained from payments due to Contractor under the Contract Documents, pursuant to this Document 00 7200 and the Labor Code, but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the State Department of Industrial Relations or by Owner. The Labor Commissioner pursuant to Labor Code section 1775 shall determine the final amount of forfeiture.
- C. Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of work or labor on Work provided for in the Contract, provision that Subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed in the Labor Code.
- D. Contractor stipulates that it shall comply with all applicable wage and hour laws, including without limitation Labor Code sections 1776 and 1810-1815. Failure to so comply shall constitute a default under this Contract.
- E. Contractor and its Subcontractors shall be responsible for compliance with Labor Code sections 1810-1815.

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1. Eight hours of labor performed in execution of the Contract constitutes a legal day's work. The time of service of any workman employed on the Project is limited and restricted to 8 hours during any one calendar day, and 40 hours during any one calendar week.
  2. Contractor and its Subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him or her in connection with the Project. The record shall be kept open at all reasonable hours to the inspection Owner and to the Division of Labor Standards Enforcement.
  3. Contractor or its Subcontractors shall, as a penalty to Owner, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the Contract Documents by the respective Contractor or Subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Labor Code §§ 1810-1815.
  4. Work performed on the Project by employees of Contractor or its Subcontractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than 1 1/2 times the basic rate of pay.
- F. Contractor and its Subcontractors shall be responsible for compliance with Labor Code section 1776.
1. Contractor and Subcontractors must keep accurate payroll records, showing the name, address, social security number, Work classification, straight time and overtime hours worked each Day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the Work of the Contract documents. Each payroll record shall contain or be verified by a written declaration as required by Labor Code section 1776.
  2. The payroll records enumerated above must be certified and shall be available for inspection at all reasonable hours at the principal office of Contractor as required by Labor Code section 1776.
    - a. Contractor shall inform Owner of the location of records enumerated above, including the street address, city and county, and shall, within five working Days, provide a notice of a change of location and address.
    - b. Contractor or Subcontractor has 10 Days in which to comply subsequent to receipt of a written notice requesting the records enumerated above. In the event that Contractor or Subcontractor fails to comply with the ten-Day period, he or she shall, as a penalty to Owner on whose behalf the contract is made or awarded, forfeit \$100.00 for each calendar Day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Contractor is not subject to a penalty assessment pursuant to this subparagraph due to the failure of a Subcontractor to comply with this subparagraph.
  3. Contractor shall also deliver certified payrolls to Owner with each Application for Payment as described in Section 01 2900 (Payment Procedures).
  4. Contractor shall comply with Project Labor Agreement for the Project and all requirements of Public Contract Code 20146.

**15.08. Environmental Controls**

- A. Contractor shall comply with all rules, regulations, ordinances, and statutes that apply to any work performed under the Contract Documents including, without limitation, any toxic, water and soil pollution controls and air pollution controls specified in Government Code section 11017. Contractor shall be responsible for insuring that Contractor's employees, Subcontractors and the public are protected from exposure to airborne hazards or contaminated water, soil or other toxic materials used during or generated by activities on the Site or associated with the Project.

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**15.09. Shoring Safety Plan**

- A. At least five Days in advance of excavating any trench five feet or more in depth, Contractor shall submit to Owner a detailed plan showing the shoring, bracing and sloping design and other provisions to be made for worker protection from the hazard of caving ground during the excavation, as required by Labor Code section 6705. A civil or structural engineer registered in California shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.
- B. During the course of Work, Contractor shall be responsible for determining where sloping, shoring, and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. Owner's acceptance of any drawings showing the shoring or bracing design or work schedule shall not relieve Contractor of its responsibilities under this subparagraph.
- C. Cal/OSHA Permit. Contractor shall comply with Labor Code section 6500 and shall obtain, as applicable, a permit as required by Cal/OSHA for each of the following:
  - 1. Construction of trenches or excavations that are five feet or more in depth and into which a person is required to descend.
  - 2. Construction or demolition of any building, structure, or scaffolding for falsework more than three stories high, or the equivalent height (36 feet).
  - 3. Erection or dismantling of vertical shoring systems more than three stories high, or the equivalent height (36 feet).
  - 4. The underground use of diesel engines in basements, excavations or tunnels.

**END OF DOCUMENT 00 7200**

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**DOCUMENT 00 7301**

**SUPPLEMENTARY GENERAL CONDITIONS – CMR ITEMS**

**ARTICLE 1 – SUMMARY**

- 1.01. This Document 00 7301 includes requirements that supplement the paragraphs of Document 00 7200 (General Conditions) and Division 1 General Requirements.

**ARTICLE 2 – CROSS-REFERENCES**

- 2.01. Notwithstanding any other provision in the Contract Documents, any reference to any General Requirements Section, or portion thereof, shall mean and refer to the Contract Document or applicable portion thereof which addresses the topic at issue.

**ARTICLE 3 – SELF-PERFORMED WORK**

- 3.01 If authorized by Owner in writing, and where consistent with applicable law, including Public Contract Code § 20146 and Government Code § 1090, CMR may self-perform subtrade work on the Project provided that: (a) the work is of the type customarily performed or supplied by the CMR; (b) the total amount of subtrade work performed on the Project does not exceed 15% of the total project hard construction budget; and (c) CMR listed the subtrade work it wished to perform in the Proposal, or, in the case CMR did not list the subtrade work in the Proposal, Owner determines that compelling circumstances for authorizing CMR to self-perform the subtrade work exist (e.g., subcontractor default; no responsive bids received).
- 3.02 As soon as reasonably practicable during the design development phase of the Project, and at regular intervals prior to submission of a final price (i.e., at the 100% SD, 100% DD, and 80% CD stages), CMR shall submit an estimate of its costs to complete the self-perform subtrade work on the Project. The cost estimate shall be compared to an independent cost estimate prepared by Owner and an independent cost estimate prepared by Architect.
- 3.03 Once the design documents are at a stage in development where CMR can submit a final proposed cost for performance of the self-perform subtrade work. This final proposed cost shall again be compared to an independent cost estimate prepared by Owner and an independent cost estimate prepared by Architect. If the final proposed cost is within three percent (3%) of the estimate prepared by Owner and Architect, the Owner may, in its sole discretion, award the self-perform subtrade work to CMR.

**ARTICLE 4 – SUBLETTING AND SUBCONTRACTING**

- 4.01 When taking bids for the construction work of the Project, in the specifications prepared for the work or in the general conditions under bids will be received for the doing of the work, bidders shall be required to set forth the information required in Public Contract Code section 4104.

**ARTICLE 5 – IMPLEMENTATION OF COUNTY OF SAN MATEO WASTE MANAGEMENT PLAN**

- 5.01 Please see Exhibit 14 for detailed requirements of the County of San Mateo's Waste Management Plan.

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**ARTICLE 6 – IMPLEMENTATION OF PROJECT COMPONENT GROUP A HAZARDOUS MATERIAL  
ABATEMENT**

- 6.01 Please see Exhibit 16 for detailed requirements of the Hazardous material abatement and detailed Work Plans for Project Component Group A.

**END OF DOCUMENT 00 7301**



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**DOCUMENT 00 7311**

**INSURANCE AND INDEMNIFICATION**

**ARTICLE I – INSURANCE REQUIREMENTS**

**1.01 General – Owner Approved Contractor Controlled Insurance Program**

- A. Contractor shall Contractor shall procure and maintain an Owner Approved Contractor Controlled Insurance Program (CCIP) which will protect Contractor, Trade Contractors, Subcontractors, and Owner from claims which may arise from, result from, or have connection to, Contractor's actions or inactions relating to the Project and the Work, whether such actions or inactions be by themselves or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.
- B. The CCIP shall extend coverage for completed operations that extend beyond acceptance of the certification of completion for defects, warranties, and maintenance obligations, if any, for ten (10) years. The CCIP shall be for coverages and amounts in accordance with the estimated construction cost. The CCIP shall include coverage for the following areas at the minimum limits specified below:
1. Worker's Compensation: as required by the California Labor Code;
  2. Employer's Liability: \$1,000,000 per accident;
  3. Commercial General Liability: \$2,000,000 per occurrence and \$4,000,000 aggregate;
  4. Completed Ops (10 years): \$5,000,000;
  5. Personal/Advertising Injury: \$2,000,000;
  6. Damages to Rented Premises: \$250,000;
  7. Med pay: \$100,000;
  8. Umbrella/Excess Liability: \$100,000,000;
  9. Commercial Automobile: \$2,000,000 combined single limit per accident for bodily injury and property damage, primary for any auto, including all owned, non-owned, and hired vehicles;
  10. Builder's Risk: Contractor shall procure and maintain in effect a Builders' Risk (course of construction) insurance with the broadest possible coverage for completed value of the Work but include all materials, machinery, equipment, and supplies owned by Contractor or which Contractor has assumed legal liability for, to be used in the fabrication, erection, or construction of the project. No deductible shall exceed \$100,000, per occurrence except for earthquakes, earth movement or flood. Builder's Risk Policies shall contain the following provisions: (a) Owner and Subcontractors of every tier shall be named as an additional insured loss payee; and (b) Coverage shall contain a mutual waiver of subrogation in favor of the Design Build Entity, Subcontractors at every tier, and the Owner, its officials, employees, agents, and only to the extent of onsite activity, design or engineering professionals; (c) Owner and Contractor will share equally in payment of all deductibles from a covered event due to act of God events including earthquake, earth movement, and flood.

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11. Contractor's Pollution Liability Insurance: Contractor's Pollution Liability Insurance on an occurrence basis, with limits of at least \$5,000,000 per occurrence and \$10,000,000 policy term aggregate for bodily injury, property damage, cleanup costs and claim expenses, arising at or emanating from the Project Site arising from all operations performed on behalf of the Contractor. Subcontractors will provide Pollution Liability coverage as required by their specific Subcontract. Such insurance shall provide liability coverage for both sudden and gradual releases arising from the Work. CPL policy shall name Owner, Contractor, and all Subcontractors of all tiers as insureds. Contractor shall be responsible at its own expense for an obligation for each loss payable under this insurance that is attributable to the Contractor's acts, errors, or omissions, or the acts, errors, or omissions of any of its Subcontractors, or any other entity or person for whom Contractor may be responsible. The amount of the obligation shall be based on the amount of the initial Contract Price, as follows: (1) The portion of the obligation applying to the Contractor or Subcontractor shall be the responsibility of the Contractor and shall remain uninsured. Contractor shall promptly pay its charge pertaining to any loss. The Owner, in addition to its other remedies, may back charge Contractor for the obligation and deduct the back-charged amount from Contractor's next progress payment or final payment.
12. Professional Liability Insurance: Each licensed professional (**Professional**) engaged by Contractor to perform portions of the Work shall maintain the following insurance at its sole cost and expense Professional Liability Insurance, insuring against professional errors and omissions arising from Professional's work on the Project, in an amount not less than \$2,000,000 combined single limit for each claim. Any per claim Deductible or SIR in excess \$100,000 shall be subject to Owner's prior written approval in Owner's sole discretion. Should Professional not provide this insurance on an occurrence policy, Professional shall provide insurance covering claims made as a result of performance of Work on this Project with a retroactive date which precedes the date that Work is first performed, and shall maintain such insurance in effect for not less than three years following Final Completion of the Project. If Professional is a design-build Subcontractor (of any tier), or a member of, or an employee, consultant or contractor to, such a design-build Subcontractor, Professional must maintain at least \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate in Professional Liability Insurance, and any Deductible or SIR in excess of \$100,000 shall be subject to Owner's prior written approval in Owner's sole discretion.

- C. If the contractor maintains higher limits than the minimums shown above, the Owner requires and shall be entitled to coverage for the higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Owner.

**1.02 Deductibles and SIR's**

- A. Contractor shall state all Deductibles and Self-Insured Retentions (SIR). Deductibles and SIRS shall not be more than Contractor can reasonably bear and losses inside the deductible shall never be charged back to the County. Any per occurrence Deductible or SIR in excess of \$250,000 shall be subject to Owner's prior written approval in Owner's sole discretion.

**1.03 Additional Insured Matters**

- A. Neither Owner, any other additional insured nor any other party to be indemnified by Contractor as required by this Document 00 7311 or elsewhere in the Contract shall be responsible for

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any insurance deductible, SIR, uninsured retention or uninsured loss of Contractor for which Contractor is responsible under the Contract.

- B. Contractor liability policies may not have any restriction on the payment of any deductible, SIR or any other amount described in paragraph 1.03.A. above. In the event that Contractor is legally or financially unable to make such payment, or for any other reason does not make the payment, Owner may, in its sole discretion and without waiving or excusing Contractor's failure to make any required payment, make any such payment or portion thereof. Owner may deduct and retain such amount from any sums due Contractor under Contract Documents, or collect such amount by any means otherwise permitted by the Contract and applicable law.

**1.04 Acceptable Insurers**

- A. All policies of insurance shall be placed with insurers acceptable to Owner. The insurance company(s) must be duly licensed to do business in the State of California and must have and maintain a current A. M. Best Company rating of A-, VII or better. Required minimum amounts of insurance may be increased should conditions of Work, in opinion of Owner, warrant such increase. Contractor shall increase required insurance amounts upon direction by Owner. If such increases result in additional costs to Contractor, Contractor may seek a Contract Modification for the actual cost (without additional markup, overhead, profit or any other amount) of such insurance as provided in Contract Documents.

**1.05 Required Endorsements, Declarations and Certificates of Insurance.**

- A. All insurance policies required under paragraph 1.01 above shall be endorsed, in a form and manner acceptable to Owner, as follows (except that paragraphs 1.05.A.1 and 1.05.A.5 will not apply to any Workers' Compensation and Employer's Liability Insurance, and only paragraph 1.05.A.3 below will apply to Professional Liability Insurance):
1. The County of San Mateo, including all subsidiary and affiliated entities, and their respective Board of Trustees and their employees, representatives, inspectors (including without limitation Project Inspector), consultants (including without limitation Architect/Engineer and its consultants), and agents, as additional insureds, but only with respect to liability arising out of the activities of the named insured.
  2. Each such policy shall apply separately to each insured against whom claim is made or suit is brought.
  3. Such insurance shall be primary and no other insurance or self-insured retention carried or held by Owner shall be called upon to contribute to a loss covered by insurance for the named insured.
  4. Such insurance shall contain a provision requiring the insurance companies to waive their rights of subrogation against Owner and all additional insureds, as well as other insurance companies for the Work.
  5. The payment of any deductible or SIR shall not be restricted to payment by the Named Insured or other Insured and any Additional Insured or other third party may make such deductible or SIR payment to comply with any policy deductible or SIR payment requirements.
- B. Contractor or its insurance broker shall submit a copy of the Declarations page for each policy under paragraph 1.01 above. The page shall include the name of the insurance company, the policy number, the types of coverage and limits, the effective dates of the policy, and the broker's name and license number.
- C. Contractor or its insurance broker shall submit a certificate of insurance for each policy under paragraph 1.01 above and all endorsements required therein. Certificates and endorsements shall have clearly typed thereon Owner Contract Number and title of Contract Documents. Written notice of cancellation, non-renewal, or reduction in coverage of any policy shall be mailed to the County of San Mateo at the address listed in Document 00 5201 (Agreement), 60 Days in advance of the effective date of the cancellation, non-renewal, or reduction in coverage. Contractor shall maintain insurance in full force and effect during entire period of performance of Contract Documents.

**1.06 Delivery of Certified Copies**

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- A. Upon Owner's request, Contractor shall submit to Owner, within seven days, certified copies of the actual insurance policies or renewals or replacements.

**1.07 Further Deliveries**

- A. Contractor shall provide Owner with Certificates of Insurance and endorsements as required, and also requested copies of insurance policies, and renewals all of which are to be currently in effect and in accordance with other provisions of the Contract, no later than 30 days before any Work is started and continued. Evidence of each insurance policy renewal shall be acceptable to Owner and shall be provided to Owner not less than thirty days prior to the expiration date of the term of the policy.

**1.08 Payment of Premiums**

- A. Contractor shall pay all insurance premiums, including any charges for required waivers of subrogation or the endorsement of additional insureds. If Contractor fails to maintain insurance, Owner may take out comparable insurance, at Contractor's sole cost and expense, and Owner may deduct and retain amount of premium from any sums due Contractor under Contract Documents or collect such amount by any means otherwise permitted by the Contract and applicable law.

**1.09 Maintenance of Policies**

- A. Contractor shall keep insurance in force during warranty and guarantee periods, in addition to such other periods required by this Document 00 7311 and other provisions of Contract Documents. At time of making application for extension of time, and during all periods exceeding the Contract Time resulting from any cause, Contractor shall submit evidence that insurance policies will be in effect during requested additional period of time.

**1.10 Injuries to Employees**

- A. If injury occurs to any employee of Contractor or Subcontractor (of any tier) for which the employee, or the employee's dependents in the event of employee's death, is entitled to compensation from Owner under provisions of the Workers' Compensation Insurance and Safety Act, as amended, or for which compensation of any kind is claimed from Owner, Owner may retain out of sums due Contractor under Contract Documents, amount sufficient to cover such compensation, as fixed by the Act, as amended, until such compensation is paid, or until it is determined that no compensation is due. If Owner is compelled to pay compensation, Owner may, in its discretion, either deduct and retain from the Contract Sum the amount so paid, or require Contractor to reimburse Owner.

**1.11 Subcontractors' Insurance**

- A. Except as provided in paragraph 1.11.B. below, all Subcontractors shall maintain the same insurance required to be maintained by Contractor (with the same deductibles/SIR's and other requirements) with respect to their portions of the Work, and Contractor shall cause the Subcontractors to furnish proof of insurance thereof to Contractor and Contractor will maintain such documents and renewals thereof until the Work is completed and through any warranty and guaranty period. Contractor shall also provide Owner, within ten days of Owner's request, a complete copy of the Subcontractor's proof of insurance.
- B. Subcontractors need obtain only \$1,000,000 limits each for Commercial General Liability, Commercial Auto Liability and Employers Liability Coverage B insurance, and obtain Owner's prior written approval in Owner's sole discretion of any Deductible or SIR in excess of \$100,000.

**1.12 [Not used]**

**1.13 Loss of Use Insurance**

- A. Owner, at its option, may purchase and maintain such insurance as will insure Owner against the loss of use of its property due to fire or other similar hazards, however caused. The existence of such insurance benefiting Owner shall not reduce or limit any obligations of Contractor under the Contract Documents, including without limitation Contractor's obligation to complete the Work within the Contract Time for the Contract Sum, and such insurance shall

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not reduce the amount of damages from Contractor or any other amount under Contract Documents to which Owner would otherwise be entitled.

**1.14 Project Safety Requirements**

- A. All Project safety requirements regardless of the type of insurance program implemented for this Project shall be fully binding on Contractor and Subcontractors without adjustment to any element of Contract Sum.

**1.15 Insurance Is Independent**

- A. Nothing in this Document 00 7311 shall be construed as limiting in any way the extent to which Contractor or any Subcontractor may be held responsible for payment of damages resulting from their operations. The insurance, including additional insured status, required by this Document 00 7311 is in addition to and separate from any other obligations contained in Contract Documents, including without limitation indemnification obligations.

**ARTICLE II – [NOT USED]**

**ARTICLE III – RESPONSIBILITY OF CONTRACTOR AND INDEMNIFICATION**

**3.01 Contractor's Responsibility for the Work**

- A. Except for damage caused by the sole negligence, willful misconduct or active negligence of Owner or its agents, Contractor shall be solely responsible for any loss or damage that may happen to any part of the Work, materials or other things used in performing the work, injury, sickness, disease, or death of any person as a result of the Work, or resulting damage to property.
- B. Owner and each of its officers, employees, representatives, inspectors, consultants and agents including, but not limited to the Board, Architect/Engineer and each Owner Representative (Owner Parties), shall not be liable or accountable in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, or death of any person as a result of the Work; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, and Contractor releases all of the foregoing persons and entities from any and all such claims.
- C. With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against each of the Owner Parties.
- D. Contractor also waives subrogation rights under applicable insurance policies, to the greatest extent permitted by law, and will require this same waiver of subrogation by its subcontractors, in all policies of insurance, against all other project participants, to include Contractor, Subcontractors, all Owner Parties government agencies, engineers and other inspectors.

**3.02 Claims Arising from the Work**

- A. To the furthest extent permitted by law (including without limitation California Civil Code section 2782), Contractor shall assume defense of, and indemnify and hold harmless, each of the Owner Parties, from and against claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to claims and fines of regulatory agencies and attorney's fees and consultant's fees, directly or indirectly arising out of, connected with or resulting from performance of the Work, failure to perform the Work, or condition of the Work which is caused in whole or part by any act or omission of Contractor, Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.
- B. Contractor's indemnity obligation shall not apply to any indemnified party to the extent of its sole negligence or willful misconduct; nor shall it apply to Owner or other indemnified party to the extent of its active negligence.

**3.03 Scope of Indemnification Obligation**

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- A. Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them. In the event of loss, however, Contractor shall give all required notices to all insurance carriers, and shall require its subcontractors to do the same. Owner may, in its discretion, request evidence of such notices from Contractor.

**3.04 Scope of Contract Limitations of Liability**

- A. To the furthest extent permitted by law (including, without limitation, Civil Code section 2782), the indemnities, releases of liability and limitations of liability, claims procedures, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of contract, negligence (active or passive), fault or strict liability of the party(is) indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, abandonment, or completion of the Work or the terms of the Contract Documents.

**END OF DOCUMENT 00 7311**

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**DOCUMENT 00 7315**

**NATURALLY OCCURRING ASBESTOS**

**ARTICLE I – SUMMARY**

- 1.01.** This Document 00 7315 includes requirements that supplement the paragraphs of Document 00 7200 (General Conditions) as they apply to naturally occurring asbestos at the Site or at some other location on campus which makes compliance with applicable naturally occurring asbestos requirements relevant to the Project.

**ARTICLE II – SUPPLEMENT TO DOCUMENT 00 7200 PARAGRAPH 1.03 “PRECEDENCE OF DOCUMENTS”**

- 2.01.** Add new paragraph at the end of paragraph 1.03 that reads:

- A. Notwithstanding anything to the contrary above, should any provision or requirement of any Contract Document conflict with another provision or requirement in the Contract Documents on subject matters of naturally occurring asbestos, then the most stringent provision or requirement shall control.

**ARTICLE III – SUPPLEMENT TO DOCUMENT 00 7200 PARAGRAPH 13.01 “LAWS AND REGULATIONS”**

- 3.01.** Add new paragraphs at the end of paragraph 13.01 that read:

- A. Without limiting the foregoing, Contractor shall comply with all applicable requirements of the BAAQMD and any other applicable governmental requirements pertaining to naturally occurring asbestos, including without limitation all obligations to limit dust thereof. These requirements include, but may not be limited to, the following:
1. Title 17 CCR, Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations
  2. Title 17 CCR, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Operations.
  3. Bay Area Air Quality Management District Compliance and Enforcement Division Compliance Advisory dated August 8, 2006, Subject “Asbestos Airborne Toxic Control Measure (ATCM) For Construction And Grading Projects.”
  4. [Not Used]
- B. Contractor has the sole responsibility for determining compliance with all matters related to naturally occurring asbestos. Without limiting the foregoing, Contractor shall develop and implement dust control measures during construction and mitigation of all disturbed areas completed which are acceptable to Owner.

**ARTICLE IV – SUPPLEMENT TO DOCUMENT 00 7200 PARAGRAPH 13.04 “TERMINATION OF CONTRACT FOR CAUSE”**

- 4.01.** Add a new Paragraph at the end of paragraph 13.04 that reads:

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- A. Notwithstanding anything in paragraph 13.04 to the contrary, Owner shall have an absolute right to terminate for default immediately without notice and without an opportunity to cure should Contractor knowingly or recklessly commit a material breach of the terms of the Contract Documents on any matter involving the exposure of persons or property to naturally occurring asbestos. However, if the breach exposing persons or property to naturally occurring asbestos is due solely to an ordinary, unintentional and non-reckless failure to exercise reasonable care, then the procedures in paragraph 13.04 for termination for default shall apply without modification.

**END OF DOCUMENT 00 7315**



**DOCUMENT 00 7321**

**REQUIREMENTS FOR OSHPD REVIEWED PROJECTS**

**ARTICLE I – SUMMARY**

- 1.01. This Document 00 7321 includes additional requirements on account of the Project being subject to review by the Office of Statewide Health Planning and Development (**OSHPD**) review.
- 1.02. Unless otherwise expressly indicated, all Section references in this Document 00 7321 shall be to Part I of Title 24, California Code of Regulations (**CCR**), also known as the “California Administrative Code” (**CAC**) or the “California Building Standards Administrative Code” (**CBSC**).

**ARTICLE II – ADDITIONAL REQUIREMENTS**

**2.01. General**

- A. In addition to all other duties specified in Contract Documents, CMR shall comply with all applicable requirements specified in CAC Chapter 7.
- B. Without limiting the generality of the foregoing, CMR acknowledges the authority of OSHPD to order removal of non-conforming construction.

**2.02. Inspection of Work by OSHPD**

- C. During construction, reconstruction, repair, alteration of or addition to any hospital building, OSHPD, shall make such inspection as in its judgment is necessary or proper for enforcement of all applicable codes and standards, including but not limited to, the CAC. CMR acknowledges OSHPD inspection requirements, frequency, protocols and practices, applicable to this Project, and shall schedule, coordinate, plan and execute the Work consistent with all such practices.
- D. The Project will have a resident Inspector of Record(s) (IOR) who shall, subject to the CAC (in particular Section 7-151), provide continuous inspection of the Work as it proceeds. As required by CAC Section 7-145(a), CMR shall immediately forward to Architect/Engineer, Owner and OSHPD any notice from IOR of any deviation from the approved Drawings and Specifications not in compliance with the CAC, CCR which have not been immediately corrected by CMR. CMR is responsible for correcting any Work to the approval of the IOR.
- E. CMR shall coordinate and schedule Work to accommodate all such inspections, provide safe access to all elements of the Work that require testing and inspection by OSHPD, inspectors, design professions and Owner. CMR is charged with knowledge of the inspections necessary, and their frequency, and shall take all steps to establish, manage, schedule and coordinate the required inspection program. CMR shall also have a superintendent-level representative accompany the IOR and OSHPD staff during their scheduled walk throughs of construction.

- 2.03. CMR shall give Owner and all inspection personnel (OSHPD, IOR, special inspectors or others) timely notice of readiness of Work for all required inspections, tests or approvals, shall schedule and coordinate the same, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests. CMR shall also coordinate, schedule and give adequate notice to the appropriate inspection personnel (IOR or otherwise) of any Work that can only be inspected as it is placed or assembled (for example, concrete or masonry work), to enable the constant presence of such inspection personnel during such Work in accordance with OSHPD requirements.

**2.04. Additional Requirements Regarding Modifications to the Work**

- A. Per CAC Section 7-143, CMR shall perform Work in accordance with Drawings and Specifications, and CMR shall not be relieved of this responsibility by the activities of the Architect/Engineer, IOR or OSHPD, in the performance of their duties thereunder. Except for emergency changes in the Work subject to CAC Section 7-153()(a)(4), deviations from Drawings and from the dimensions therein given, or from the Specifications, whether or not error is believed to exist, shall be made only upon Owner's (and OSHPD's if applicable) advance written approval of the proposed deviation, either by Contract Modification or Instruction Bulletin.

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- B. Contract Modifications changing the approved Drawings and Specifications are subject to approval by OSHPD under the procedures prescribed in CAC Section 7-153. To prevent undue delay in construction as determined by OSHPD, changes in the Work may be commenced following OSHPD's approval of an Instruction Bulletin.. Instruction Bulletins must be documented by subsequent change order within 30 calendar days after OSHPD approval. See CAC Section 7-153.
- C. If at any time as the Work progresses, prior to the issuance of the final approval it shall be found that modifications or changes are necessary to secure safety, Owner and/or OSHPD may issue orders for such modifications or changes. Refer to CAC Section 7-147.

**2.05. Project Testing**

- A. Project testing shall be in accordance with a testing program established and administered by Architect/Engineer in accordance with CBSC Sections 7-141(e) and (h) and an approved OSHPD Testing Inspection & Observation (TIO) report.
- B. Per CAC Section 7-141(f), the inspection program shall also identify all special inspections to be performed on the Project and the individual(s) to perform the inspections. The special inspections shall include, at a minimum, those special inspections required by applicable sections of the CBSC.

**2.06. Deferred Submittal Items**

- A. Deferred submittal items will be identified in Document 00 7301.
- B. No later than 15 calendar days after commencement of construction, CMR shall provide Architect/Engineer with the information required to permit Architect/Engineer to timely provide OSHPD with the schedule indicating when the deferred submittals will be submitted to OSHPD for review as required by CAC Section 7-126(a).3.
- C. Without limiting the foregoing, deferred submittal items shall not be fabricated or installed until their design and submittal documents have been approved by OSHPD.

**2.07. Miscellaneous**

- A. CMR shall submit verified compliance reports to OSHPD in accordance with CAC Sections 7-143(b) and 7-151. CMR shall provide copies of submitted reports to Owner and IOR.
- B. Owner's decisions to accept or correct Defective Work (as defined in Document 00 7200) are subject to approval of OSHPD, and all other requirements of Title 24, CCR.
- C. Except for matters where CAC expressly requires CMR to communicate directly with OSHPD, or where otherwise authorized by Owner or Architect/Engineer, CMR shall communicate with OSHPD exclusively through Owner or Architect/Engineer.

**END OF DOCUMENT 00 7321**

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DOCUMENT 00 7380

**APPRENTICESHIP PROGRAM**

**ARTICLE I – COMPLIANCE REQUIRED**

- 1.01.** Contractor and Subcontractors shall comply with the requirements of California Labor Code §§ 1776, 1777.5, and 1777.6 concerning the employment of apprentices by Contractor or Subcontractors. Willful failure to comply may result in penalties, including loss of the right to Bid on or receive public works contracts.

**ARTICLE II – CERTIFICATION OF APPROVAL**

- 2.01.** California Labor Code § 1777.5, as amended, requires a Contractor or Subcontractor employing tradespersons in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of a public works project and which administers the apprenticeship program in that trade for a certification of approval. The certificate shall also fix the ratio of apprentices to journeypersons that will be used in performance of the Contract. The ratio of work performed by apprentices to journeypersons in such cases shall not be less than one *hour* of apprentices work for every five *hours* of labor performed by journeypersons (the minimum ratio for the land surveyor classification shall not be less than one apprentice for each five journeypersons), except:
- A. When unemployment for the previous three month period in the area exceeds an average of 15 percent;
  - B. When the number of apprentices in training in the area exceeds a ratio of one to five;
  - C. When a trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis state-wide or locally; or
  - D. Assignment of an apprentice to any work performed under a public works contract would create a condition which would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyperson.

**ARTICLE 2 - FUND CONTRIBUTIONS**

- 2.01.** Contractor is required to make contributions to funds established for administration of apprenticeship programs if Contractor employs registered apprentices or journeypersons in any apprentice able trades on such contracts and if other contractors on the public works site are making such contributions.

**ARTICLE 3 - SKILLED AND TRAINED WORKFORCE REQUIREMENTS**

- 3.01** Notwithstanding anything to the contrary contained in this Document 00 7380 and within the Contract Documents, Contractor is required to comply with the provisions of Public Contract Code 20146(c) and Public Contract Code 2600-2602. Contractor shall use a skilled and trained workforce as required by the Public Contract Code 20146(c)(1) and Public Contract Code 2600 through 2602. Contractor, and its subcontractors at every tier, will comply with the requirements of Public Contract Code Chapter 2.9 Skilled and Trained Workforce Requirements [2600-2602]. Contractor will provide to Owner, on a monthly basis while the project or contract is being performed, a report demonstrating compliance with Public Contract Code Chapter 2.9. If the Contractor fails to prove the monthly report, or provides a report that is incomplete, Owner shall withhold further payments until a complete report is provided. If a monthly report does not demonstrate compliance with Public Contract Code Chapter 2.9, County shall withhold further payments until Contractor provides a plan to achieve substantial compliance with this chapter, with respect to the relevant apprenticeable, occupation prior to completion of the Project.

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**ARTICLE 4 - APPRENTICESHIP STANDARDS**

- 4.01.** Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of the California Department of Industrial Relations, or from the Division of Apprenticeship Standards and its branch offices.

**END OF DOCUMENT 00 7380**

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**DOCUMENT 00 9111**

**ADDENDA**

**[ADDENDUM NO. \_\_\_\_\_]**

**CONTRACT NUMBER [INSERT NUMBER]**

**COUNTY OF SAN MATEO (OWNER)**

**SAN MATEO MEDICAL HEALTH SYSTEM CAMPUS UPGRADE PROJECT  
222 WEST 39TH AVENUE, SAN MATEO, SAN MATEO COUNTY, CALIFORNIA**

**[DOCUMENT TO BE COMPLETED AS ADDENDA DURING BID PERIOD]**

**[If a conformed copy is created, delete bracketed line above and replace with the following:]**

The following Addenda were issued, modifying the Project Manual:

Addendum No. 1, issued on **[date]**

Addendum No. 2, issued on **[date]**

**[continue as appropriate]**

(Addenda have been incorporated into the conformed Project Manual.)

**END OF DOCUMENT 00 9111**

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DOCUMENT 01 0111

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01 3120	Building Informational Modeling (BIM) and Coordination Drawings
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01 3200	Construction Progress Documentation
01 3250	Record Documents (As-Builts)
01 3300	Submittals
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01 4500	Quality Control (QC) Process
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**END OF DOCUMENT 01 0111**

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**DOCUMENT 01 1000**

**SUMMARY**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. Document includes summary of work including:
  - 1.02 Work Covered By Contract Documents
  - 1.03 Proposal Items, Cost Items, Allowances, and Alternates
  - 1.04 Work Under Other Contracts
  - 1.05 Future Work
  - 1.06 Work Sequence
  - 1.07 Work Days and Hours
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**1.02. Work Covered By Contract Documents**

- A. The Project comprises construction and renovation at the San Mateo Health System Campus located on 222 w 39<sup>th</sup> Ave, San Mateo, California. The Project includes, but is not limited to, completion of components 1-11 shown in the table below (Project Components).

Project Component	Project Component Groups	Component/Location**	Scope**	Anticipated Start Date	Substantial Completion	Lead AHJ**	Approx. Area (GSF)**
1	Group A	Nursing Wing Ground Floor	Renovation	10/1/2018	8/16/2019	OSHPD 1	27,000
2		Facilities Engineering Office and Shop Relocation	Renovation	7/2/2018	9/7/2018	County of San Mateo Planning and Building Dept.	3,000
3		Central Plant	Renovation	10/1/2018	8/16/2019	OSHPD 1	6,000
		Fire Alarm Annunciator Panel	New Installation	10/1/2018	12/7/2018	OSHPD 1	-
4		MRI Trailer and Dental Van	Relocation	10/1/2018	12/21/2018	County of San Mateo Planning and Building Dept. (OSHPD 3)	-
5	Group B	Administration Office Building	New Construction	1/21/2019	3/13/2020	County of San Mateo Planning and Building Dept.	50,000
6		North Addition Rehab Department	Renovation	10/28/2019	12/20/2019	OSHPD 1	5,000
7	Group C	1954 Building	Demolition	6/29/2020	12/11/2020	OSHPD 1	109,000
8		Link Building	New Construction	12/14/2020	11/12/2021	County of San Mateo Planning and Building Dept.	20,000
		Health Services Building	Demolition	6/23/2021	12/7/2021	County of San Mateo Planning and Building Dept.	70,000
		Site Work	New Construction			County of San Mateo Planning and Building Dept.	200,000 (4.5 acres)
** See Section 1.03 for the Project Components Summary of Work.							

- B. Each Project Component is described in detail below. CMR shall collaborate with the design team and the owner to finalize the phasing and implementation plan for all Project Components. Refer to the Exhibit 05 for a Proposed Project phasing plan to be used as reference only. The phasing and implementation plan will be finalized and approved during the design process with input from Owner, Architect, and CMR.

The Authorities Having Jurisdiction (“AHJ”) for all Project components includes, but are not limited to, Office of Statewide Health Planning and Development (OSHPD), State and City of San Mateo Fire Marshal, City of San Mateo, County of San Mateo Environmental Health Department, County of San Mateo Planning and Building Department (CoSM) and all other relevant agencies.

**1. NURSING WING GROUND FLOOR - RENOVATION (OSHPD 1) – APPROX. 27,000 SF:**

Nursing Wing Ground Floor shall be renovated to receive the OSHPD essential services to be relocated from the 1954 Building. These services include but are not limited to, dietary kitchen, café & servery, staff lockers, emergency storage, PBx operators, and outpatient rehabilitation clinic as well as construction of food service loading dock, loading dock canopy and associated site work. Please refer to Exhibit 06 for the Existing and Proposed Nursing Wing Ground Floor plans, and site work.

Nursing Wing Ground Floor spaces will be vacated prior to the start of construction. Any leftover items (such as furniture, shelving, broken equipment, etc.) will be discarded during demolition as part of the CMR scope of work. The operation of all patient services provided within the Nursing Wing floors 1 thru 3 shall remain uninterrupted throughout the renovation duration. Selected CM/GC shall work with the PDU and the San Mateo Medical Center for shutdown coordination, working hours and infection control requirements.

**2. FACILITIES ENGINEERING RELOCATION (COSM) – APPROX. 3,000 SF**

CMR scope of work includes space remodeling in Health Services Building to house the Facilities Engineering Office and Shop functions.



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**3. CENTRAL PLANT – RENOVATION (OSHDP 1) – APPROX. 6,000 SF:**

After vacating Central Plant Facilities Engineering Office and Shop, the space shall be renovated to receive the Materials Management Warehouse/Storage, Central Supply, Linen Department, Materials Management loading dock, loading dock canopy and associated site work. Central Plant Boiler Watch area will be renovated to include additional engineering work stations. CMR shall refer to Exhibit 07 for the existing and proposed Central Plant floor plans, and site work.

During construction, CMR shall coordinate with County to designate and maintain all required unobstructed truck access routes to the existing food service loading dock in 1954 Building and critical hospital equipment including but not limited to, oxygen supply tank, boilers, chillers, generators and other electrical equipment throughout the construction duration. Additionally, City of San Mateo Emergency Vehicle Access (EVA) route shall be designated and remain unobstructed throughout the construction duration.

**FIRE ALARM ANNUNCIATOR PANEL – NEW INSTALLATION (OSHDP 1)**

Scope of work shall include, but not limited to, addition of new Annunciator Panel, programming, commissioning & testing, inspections and start-up. Refer to Exhibit 08 for the location of new Fire Alarm Annunciator Panel.

**4. MRI TRAILER AND DENTAL VAN – RELOCATION (OSHDP 3)**

The MRI Trailer and Dental Van shall be relocated as their current location will be occupied by the future construction. Scope of work shall include but not limited to permitting, site preparation, construction of foundation pads, coordination of all associated utilities to receive the above components at the new locations, commissioning & testing, inspections and start-up.

Please refer to Exhibit 09 for the existing and new proposed locations of the MRI Trailer and Dental Van.

**5. ADMINISTRATION OFFICE BUILDING – NEW CONSTRUCTION (COSM) – APPROX. 50,000 SF:**

The newly proposed building is approximately 50,000 SF with three levels and will utilize the entire Parking Lot area to the south of building 1954. Please refer to the Exhibit 10 for the newly proposed Administration Building location. CMR shall designate and maintain all required unobstructed egress pathways and City of San Mateo Emergency Vehicle Access (EVA) throughout the construction duration.

Mobile Health Van that is currently located to the North of Materials Management loading dock will be relocated from its existing location to a new location which will be closer to the new Administration Office Building. Please refer to Exhibit 10 for the existing and proposed location of the Mobile Health Van.

**6. NORTH ADDITION REHAB DEPARTMENT – RENOVATION (OSHDP 1) – APPROX. 5,000 SF**

CMR shall renovate the vacant Rehab Department to house the offices during the construction interim period. Scope to be provided during the design process.

**7. 1954 BUILDING – DEMOLITION (OSHDP 1) – APPROX. 109,000 SF:**

The demolition shall begin once the 1954 Building is vacated. The 1954 Building may contain hazardous materials. Selected CMR shall work with the County's selected environmental consultant and all applicable environmental agencies to perform necessary abatement work. All abatement work shall be performed in accordance with all applicable regulations, laws, codes, etc.

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**8. LINK BUILDING – NEW CONSTRUCTION OR RENOVATION (COSM) – APPROX. 20,000 SF:**

The Link Building shall be constructed immediately to the North of the newly construction Administration Office Building. The Link Building will connect the new Administration Office Building to the hospital. Please refer to Exhibit 11 for the Link Building location.

Health Services Building – Demolition (CoSM) – approx. 69,000 SF

Health Services Building staff will be vacated, then Health Services Building shall be demolished. Selected CM/GC shall work with the County's selected environmental consultant and all applicable environmental agencies to perform necessary abatement work. All abatement work shall be performed in accordance with all applicable regulations, laws, codes, etc.

**SITE WORK – NEW CONSTRUCTION (COSM) – APPROX. 200,000 SF**

Refer to Exhibit 12 for the proposed site plan.

**C. Potential Modular Trailers for Temporary Office Facility – Lease and Fitting out (CoSM) – approx. 20,000 SF:**

CMR may be required to establish temporary modular buildings on-site to house the offices during the construction interim period. Owner shall carry a \$300,000 allowance for 20,000 SF of on-site modular building(s).

- D. The targeted completion date for the overall Project is end of 2021. Refer to Exhibit 04 for the tentative Project timeline, including timeline for each Project Component. Timeline provided is for reference only and it shall be responsibility of CMR to develop the final detailed project schedule which is in-line with the owner's completion dates.
- E. Furnish all labor, materials, equipment, services, permits, temporary controls and construction facilities, and all general conditions, seismic requirements, general requirements and incidentals required to complete the Work in its entirety as described in the Contract Documents.
- F. The Work of this Contract includes Proposal and cost items shown in Document 00 4001 (Proposal Price Form) and other cost items described in this Section.
- G. The Work of this Contract comprises construction of all the Work indicated, described in the Specifications, or otherwise required by the Contract Documents.
- H. Unless provided otherwise in the Contract Documents, all risk of loss to Work covered by Contract Documents shall rest with Contractor until Final Acceptance of the Work.
- I. Contractor's use of the premises for Work and storage is limited to the area indicated.
- J. Contractor shall be solely responsible for all utilities (including without limitation electricity, water, gas, low voltage etc.) at the Site and/or required to perform the Work.
- K. Existing materials and equipment removed and not reused as a part of the Work shall be returned to Owner. Contractor shall carefully remove, in a manner to prevent damage, all materials and equipment specified or indicated to be salvaged and reused or to remain the property of Owner. Contractor shall store and protect salvaged items specified or indicated to be reused in the Work.
- L. Salvaged items not to be reused in the Work, but to remain Owner's property shall be delivered by Contractor in good condition to Owner.
- M. Any items specified or indicated to be salvaged which are damaged in removal, storage, or handling through carelessness or improper procedures shall be replaced by Contractor in kind or with new items.
- N. Contractor may furnish and install new items instead of those specified or indicated to be salvaged and reused, in which case such removed items will become Contractor's property.
- O. Existing materials and equipment removed by Contractor shall not be reused in the Work, except where so specified or indicated. Remove, cut, alter, replace and repair existing equipment and casework, as necessary to install new Work. Except as otherwise shown or specified, do not cut, alter or remove any structural Work, and do not disturb any ducts, plumbing, steam, gas, or electrical Work without approval of Owner. Existing Work (walls, structures, partitions, floors, mechanical and electrical Work, etc.) disturbed or removed as a result of performing required new Work, shall be restored to the original conditions. Existing Work to be altered or extended and that

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found to be defective in any way, shall be reported to Owner before commencing Work. Materials and workmanship used in restoring Work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.

- P. Prior to Proposal, Contractor shall review all existing facilities that are related to this Contract and shall be familiar with all utilities requirements and construction.
- Q. Provide overall management control and coordination of all the parties under its control involved in Project's construction phase including, but not limited to, all Trade Subcontractors and direct material suppliers or equipment suppliers, and coordination with all other parties involved in Project's construction phase including, but limited to, Project Inspector, OSHPD, inspection and testing companies, surveyors, state and local authorities, Architect/Engineer, and all pertinent Owner departments.
- R. Prepare and process letters, paperwork and other related elements for the administration of the Project. Maintain construction files to properly organize and keep all necessary documents.
- S. Develop with the County a construction management tool in order to maintain fully computerized, integrated and coordinated change order, PCO, RFI tracking, and deficiency lists.
- T. Coordinate access to the work by Owner's inspection personnel for random job site visits. Document preconstruction conditions of the site and adjacent improvements through photographs and advise if other measures are reasonably necessary.
- U. Ensure that as-built documents are being recorded as construction progresses and deliver these documents to Owner when construction is complete. CMR shall make its best efforts to see that the documents are organized, indexed and complete.
- V. Continuously comply with all testing, inspection and observations (TIO) requirements and all other OSHPD requirements.
- W. As part of Project close out, collaborate with Owner's Project team, including without limitation Owner, Project Inspector and Architect/Engineer, to develop and implement procedures for: completion of punch list items, TIO documentation, operational systems and equipment, training Owner's building maintenance staff, and initial startup, commissioning and testing. Prepare and deliver warranties, coordinate and submit as-built drawings, prepare maintenance manuals, complete training programs, and administer Project closeout. Ensure performance of all warranty obligations, resolution of all claims and disputes, and other post-construction requirements (including LEED requirements required for certification and Net Zero Energy) through Final Completion.

**1.03. Proposal Items, Cost Items, Allowances, And Alternates**

- A. Descriptions of Lump Sum Proposal and Cost Items (listed by Cost Item Numbers) That Comprise the Contract Sum.
  - 1. Proposal and Cost Item 1. Pre-Construction Services: As described in Document 00 5251 (Pre-Construction and CMR Services).
  - 2. Proposal and Cost Item 2. CMR Fee: As described and identified on Appendix A hereto, including without limitation, all CMR fees, profit and margins of all types, home-office overhead and assumption of risk assigned to CMR under the Contract Documents.
  - 3. Proposal and Cost Item 3. CMR General Conditions: As described and identified on Appendix B hereto, including without limitation, all CMR general conditions items. See also any specific allowances for this Cost Item described below.
  - 4. Proposal and Cost Item 4. CMR General Requirements: As described and identified on Appendix C hereto, including without limitation, all CMR general requirements items. See also any specific allowances for this Cost Item described below.
  - 5. Cost Item 5. Aggregate Trade Subcontract and Self-Perform Subtrade Work Package Cost: As provided in Document 00 5201 (Agreement).
    - a. Lump sum.
    - b. See also any specific allowances for this Cost Item described below.
  - 6. Proposal and Cost Item 6. Contingency. As provided in Document 00 5201 (Agreement).
- B. Descriptions of Unit Price Items and Basis of Measurement for Payment.
  - 1. **[not used]**

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C. Allowances.

1. Allowance work shall be done as Change Orders and as specified in Document 01 2600 (Contract Modification Procedures). Identify Allowance Items work on the Progress Schedules and on Applications for Payment.
2. The amounts given below with each Allowance Item is the sum of money set aside for each Allowance Item. These amounts shall be included in the applicable Proposal and Cost Items indicated below.
3. If the cost of work done under any Allowance Item is less than the amount given below for that Allowance Item, the Contract Sum shall be reduced by the difference between the amount given below and the cost of work actually done. If the cost of work done under any Allowance Item is greater than the amount given below for that Allowance Item, the Contract Sum shall be increased by the difference between the amount given below and the cost of work actually done.
4. Scope of Allowances for Proposal and Cost Item 3 (CMR's General Conditions): [not used]
5. Scope of Allowances for Proposal and Cost Item 4 (CMR's General Requirements): [not used]
6. Scope of Allowances for Cost Item 5 (Aggregate Trade Subcontractor Cost): **[not used]**

D. Alternates.

1. Notwithstanding any inclusion of any Alternates selected by Owner in Award of Contract or the Contract Documents, (a) Contractor shall not proceed with any Alternate without receiving a written notice to proceed from Owner, (b) Owner may, at any time, accept any Alternate from the Contract Documents and adjust (up or down, as applicable) Contract Sum by the Proposal amount for the item without any other cost to Owner or payment of any other amount to Contractor.
  2. Scope of Alternates: **[not used]**
- E. Payment of all items is subject to provisions of Contract Documents, including without limitation Document 01 2900 (Payment Procedures).
- F. For all Proposal and Cost Items, furnish and install all work indicated and described in Specifications and all other Contract Documents, including connections to existing systems. Work and requirements applicable to each individual Item, or unit of Work, shall be deemed incorporated into the description of each Proposal or Cost Item (whether Lump Sum, Unit Price).
- G. Contractor shall develop its schedule of values and monthly payment applications to track progress, pricing and completion of each Proposal and cost item. Proposal and Cost Items are not intended to be exclusive descriptions of work categories and CMR shall determine and include in its pricing all materials, labor, and equipment necessary to complete each Proposal or Cost Item as shown and specified.
- H. Any Trade Subcontract Proposal or Proposal or Cost Item within a Trade Subcontract Proposal, may be deleted from the Work and Contract Sum, in total or in part, prior to or after award of Contract without compensation in any form or adjustment of other Proposal or Cost Items or prices therefore.

**1.04. Work Under Other Contracts**

- A. **[not used]**

**1.05. Future Work**

- A. **[not used]**

**1.06. Work Sequence**

- A. For purposes of satisfying Contract milestones, and for each Project Component Group (Project Components Group A, Group B and Group C), Contractor shall perform Work in the following Phases:
1. Phase I: Pre-Construction Phase
  2. Phase II: Construction Phase

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- B. Unless otherwise authorized and directed by Owner, for each Project Component Group, Contractor shall achieve Substantial Completion of all Phase I Work and Owner shall issue Document 00 5501-B (Notice to Proceed for Construction) before commencing any Phase II Work.
- C. Without limiting the foregoing, Contractor shall construct Work in stages and at times to accommodate Owner operation requirements during the construction period; and shall coordinate all construction schedules and construction operations with Owner.
- D. Contractor acknowledges that shoring will be required to maintain a safe excavation and to protect facilities, including both existing and recently constructed under this Contract. All expenses for shoring of excavations shall be included in the appropriate cost items.
- E. Contractor acknowledges that management of surface and groundwater will be required at the Site, particularly during and after rain. Contractor shall take all appropriate measures, including, but not limited to, dewatering, pumping, diversion and removal of surface and ground water from the Site and adjacent property, lime treatment where necessary, to prevent accumulations of water and to facilitate reasonable construction progress during and after rains, and SWPP compliance. See also paragraph 1.26 below.

**1.07. Work Days And Hours**

- A. Normal working days and hours: Monday-Friday inclusive, 7:00 a.m.-5:00 p.m., local time, or as approved in writing by Owner representative.
- B. Contractor is advised that operating hours in the areas where work will be performed may vary and flexibility in hours should be incorporated into the Project Schedule at no additional cost to Owner.
- C. Work at the Site on evenings (except as provided above), Sundays or holidays is not permitted, unless Contractor requests otherwise from Owner in writing at least 48 hours in advance and Owner approves in its sole discretion. In the case of Work by Contractor other than normal working hours identified in paragraph 1.07.A. above, Contractor shall be responsible for any additional inspection costs incurred by Owner. Such costs may be withheld from any succeeding monthly progress payment.
- D. Connections to or Alterations of Existing Facilities. Unless otherwise specified or indicated, Contractor shall make all necessary connections or alterations to existing facilities, including structures, drain lines, and utilities such as water, sewer, gas, telephone, and electric, as the Plans require. In each case, Contractor shall provide advance notice to and receive permission from Owner or the owning utility prior to undertaking any connection or making any alteration.
- E. Contractor shall protect facilities against deleterious substances and damage.
- F. Normal Hours Of Work for Contractor's operations, which are located within city limits, must comply with County of San Mateo ordinances and requirements of the City of San Mateo. Contractor's operations in the County's unincorporated areas or areas which border a city, town or other county must comply with requirements of San Mateo County or requirements adopted by other jurisdictions, whichever are more stringent. In case of conflict between the requirements of a city, the County, and the requirements of the Contract Documents, the most restrictive requirements will govern.

**1.08. Cooperation Of Contractor And Coordination With Other Work**

- A. Contractor shall coordinate with Owner and any Owner forces, or other contractors and forces, as required by Document 00 7200 (General Conditions), Article VI.
- B. Contractor shall submit all required Coordination Drawings as soon as practical to insure efficient installations and to avoid conflicts. The timing of said submittals may vary depending on the timing of shop drawing approvals and equipment and material submittals, but must be in time to allow for proper review and approval before the start of work associated with the coordination drawings.
- C. Contractor shall coordinate the construction schedule with the schedule of Owner for normal power service installation.
- D. Noise: Construction activities shall at all times comply with applicable local noise ordinance and applicable Cal-OSHA regulations. Contractor shall further coordinate and schedule construction operations as specified herein.

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**1.09. Maintenance, Product Handling, And Protection**

- A. Contractor shall transport, deliver, handle, and store materials and equipment at the Site in such a manner as to prevent the breakage, damage or intrusions of foreign matter or moisture, and otherwise to prevent damage.
- B. Hazardous substance compliance. Contractor shall provide Owner with copies of the OSHA Material Safety Data Sheets (MSDS) for all products containing a hazardous substance, examples: Adhesives, paints, sealants, and the like.
- C. Packaging. Contractor shall provide packaged material in manufacturer's original containers with seals unbroken and labels intact until incorporated into the Work.
- D. Contractor shall remove all damaged or otherwise unsuitable material and equipment promptly from the Site.
- E. Protection. Contractor shall protect all finished surfaces.
- F. Asbestos Removal. If, during the progress of the Work, suspected asbestos-containing products are identified, Contractor shall stop work in the affected area and immediately notify Owner, and engage an asbestos removal Subcontractor to verify the materials and, if necessary, encapsulate, enclose, or remove and dispose of all asbestos in accordance with current regulations of the Environmental Protection Agency and the U. S. Department of Labor – Occupational Safety and Health Administration, the state asbestos regulating agency, and any local government agency. Payment for such work will be made by Change Order.
- G. Asbestos Removal Subcontractor's Qualifications. The Subcontractor for asbestos removal shall be regularly engaged in this type of activity and shall be familiar with the regulations that govern this work. The Subcontractor shall demonstrate to the satisfaction of Owner that it has successfully completed at least three asbestos removal projects, that it has the necessary staff and equipment to perform the work, and that it has an approved site for disposal of the asbestos. Liability insurance covering the asbestos abatement work shall be provided as specified in the Supplementary Conditions.
- H. Asbestos Removal Methods. The hazardous material removal Subcontractor shall follow the County Work Plan provided in Document 00 7301 Supplementary Conditions before beginning work and shall certify that the methods are in full compliance with the governing regulations. The work plan shall cover all aspects of the removal, including health and safety of employees and building occupants, hygiene facilities, employee certification, clearance criteria, transportation and disposal, enclosure techniques, and other techniques appropriate for the proposed work.
- I. Cost of maintenance of systems and equipment prior to either Substantial Completion or Final Completion will be considered as included in prices Proposal and no direct or additional payment will be made therefore.

**1.10. Partial Occupancy/Utilization Requirements**

- A. Contractor shall allow Owner to take possession of and use any completed or partially completed portion of the Work during the progress of the Work as soon as is possible without interference to the Work.
- B. Possession, use of Work, and placement and installation of equipment by Owner shall not in any way evidence the completion of the overall Work.
- C. Contractor shall not be held responsible for damage to the occupied part of the Work resulting from Owner occupancy.
- D. If so requested by Owner, Contractor shall make available, in areas occupied, on a 24-hour per day and seven-day per week basis if required, any utility services, heating, and cooling in condition to be put in operation at the time of occupancy.
  - 1. Responsibility for operation and maintenance of said equipment shall remain with Contractor.
  - 2. Contractor shall make, and Owner shall certify, an itemized list of each piece of equipment so operated with the date operation commences.
  - 3. Itemized list noted above shall be basis for commencement of warranty period for equipment.
  - 4. Owner shall pay for utility cost arising out of occupancy by Owner during construction.

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- E. Use and occupancy by Owner prior to acceptance of Work does not relieve Contractor of its responsibility to maintain insurance and bonds required under the Contract until entire Work is completed and accepted by Owner.
- F. Prior to date of Final Acceptance of the Work by Owner, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in Document 00 7200 (General Conditions).
- G. Use by Owner of Work or part thereof as contemplated by this Document 01 1000 shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve Contractor of any responsibilities under Contract, nor act as waiver by Owner of any of the conditions thereof.
- H. Owner may specify in the Contract Documents that portions of the Work shall be substantially completed on dates prior to substantial completion of all of the Work. Contractor shall notify Owner's Representative and Architect/Engineer in writing when Contractor considers any such part of the Work ready for its intended use and substantially complete and request Owner to issue a Certificate of Substantial Completion for that part of the Work.

**1.11. Contractor Use Of Premises And Coordination With Owner**

- A. Contractor shall confine operations at Site to areas permitted by Contract Documents, permits, ordinances, and laws.
- B. Contractor shall not unreasonably encumber Project Site with materials or equipment.
- C. Contractor shall limit use of premises for work and for storage. No storage of construction materials outside designated areas will be permitted.
- D. Contractor shall assume full responsibility for protection and safekeeping of products stored on premises.
- E. Contractor shall move any stored products that interfere with operations of Owner or other contractor.
- F. Contractor shall coordinate parking, storage, staging, and work areas with Owner, and comply with all other Contract documents requirements.

**1.12. Lines And Grades**

- A. All Work shall be done to the lines, grades, and elevations indicated on the Drawings.
- B. Upon request, Owner shall provide basic horizontal and vertical control points to be used as datums for the Work. All additional survey, layout, and measurement work shall be performed by Contractor as a part of the Work.
- C. Contractor shall provide at its cost an experienced instrument person, competent assistants, and such instruments, tools, stakes and other materials required to complete the survey, layout, and measurement work. In addition, Contractor shall furnish at its cost competent persons and such tools, stakes, and other materials as Owner (and/or any Architect/Engineer) may require in establishing or designating control points, or in checking survey, layout, and measurement work performed by Contractor. Although measurement, sampling, and testing may be considered evidence as to conformity with the Drawings, Owner's Authorized Representative is the sole judge as to whether the Work or materials deviate from the requirements of the Drawings, and the decision of the Owner's Authorized Representative as to any allowable deviation therefrom is final.
- D. Contractor shall keep Owner informed, a reasonable time in advance, of the times and places at which it wishes to do Work, so that any checking deemed necessary by Owner may be done with minimum inconvenience to Owner and minimum delay to Contractor.
- E. Contractor shall remove and reconstruct Work which is improperly located.

**1.13. Protection Of Existing Structures, Utilities And Special Conditions**

- A. For all work involving trenching or excavation of any type, Contractor shall locate all known existing installations and underground facilities, before proceeding with trenching or other operations which may cause damage, shall maintain them in service where appropriate, and shall repair any damage to them caused by the Work, at no increase in Contract Sum.

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- B. Additional utilities whose locations are unknown to Owner are suspected to exist. Contractor must be alert to their existence and, before excavation Work begins, shall develop appropriate safety measures to prevent harm to such additional utilities and then employ those safety measures during the Work. Contractor also, before excavation Work begins, shall develop a delay mitigation strategy to employ if additional utilities are encountered. If additional utilities are encountered, Contractor must immediately begin delay mitigation efforts and report to Owner for disposition of the Work affected by the additional utility discovery.
- C. Additional special underground conditions whose locations are unknown to Owner may exist, including without limitation Native American burial sites. Before excavation Work begins, Contractor shall develop, submit for review and employ appropriate safety measures during the Work to prevent harm to such special conditions and develop a delay mitigation strategy to employ if such special conditions are encountered. If such additional special conditions are encountered, Contractor must immediately notify Owner, coordinate with Owner as necessary or requested, begin delay mitigation efforts, and report to Owner for disposition of the Work affected by the discovery of the underground condition.
- D. In addition to reporting, if a utility or special underground condition is damaged, Contractor must take appropriate action as provided in Document 00 7200 (General Conditions).
- E. Additional compensation or extension of time on account of utilities or other special underground condition not indicated or otherwise brought to Contractor's attention including reasonable action taken to protect or repair damage shall be determined as provided in Document 00 7200 (General Conditions).

**1.14. Damage To Existing Property**

- A. Contractor will be responsible for any damage to existing structures, Work, materials, or equipment because of its operations and shall repair or replace any damaged structures, Work, materials, or equipment to the satisfaction of, and at no additional cost to, Owner.
- B. Contractor shall protect all existing structures and property from damage and shall provide bracing, shoring, or other work necessary for such protection.
- C. Contractor shall be responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, or other public or private property, which may be caused by transporting equipment, materials, or workers to or from the Work. Contractor shall make satisfactory and acceptable arrangements with the agency having jurisdiction over the damaged property concerning its repair or replacement.

**1.15. Noise and Vibration Control**

- A. Noise and vibration shall be kept to a minimum in construction operations. Use of jackhammers and rotohammers are not permissible, except with prior approval from Owner. Use of open-air radios is prohibited.
  - 1. Contractor shall conduct its Work in conformance with any noise abatement and control requirements of the City of San Mateo and County of San Mateo.
  - 2. Coredrilling, sawcutting and jackhammering of concrete inside and outside the building, and all construction Work within occupied spaces shall be performed on regular hours.
- B. When required by OSHA Standards, construction workers shall be provided with ear protection to operate equipment.
- C. Contractor shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound-muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work. During construction activities on or adjacent to occupied buildings, and when appropriate, Contractor shall erect screens or barriers effective in reducing noise in the building and shall conduct its operations to avoid unnecessary noise which might interfere with the activities of building occupants.
- D. Contractor shall ensure and provide certification to Owner that all construction equipment and vehicles used for the Work are:
  - 1. Maintained in good mechanical condition



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2. Equipped with properly installed engine mufflers

**1.16. Dust Control**

- A. Contractor shall take reasonable measures to prevent unnecessary dust and comply with ICRA Permit requirements. The following items shall be specifically implemented to control dust:
  1. All construction locations with active excavation shall be watered at least twice daily.
  2. Cover all trucks hauling soil, sand, and other loose materials.
  3. Pave, apply water daily, or apply non-toxic soil stabilizers on all un-paved access roads, parking areas, and staging areas at construction site.
  4. Sweep daily with water sweepers all paved access roads, parking areas, and staging areas at construction sites during earthwork activities.
  5. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.)
  6. Limit the speed of all construction vehicles to 5 miles per hour while on un-paved roads at the Site.
- B. Buildings or operating facilities which may be affected adversely by dust shall be adequately protected from dust. Existing and new machinery, motors, instrument panels, or similar equipment shall be protected by suitable dust screens. Proper ventilation shall be included with dust screens.
- C. Building Interiors: provide dust barriers, walk-off pads, etc. to minimize dust infiltration in buildings. Contractor will clean interior common areas (e.g., corridors, lobbies) at the end of each work day and as required by Owner.

**1.17. Odor Control**

- A. Contractor shall make every effort to minimize the levels of odors and fumes and similar items to the extent possible and in accordance with local ordinances or other requirements and with written authorization from Owner.

**1.18. Parking**

- A. Contractor shall coordinate parking permits with Owner. Use of mass transit and carpooling are strongly encouraged.

**1.19. Laydown/Staging Area**

- A. Contractor shall utilize an approved **Owner's designated area** for storage of all construction materials, and no other area at or adjacent to the site. This area shall be fenced and locked by Contractor for security purposes.

**1.20. Permits**

- B. Contractor shall obtain all other permits and licenses, and shall pay all charges and fees, give notices necessary and incident to the due and lawful prosecution of the Work, unless otherwise specified.
- C. An approved set of plans and specifications shall be kept at the job site by the Contractor readily available for inspection during regular hours for the duration of the Project.
- D. Applicable permits: Permits, agreements, or written authorizations that are known by Owner to apply to this project are listed below.
  1. OSHPD Building Permit. Owner will obtain OSHPD Building Permit.
  2. Cal/OSHA Permit. The Contractor shall obtain, all applicable permits required by Cal/OSHA, including but not limited to:
    - a. Construction of trenches or excavations that are five feet or more in depth and into which a person is required to descend.
    - b. Erection or dismantling of vertical shoring systems more than three stories high, or the equivalent height (36 feet).
  3. Shoring and trenching permit as required by OSHA and/or local authorities.
  4. All other permits that may be required, such as electrical, mechanical, fire prevention, encroachment, irrigation, grading, slope protection, tree cutting, etc., have not been applied for

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and shall be obtained by Contractor. Applicable permit fees will be reimbursed to the extent specified in Document 00 7200 (General Conditions).

5. See also Documents 01 4100 (Regulatory Requirements) and 01 4200 (References and Definitions).

**1.21. Punch List Verification**

- A. A punch list examination will be performed upon Substantial Completion of each Project Component. One follow-up review of punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, Contractor shall reimburse Owner for these visits.

**1.22. Unfavorable Construction Conditions**

- A. During unfavorable weather, wet ground, or other unsuitable construction conditions, Contractor shall confine its operations to Work which will not be affected adversely by such conditions. Access for construction personnel shall be limited to 7:00 a.m. to 5:00 p.m. local time, or as approved by Owner representative. No portion of the Work shall be constructed under conditions which would affect adversely the quality or efficiency thereof, unless special means or precautions are taken by Contractor to perform the Work in a proper and satisfactory manner. The Contractor will employ best practices to manage the construction site during inclement weather. Persons performing the Work shall examine surfaces to receive their Work and shall report in writing to Contractor, with copy to Owner representative and the Architect conditions detrimental to the Work. Failure to examine and report discrepancies makes the Contractor responsible, at no increase in Contract Sum, for corrections Owner may require. Commencement of Work constitutes acceptance of surface.

**1.23. Construction Site Access**

- A. Contractor shall at all times limit access to the Site to necessary personnel only. All personnel associated with construction of the Project shall enter the site through Contractor's access gate, at the location indicated on the Drawings.
- B. All mail and deliveries (Federal Express, equipment, etc.) shall be sent to a separate address (at Contractor's gate), specifically arranged by Contractor for the Project. Contractor is responsible for providing adequate signage (subject to Owner approval) to alert delivery persons to the new address. Owner will not receive or forward Contractor mail or deliveries.

**1.24. Site Administration**

- A. Contractor shall be responsible for all areas of the Site used by it and by all Subcontractors in the performance of the Work. Contractor shall exert full control over the actions of all employees and other persons with respect to the use and preservation of property and existing facilities, except such controls as may be specifically reserved to Owner or others. Contractor shall have the right to exclude from the Site all persons who have no purpose related to the Work or its inspection, and may require all persons on the Site (except Owner's employees) to observe the same regulations as Contractor requires of its employees.

**1.25. CEQA Mitigations (if applicable)**

- A. Contractor shall be responsible to assist the Owner in the development of the Environmental Impact Report along with the implementation of any mitigation measures needed in compliance to the environmental conditions which apply to this Project. Contractor shall assist in compliance to the latest State Clearinghouse mitigation regulations and requirements.

**1.26. NPDES Stormwater Permit Requirements**

- A. Owner is the responsible party for filing the Project's 'Notice of Intent' (**NOI**) and paying the annual permit fee. Upon obtaining permit coverage Contractor shall be fully responsible for implementing all requirements of the Construction General Permit, Order 2009-0009-DWQ, as amended (**General Permit**), and the Project's Storm Water Pollution Prevention Plan (SWPPP) (see Document 01 5700).

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- B. Before disturbing any soil, Contractor shall verify that coverage under the General Permit has been obtained and that Owner has filed an NOI. Contractor shall implement and monitor the Project's SWPPP in accordance with all State of California Water Resources Control Board (SWRCB) requirements. Contractor shall have a Qualified SWPPP Practitioner (**QSP**) on the Project Site throughout the construction process as required by the SWRCB, and the QSP shall file all required reports with the SWRCB. Contractor shall be solely responsible for paying, and shall pay, any fines levied by the State of California for failing to file required reports or information.
- C. This Project has been designated as a Risk Level 1 project.
- D. Without limiting the foregoing, Contractor shall:
  - 1. Quarterly monitor and report on any non-storm water discharges, prepare pre-storm, during storm and post-storm reports and perform weekly BMP inspection reports.
  - 2. Before September 1 of each year the Project is under construction, compile and prepare all information required for the preparation of the Project's 'Annual Report' and shall submit it to Owner in a timely fashion so Owner can timely submit it to the SWRCB.
  - 3. At completion of construction, compile and prepare all information required for the preparation of the Project's 'Notice of Termination' (**NOT**) and shall submit it to Owner in a timely fashion so Owner can timely submit it to the SWRCB.

**1.27. Construction Safety Risk Assessment (CSRA)**

- A. Contractor shall coordinate a pre-construction site meeting and site walk for the sole purpose of conducting Owner's Construction Safety Risk Assessment (CSRA). The CSRA shall be conducted at least thirty (30) days prior to any Phase II work. The attendees for this meeting will be Owner's Project Manager, Owner's IOR, Contractor's Authorized Representative, and Owner's Environmental Health & Safety (EH&S) Representative.
- B. During this pre-construction site meeting and site walk the EH&S Representative will gain an understanding of the scope of the Project, identify potential safety hazards, and recommend safety measures that will be required to be implemented prior to any construction work. At the conclusion of this meeting and walk of the construction site Owner's CSRA form will be completed as required by Owner's EH&S policy.

**1.28. Interim Life Safety Measures (ILSM)**

- A. If the CSRA shows that an Interim Life Safety Risk Assessment (ILSRA) will be required, Contractor shall coordinate a pre-construction site meeting for the sole purpose of conducting Owner's ILSRA at least fourteen (14) days prior to any Phase II work.
- B. Contractor shall complete and submit Owner's ILSRA form along with a site-specific ILSM project plan, which will be reviewed by the EH&S representative. If the ILSM plan is approved the Contractor will then be able to proceed pursuant to the authorized ILSM plan. If in his or her discretion the EH&S representative does not approve the ILSM plan, the plan will be returned to Contractor for revision until a final ILSM plan is approved.
- C. ILSM apply to all personnel, including construction workers, and must be implemented during project development and continuously enforced through project completion. ILSM consist of the following actions:
  - 1. Ensuring that exits provide free and unobstructed egress. Personnel shall receive training if alternative exits must be designated. Building or areas under construction must maintain escape facilities for construction workers at all times. Means or egress in construction areas must be inspected daily.
  - 2. Ensuring free and unobstructed access to emergency department/services and emergency forces
  - 3. Ensuring that fire alarm, detection, and suppression systems are not impaired. A temporary, but equivalent, system shall be provided when any fire system is impaired. Temporary systems must be inspected and tested monthly.
  - 4. Ensuring that temporary construction partitions are smoke tight and built of noncombustible or limited combustible materials that will not contribute to the development or spread of fire.
  - 5. Providing additional fire-fighting equipment and use-training for personnel.

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6. Prohibiting smoking in, or adjacent to, construction areas or County property..
7. Developing and enforcing storage, housekeeping, and debris removal practices that reduce the flammable and combustible fire load of the building to the lowest level necessary for daily operations.
8. Conducting a minimum of two fire drills per shift per quarter.
9. Increasing hazard surveillance buildings, grounds, and equipment, with special attention to excavations, construction areas, construction storage, and field offices.
10. Training personnel when structural or compartment features of fire safety are compromised.
11. Conducting organization wide safety education programs to ensure awareness of any Life Safety Code deficiencies, construction hazards, and these ILSM.
12. Refer to Exhibit 13 for the San Mateo Medical Center Interim Life Safety Policies.

**1.29. Infection Prevention Measures (IP)**

- A. Prior to start of any type of construction activity the Contractor shall coordinate a pre-construction site meeting for the sole purpose of conducting Owner's Infection Prevention Risk Assessment (IPRA) at least thirty (30) days prior to any Phase II work.
- B. Contractor will be required to complete and submit Owner's ICRA form for each Project Component, attached hereto as Appendix E, to the Infection Prevention Manager. The ICRA form will be reviewed and, if approved at the discretion of the Infection Prevention Manager, an official signed Infection Control Construction Permit will be issued to the Contractor.
- C. The Contractor shall follow and ensure that all Subcontractors and any other site visitor follow the Infection Control Construction Permit requirements at all time when on Owner's campus. Failure to follow the Infection Control Construction Permit requirements will result in the specific Contractor, Subcontractor or other site visitor being required to permanently leave Owner's campus.

**1.30. FLS Impairment Prevention Measures and Plans**

- A. Prior to start of any type of construction activity that will impair or will possibly impair any Fire Life Safety (FLS) protection systems Contractor shall coordinate a pre-construction meeting with all required Owner personnel and Contractor for the sole purpose of conducting Owner's Project Risk Assessment for FLS Impairment Plan and Control Measures within fourteen (14) days prior to any Phase II work. The FLS Impairment Plan and Control Measures shall be submitted to Owner for review and approval prior to any Phase II work.
- B. Contractor shall generate a task-specific Project Risk Assessment for any FLS impairment, disruption or outage for any construction activity affecting any FLS system. As part of that process the impacted FLS system will be identified and plans for addressing the impact will be generated. With submission of the Project Risk Assessment, a Shut Down Request and a Method of Procedure (MOP) will be submitted for review and approval by Owner. Plans must include notification to the Department of Public Health as required for any utility interruptions. Once these submissions are reviewed and approved by Owner the Contractor will be authorized to proceed pursuant to the approved plans and permits issued.
- C. If working on any FLS system shut down that will require a "Fire Watch" the Contractor will be required to submit the following: 1) "Fire Protection System Permit Application" to the JHA, 2) Owner's "Fire Watch Form," and 3) Owner's Welding Permit.
- D. Contractor is required to follow and ensure that all Subcontractors and any other site visitor follow the FLS Impairment Plan requirements at all times when on Owner's campus. Failure to follow the FLS Impairment Plan requirements will result in the specific Contractor, Subcontractor or other site visitor being required to permanently leave Owner's campus.

**1.31. Welding Permit Requirements**

- A. Contractor is required to submit Owner's Welding Permit for any hot work or any use of a sparking tool. This Welding Permit request must be submitted 48 hours in advance of the work.
- B. Contractor is required to follow and ensure that all Subcontractors and any other site visitor follow the Welding Permit requirements at all times when on Owner's campus. Failure to follow the

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Welding Permit requirements will result in the specific Contractor, Subcontractor or other site visitor being required to permanently leave Owner's campus.

**ARTICLE II – PRODUCTS**

**2.01. Products Ordered In Advance: N/A**

**2.02. Owner Furnished/Contracted Installed Products**

- A. Owner's Responsibilities.
  - 1. Arrange for and deliver Owner-reviewed Shop Drawings, Product Data, and Samples, to Contractor.
  - 2. Arrange and pay for delivery to site.
  - 3. On delivery, inspect products jointly with Contractor.
  - 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
  - 5. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities.
  - 1. Review Owner-reviewed Shop Drawings, Product Data, and Samples.
  - 2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
  - 3. Handle, store, install, and finish products.
  - 4. Repair or replace items damaged after receipt.
  - 5. Install into Project per Contract Documents.

**ARTICLE III – OTHER REQUIREMENTS**

**3.01. Safe Use of Pesticides**

- A. Contractor must comply with all Federal, State and local rules and regulations governing pesticides that are required or used in performing Work.
- B. The term pesticide includes, but is not limited to: herbicides, insecticides, fungicides, rodenticides, germicides, nematocides, bactericides, inhibitors, fumigants, defoliants, desiccants, soil sterilants, repellents, and any substance or mixture of substances intended for preventing, repelling, mitigating, or destroying weeds, insects, diseases, rodents, or nematodes, and any substance or mixture of substances intended to use as a plant regulator, defoliant, or desiccant.
- C. Contractor must comply with San Mateo County Ordinance Code relating to integrated pest management and pesticide use. The Ordinance includes, but is not limited to specific requirements for:
  - 1. restricted or prohibited use of certain pesticides
  - 2. record keeping
  - 3. reporting
  - 4. public notice and posting requirements

**3.02. Air Pollution Control**

- A. Contractor and each Subcontractor must comply with all air pollution control rules, regulations, ordinances, statutes, and Project specific permit requirements of the Bay Area Air Pollution Control District and all other regulatory agencies that apply to any Work performed. If there is a conflict between the Bay Area Air Pollution Control District rules, regulations, ordinances, and statutes and the rules, regulations, ordinances, and statutes of other regulatory agencies, the most stringent shall govern.
- B. Contractor must not discharge smoke, dust or any other air contaminants into the atmosphere in such quantity as will violate any regulations.
- C. Contractor must minimize dust nuisances resulting from performance of the Work, both inside and outside the Project limits, by applying either water or dust palliative, or both.

**3.03. Water Pollution Control**

- A. Contractor must comply with all Federal, State and local water pollution prevention and storm drain pollution prevention rules, regulations, ordinances, statutes, guidelines, and Project specific permit requirements.

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- B. If required by law, ordinance, regulation, code, permit or the requirements of the Contract Documents, Contractor must prepare a Project Specific Storm Water Pollution Prevention Program (SWPPP).
- C. Contractor must exercise every reasonable precaution to protect storm drains, channels and all bodies of water from pollution, and must conduct and schedule operations so as to avoid or minimize muddying and silting of any waters. Contractor must construct whatever facilities are necessary or requested by Owner to provide prevention, control and abatement of water pollution.
- D. No provision of the Contract Documents relieves Contractor of responsibility for compliance with California Fish and Game Code §5650 et seq, and §12015 et seq, and applicable regulations of the Regional Water Quality Control Board, San Mateo County flood control and water district requirements, or other applicable statutes relating to prevention and removal of water pollution.
- E. Compliance with water pollution requirements does not relieve Contractor from responsibility to comply with all provisions of the Contract Documents, particularly Contractor's responsibilities for damage and preservation of property.

**3.04. Noise Control**

- A. The Contractor must comply with all CAL OSHA requirements.
- B. The Contractor must comply with all local sound control and noise level rules, regulations, and ordinances that apply to any Work performed pursuant to the requirements of the Contract Documents.
- C. Each internal combustion engine, used for any purpose on the Project or related to the Project, must be equipped with a muffler of a type recommended by the Manufacturer. No internal combustion engine shall be operated on the Project without said muffler
- D. Noise level from and hours of Contractor's operations, that are located within city limits, must comply with city ordinances or requirements. Contractor's operations in the County's unincorporated areas or areas which border a city, town or other county must comply with the noise level requirements per the San Mateo County Ordinance Code or requirements adopted by other jurisdictions, whichever are more stringent. Contractor's attention is directed to the current San Mateo County Ordinance Code for the maximum acceptable noise levels.
- E. Noise level requirements apply to all equipment used in the Project including, but not limited to, trucks, transit mixers, or equipment that may or may not be owned by the Contractor. The use of loud sound signals must be avoided in favor of warning lights except those required by safety laws for the protection of personnel.

**3.05. Worker's Sanitary Provisions & Use of Owner's Facilities**

- A. Contractor must conform to the rules and regulations for sanitary provisions established by the State, the County of San Mateo, and any other applicable jurisdictions.
- B. Contractor must provide and maintain toilets for use by its employees. These accommodations must be maintained in a neat and sanitary condition, and must comply with all applicable laws, ordinances and regulations pertaining to public health and sanitation.
- C. Contractor's personnel must not use Owner's facilities without express written permission, which will be at Owner's sole discretion. Such Owner's facilities include but are not limited to toilet facilities, food service facilities (cafeteria and coffee shop), utilities services of any kind, carts, fire extinguishers, parking, storage space and any other facilities and services.

**3.06. Equal Opportunity Requirements**

- A. The County of San Mateo is an equal opportunity employer. Contractor must comply with all applicable Federal, State, and local laws and regulations including San Mateo County's equal opportunity requirements. Such laws include but are not limited to the following: Title VII of the Civil Rights Act of 1964 as amended; Americans with Disabilities Act of 1990; The Rehabilitation Act of 1973 (§503 and 504); California Fair Employment and Housing Act (Government Code §12900 et seq.); California Labor Code §1101 and §1102. Contractor must not discriminate against any Subcontractor, employee, or applicant for employment because of age, race, color, national origin, ancestry, religion, sex/gender, sexual orientation, mental disability, physical disability,

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medical condition, political beliefs, organizational affiliations, or marital status in the recruitment, selection for training including apprenticeship, hiring, employment, utilization, promotion, layoff rates of pay or other forms of compensation.

**3.07. Foreign Materials & Assemblies**

- A. Contractor must deliver materials or assemblies which are Manufactured or Fabricated outside of the United States ("**Foreign Materials & Assemblies**") to a location in San Mateo County unless otherwise directed in the Contract Documents, where they must be retained for sufficient time to permit inspection, sampling, and testing. Contractor, at no cost to Owner, must supply all facilities and arrange for all testing required by Owner. All testing by Contractor is subject to witnessing by Owner.
- B. Contractor must furnish Owner a Certificate of Compliance from the Manufacturer or fabricator of any Foreign Materials or Assemblies. In addition, Contractor must furnish certified mill test reports clearly identifiable to the lot of material where required in the Project Manual or otherwise requested by Owner.
- C. Use of steel Manufactured outside the United States is restricted to steel which can be positively identified as having been rolled at the heat for which certified mill tests can be produced.
- D. Where Manufactured materials requiring mill test reports or Fabricated assemblies involving the welding of steel for structural steel members or the casting and pre-stressing of precast prestressed concrete members are to be performed outside the United States, such Manufactured materials or Fabricated structural members shall be provided only from those foreign Manufacturers and Fabricators who have previously established, to Owner's satisfaction, that they have the experience, knowledge, trained personnel, quality controls, equipment, and other facilities required to produce the quality and quantity of Work required.
- E. At Owner's option, prequalification of the plant and Manufacturer or Fabricator will be established either by the submission of detailed written proof thereof or through in plant inspection by representatives of the Owner, or both.
- F. Contractor must make written application to Owner for approval for foreign Fabrication at the earliest possible time and in no case less than fifty (50) Days before the planned start of Fabrication. The application must list the specific units or portion of Work that will be Fabricated outside of the United States.
- G. Contractor must advise Owner, in writing, at least twenty (20) Days before the actual start of any foreign Fabrication.
- H. All documents pertaining to the Contract, including but not limited to, correspondence, Bid Documents, Shop Drawings, Product Data, Record Documents, Requests for Information, and all other Submittals and data must be written in the English language and all numerical data must use the foot pound second system of measurement.
- I. Contractor is not entitled to an extension of Contract Time for acts or events occurring outside of the United States, and it is Contractor's responsibility to deliver Foreign Materials & Assemblies into the continental United States in sufficient time to permit timely receipt at the Project Site.

**3.08. Preservation of Cultural Resources**

- A. Pursuant to the National Historic Preservation Act of 1966, State laws and County ordinances, the following procedures are implemented to ensure historic preservation and fair compensation to Contractor for construction delays that may occur due to cultural resources discoveries.
- B. In the event potentially historical, architectural, archaeological or cultural resources (hereinafter "resources") are discovered during subsurface excavations at the Project Site, the following procedures apply:
- C. Owner will issue a "Cultural Resources – Suspend Work Order" Directing Contractor to temporarily suspend all operations at the location of such potential resources.
- D. Such "Cultural Resources – Suspend Work Order" will be effective until such time as a qualified Consultant can assess the value of such resources and make recommendations. Any "Cultural Resources – Suspend Work Order" will contain the following:

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1. A description of the potential resource, its location, and the area where Contractor's Work is suspended;
  2. A description of what part or all of Contractor's Work is suspended;
  3. Instructions regarding suspension of orders by Contractor for materials and services;
  4. Guidance regarding action to be taken by Subcontractors;
  5. Estimated duration of the temporary suspension.
- E. If the Consultant determines that the potential find is indeed a cultural resource, Owner will, as expeditiously as possible, advise Contractor in writing of the action to be taken regarding the find, and the anticipated time frame and extent of any Work suspension.
- F. Adjustment of Contract Time and Contract Sum
1. If, in the Notice to Bidders, the Work site was deemed "Archaeologically Sensitive", then the Contract Time(s) includes four (4) weeks of temporary suspension for cultural resources finds and there will be no payment for such suspension or any inefficiencies related thereto, up to a maximum cumulative duration of four (4) weeks delay to the Critical Path(s) of the Official Progress Schedule. If such suspension occurs, the first four (4) weeks of the Critical Path delay will be treated as an **excusable non-compensable delay** and the Contract Time will be extended in accordance with Document 00 7200.14.02 "Time Allowances."
  2. If a cultural discovery at an Archaeologically Sensitive site results in a cumulative Critical Path delay that exceeds four (4) weeks, then Contractor will be entitled to an adjustment of the Contract for the Critical Path delay in excess of four (4) weeks. The Critical Path delay in excess of four (4) weeks will be treated as an **excusable compensable delay** and the Contract Time will be extended in accordance with Document 00 7200.14.02 "Time Allowances."
  3. If a cultural resource discovery was unforeseen (i.e. if the Work site was not deemed "Archaeologically Sensitive" in the Notice to Bidders), Contractor may be entitled to an adjustment of the Contract in accordance with Document 00 7200.14.02 "Time Allowances."
  4. If, as a result of a temporary suspension, Owner agrees that Contractor sustains a loss which could not have been avoided by judicious handling of its forces or equipment, or by redirection of forces or equipment to perform other Work on the Contract, Contractor will be paid for idle time of equipment and labor by Force Account as provided in Document 00 7200.14.01 "Alterations, Modifications and Force Account Work."
- G. Documentation
1. Beginning with the first Day of suspension, and for each following Day, Contractor must maintain detailed hourly records of the labor and equipment idled by such suspension, plus substantiation as to why such labor and equipment could not be used on other parts of the Work if such were the case. Such records must be of a form acceptable to Owner, signed by Contractor, and are subject to verification by Owner.
- H. Failure by Contractor to furnish the aforesaid records constitutes a waiver of Contractor's right to an adjustment in the Contract Sum.

**END OF DOCUMENT 01 1000**



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**DOCUMENT 01 1000**

**APPENDIX A**

**CMR Fee  
(Cost Item 2)**

Cost Item 2 (CMR Fee) compensates CMR for:

1. All CMR profit;
2. All CMR home-office overhead and expenses; and
3. All CMR assumption of risk assigned to CMR under the Contract Documents.

Compensation for profit includes without limitation:

1. Fees of all types, nature and description; and
2. Profit and margins of all types, nature and description.

Compensation for home office overhead and expenses includes without limitation:

1. All direct and indirect operating, maintenance and overhead costs of any nature whatsoever incurred by CMR at any location other than the Project specific site office(s), including but not limited to CMR's principal or branch offices, including without limitation:
  - (a) office space;
  - (b) furniture and equipment;
  - (c) leasing and rental costs;
  - (d) maintenance;
  - (e) supplies, equipment, and machinery;
  - (f) phone systems, computer systems and data systems;
  - (g) rent and utilities; and
  - (h) personnel training of any kind.
2. Salaries and other compensation of CMR's personnel (management, administrative and clerical) incurred by CMR at any location other than the Project specific site office(s), including without limitation, CMR's principal or branch offices
3. CMR's capital expenses, including interest on CMR's capital employed for the Work.
4. Accounting and audit activity of any type, including without limitation, tax preparation, payroll calculations and distribution.
5. All costs incurred by CMR for bonuses, stock options, profit sharing arrangements and similar incentive programs.
6. Travel.
7. Safety programs.
8. Storage of materials, electronic or in hard copy.
9. Estimating that is not specifically related to this Project.
10. All corporate safety and quality control/quality assurance personnel and development of all corporate safety and quality control/quality assurance programs.
11. All Home Office travel expenses.
12. All insurance premiums other than those in Proposal and Cost Items 3 and 4 and Cost Item 5.
13. All hardware, software, supplies and support personnel necessary or convenient for CMR's capture, documentation and maintenance of its costs and cost accounting data and cost accounting and control systems and work progress reporting, and all associated files and records, and for response to and support of any and all Owner audit requests, all as provided elsewhere within Contract Documents.
14. All supervision of insurance and taxation matters.
15. All supervision of labor relations matter.
16. All storage of all materials and information required pursuant to Owner requirements for Project Billing, Cost Accounting, Documentation and Auditing.

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Compensation for CMR's assumption of risk under Contract Documents, includes without limitation costs resulting from any of the following causes:

1. Noncompliance with the Contract Documents or fault or negligence of CMR, any Subcontractor or Vendor of any tier or anyone directly or indirectly employed by any of them, or for whose acts or omissions any of them are responsible or liable at law or under the Contract Documents;
2. Costs of repairing defective or non-conforming Work or Work damaged by CMR, Subcontractors of any tier, materialmen, anyone directly or indirectly employed by them, or for whose acts or omissions any of them are responsible or liable at law or under the Contract Documents;
3. Cost overruns of any type, including, but not limited to, costs in excess of any lump sum or not to exceed amount or GMP; costs resulting from Proposal or "buy out" errors, unallocated scope, or incomplete transfer of scope or contract terms to Trade Subcontractors.
4. Any costs incurred by CMR relating to a Change in the Work without a Change Order or Change Directive in accordance with Document 01 2600 (Contract Modification Procedures);
5. All direct and indirect costs arising out of the fault or negligence of, or failure to comply with the terms of the Contract Documents or any Subcontracts, by CMR or any Subcontractor of any tier or anyone directly or indirectly employed by any of them, or for whose acts or omissions any of them are responsible or liable at law or under the Contract Documents;
6. Costs for work or materials not within any Proposal or Cost Item or for which no price is fixed in Contract Documents, unless it is expressly specified that such work or material is to be paid for as extra work.

Costs paid under this Cost Item may not include costs paid, incurred or included in any other Proposal or Cost Item, including without limitation any Work performed by a Trade Subcontractor.

**END OF APPENDIX A**

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DOCUMENT 01 1000

**APPENDIX B**

**CMR General Conditions  
(Proposal and Cost Item 3)**

- A. Proposal and Cost Item 3 (CMR General Conditions) compensates CMR for:
1. CMR's direct costs, without overhead or profit, for salaries and related forms of compensation and employer's costs (including workers compensation insurance and any other insurance required by law) for labor and personnel costs, of CMR's employees, while performing Work at the Project Site.
  2. CMR's costs of sub-consultant services.
- B. Personnel and Work compensated by this Proposal and Cost Item include without limitation:
1. All required Project management responsibilities;
  2. All on-site services, reflected in the Staffing Plan or otherwise;
  3. Monthly reporting and scheduling;
  4. Routine field inspection of Work proposed;
  5. General Superintendence;
  6. General administration and preparation of cost proposals, schedule analysis, change orders and other supporting documentation as necessary;
  7. Salaries of project superintendent, project engineers, project managers, safety manager, other manager, timekeeper, and secretaries;
  8. All cost estimates and updates thereto
  9. Development, validation and updates to the project schedule
  10. Estimating; and
  11. Any other responsibilities continuing from the pre-construction phase to the construction phase following close out of pre-construction services.

Costs paid under this Proposal and Cost Item may not include costs paid, incurred or included in any other Proposal or Cost Item, including without limitation any item included in Cost Item 4 (CMR's General Requirements) or any Work performed by a Trade Subcontractor. In the event of duplication, the Contract Price will be reduced by the amount of duplication.

**END OF APPENDIX B**

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**APPENDIX C**

**CMR General Requirements  
(Proposal and Cost Item 4)**

- A. Proposal and Cost Item 4 (CMR General Requirements) compensates CMR for:
  - 1. CMR's bonds, insurance and taxes
  - 2. All CMR Project general requirements costs
- B. Bonds, insurance and taxes compensated by this Proposal and Cost Item include without limitation:
  - 1. All bonds required to be obtained by CMR under Contract Documents, including without limitation Document 00 6113.12 (Construction Performance Bond) (if required) and Document 00 6113.18 (Construction Labor and Material Payment Bond), including all increases to those Bonds following assignment and novation of Trade Subcontracts.
  - 2. All insurance required to be maintained by CMR under Contract Documents, including without limitation all insurance required by Document 00 7311 (Indemnification and Insurance), excluding only worker's compensation insurance and any other insurance within the scope of Proposal and Cost Item 3.
  - 3. All taxes, including without limitation all sales and use taxes.
- C. Project general requirements costs compensated by this Proposal and Cost Item include without limitation:
  - 1. All scheduling hardware, software, licenses, equipment, materials and supplies.
  - 2. Purchase, lease or rental, build out, procurement and maintenance of temporary on-Site facilities, Project field and office trailers and other office trailer associated temporary facilities, including without limitation. (Assume (2) 12'x60' trailers for 24 months), including without limitation:
    - (a) Offices
    - (b) Telephones
    - (c) Plumbing
    - (d) Electrical: Power, lighting
    - (e) Office equipment of any types
    - (f) Information management systems
    - (g) Platforms
    - (h) Fencing, etc.
    - (i) Water
    - (j) Housekeeping
  - 3. All Project Site office equipment, material and supplies of all types, and all software therefore, including without limitation, computers, printers, plotters, copiers, FAX machines, audiovisual equipment, and kitchen supplies and equipment.
  - 4. Supplies, Office Equipment, Vehicles, for:
    - (a) All electronic media, blueprints and reproductions.
    - (b) All materials, equipment and supplies used for CMR's capture and/or management of any Project information.
    - (c) All shop drawings, submittals and similar depictions of intended work.
    - (d) All communication and/or computer network setup, and usage.
    - (e) All repair and maintenance of any item, equipment or component listed in this paragraph.
    - (f) All Project site office cleaning services.
    - (g) All CMR's motor vehicles used by any CMR's personnel and all operating costs thereof, including without limitation, fuel, license, insurance, maintenance and depreciation.
    - (h) All safety supplies and equipment.
    - (i) All preparation, production and provision of any operation and/or maintenance manuals and any other closeout papers or materials.

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- (j) All postage.
  - (k) Procurement and use of vehicles and fuel used coincidentally in Work otherwise included in the Contract Documents.
  - (l) Health and safety requirements of CMR Personnel, required by law or Owner procedures, CMR safety plan or insurance requirements.
  - (m) All travel, entertainment, lodging, board and the like.
  - 5. All (non-personnel costs) of preparation, production and provision of as-built and record drawings.
  - 6. Infection control.
  - 7. Surveying
  - 8. Protection of Work
  - 9. Handling and disposal fees
  - 10. Daily and final cleanup
  - 11. Repair or maintenance of any item listed herein
  - 12. Other incidental Work
  - 13. All items, activities and function similar to any of those described above.
  - 14. All travel, entertainment, lodging, board and the like.
- D. Costs paid under this Proposal and Cost Item may not include costs paid, incurred or included in any other Proposal or Cost Item, including without limitation any including without limitation any item included in Cost Item 3 (CMR's General Conditions) or any Work performed by a Trade Subcontractor. In the event of duplication, the Contract Price will be reduced by the amount of duplication.
- E. Exclusions. Notwithstanding any other provision of this Appendix B, costs under this Cost Item shall not include any of the following, which shall be included within the appropriate Trade Subcontractor package(s) and Cost Item 5: Costs of Trade Subcontractor bonds, insurance and taxes with respect to the Trade Subcontractor work.

**END OF APPENDIX C**

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**APPENDIX D**

**Future Subcontractor Buyout**

CMR shall plan the Work and prepare a subcontract bid package for a General Requirements subcontractor, or include in one or more trade subcontracts, General Requirements not included in Appendix C, to include:

1. Temporary utilities, temporary roads, parking area, temporary security or safety fencing and barricades, etc.
2. If and to the extent required any man/materials hoist.
3. Handling and disposal fees.
4. Daily and final site cleanup.
5. Repair or maintenance of any items listed herein.
6. Fencing: (Assume four moves, 400 LF x 18 months).
7. Temp Toilets: (Assume 4 temp toilets w/2 wash stations x 24 months).
8. Four story temp stair tower (at new elevator): (Assume 12 months).
9. Final cleaning: Carry \$7,500.
10. Preconstruction Survey: Carry \$15,000 for photo survey and report.
11. General Signage: Carry \$20,000 for signage.
12. Dumpsters, walk-off mats, SWPPP, temp power, fire extinguishers.

**END OF APPENDIX D**

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DOCUMENT 01 1000

**APPENDIX E**

**San Mateo Medical Center Infection Control Policy**

**11.9.4**

SUBJECT:	CONSTRUCTION, DEMOLITION, REMODELING OR RENOVATION INFECTION CONTROL
FUNCTION:	INFECTION CONTROL
AUTHOR:	INFECTION CONTROL

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**INTRODUCTION**

Hospital construction, demolition and remodeling activities can be a risk factor for certain nosocomial infections in patients, especially those who are immunosuppressed. Activities that disturb dust may be associated with transmission of *Aspergillus*, a fungus found in ceiling and wall spaces where dust has accumulated, whereby dispersing fungal spores which can be inhaled by a susceptible patient and cause disease. This policy is in accordance of the 2003 ***CDC Guidelines for Environmental Infection Control in Health-Care Facilities***.

**PURPOSE**

1. TO ENSURE A SAFE ENVIRONMENT.
2. To prevent the acquisition of health-acquired infections in patients, visitors and healthcare workers during hospital renovation or construction activities.

**POLICY**

1. To ensure a safe environment, planning for new construction or renovation must be reviewed by the hospital Infection Control Committee and the Director of Infection Control and/or the Medical Director of Infection Control as planning commences for a project in or adjacent to patient care areas.
2. Infection Control will be participate as needed with the construction project planning to review traffic flow patterns, waste disposal, required barriers, etc as designated by the Infection Control Risk Assessment (ICRA).
  - a. SMMC requires all contractors, subcontractors, material suppliers, vendors, employees, or agents to be bound by these same requirements. Before any on-site construction begins, a pre-construction meeting will be held and instruction on all requirements and expectations regarding infection control in the construction area will be communicated.
  - b. HEPA equipped air filtration machines, not less than 100 FPM shall provide airflow into construction areas at barricade entrances with doors fully open. HEPA equipped air filtration machines shall be connected to normal power and shall run continuously.
  - c. SMMC Plant Operations or Infection Control Departments may modify performance requirements for certain activities. Modifications made by SMMC personnel do not relieve the Contractor of compliance with proper infection control procedures.
  - d. Plant Operations or designee will routinely monitor construction/renovation areas.
3. Infection Control will monitor construction areas periodically. Environmental monitoring will be performed if appropriate. Whenever safe levels are exceeded, the project manager will be notified to correct conditions immediately.
4. All work shall be stopped on the project whenever a hazardous infection control deficiency exists.
5. Infection Control will offer education on health hazards of fungal spores to project managers and department managers/staff.

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6. An Infection Control Permit is required for Class 3 or higher procedures and any activity in a group 4 Infection Control Group.
7. Plant Operations Department will confirm specified air velocity whenever barricades are erected or modified on an “as needed” basis. Plant Operations Department will make sure air quality is monitored “as needed” throughout the project.

#### **AUTHORITY**

1. A SMMC Safety Officer, Director of Plant Operations, and/or Infection Control Practitioner has the authority to stop work of any project when a breach of the SMMC Construction and Renovation Policy and Procedure has been detected.

#### **ARTICLE II DEFINITIONS**

1. Construction activity types.

The construction activity types are defined by the amount of dust generated, the duration of the activity, and the amount of shared HVAC systems. Contact Safety Department, Plant Operations Department, and Infection Control Department if any activity is questionable under these guidelines.

Type A – Inspections and Non-Invasive Activities: Includes, but is not limited to, removal of ceiling tiles for visual inspection limited to 1 tile per 50 square feet, painting (but not sanding), wall covering, electrical trim work, minor plumbing and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.

Type B – Small scale, short duration activities which create minimal dust: Includes, but is not limited to, installation of telephone and computer cabling, access to chase spaces, cutting of walls or ceiling where dust migration can be controlled.

Type C – Any work which generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies: Includes, but is not limited to, sanding of wall for painting or wall coverings, removal of floor coverings, ceiling tiles and casework, new wall construction, minor ductwork or electrical work above ceilings, major cabling activities, and any activity which cannot be completed within a single work shift.

Type D – Major demolition and construction projects: Includes, but is not limited to, activities which require consecutive work shifts, heavy demolition or removal of a complete ceiling system and new construction.

2. Infection Control Risk Groups.

<b>GROUP 1 LOWEST</b>	<b>GROUP 2 MEDIUM</b>	<b>GROUP 3 MEDIUM-HIGH</b>	<b>GROUP 4 HIGHEST</b>
1. Office areas 2. Engineering 3. Environmental Services 4. Medical Records	1. All other patient care units (e.g., ultrasound, rehabilitation) 2. Admitting 3. Cafeteria 4. Laboratory	1. ED/Urgent Care 2. Radiology/MRI 3. PACU 4. Nuclear Medicine 5. Admission/discharge units 6. EKG, EEG, RT 7. Dialysis, 8. Wound Care 9. Central supply 10. Lab 11. Pediatrics, 12. Med Surg 13. Rehab Services – P.T.	1. Surgery 2. Cardiac catheterization 3. Intensive Care Units 4. Oncology 5. Anesthesia 6. Endoscopy 7. Pharmacy admixture 8. Radiation therapy 9. Sterile processing

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3. Construction Activity/Infection Control Matrix

Infection Control consultation is required when the construction activity and risk level indicates that Class III and Class IV control procedures are necessary.

<b>CONSTRUCTION ACTIVITY</b> →				
	<b>TYPE “A”</b>	<b>TYPE “B”</b>	<b>TYPE “C”</b>	<b>TYPE “D”</b>
<b>RISK LEVEL</b> ↓				
<b>Group 1</b>		<b>II</b>	<b>II</b>	<b>III/IV</b>
<b>Group 2</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
<b>Group 3</b>	<b>I</b>	<b>III</b>	<b>III/IV</b>	<b>IV</b>
<b>Group 4</b>	<b>III</b>	<b>III/IV</b>	<b>III/IV</b>	<b>IV</b>

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4. Description of Required Infection Control Precautions by Class matrix.

<b>Control Procedures by Class – Infection Control Construction</b>	
<b>Class I</b>	<ol style="list-style-type: none"> <li>1. Execute work by methods to minimize raising dust from construction operations.</li> <li>2. Immediately replace any ceiling tile displaced for visual inspection</li> <li>3. Minor demolition for remodeling</li> </ol>
<b>Class II</b>	<ol style="list-style-type: none"> <li>1. Provides active means to prevent airborne dust from dispersing into atmosphere.</li> <li>2. Water-mist work surfaces to control dust while cutting.</li> <li>3. Seal unused doors with duct tape.</li> <li>4. Block off and seal air vents.</li> <li>5. Wipe surfaces with disinfectant.</li> <li>6. Contain construction waste before transport in tightly covered containers.</li> <li>7. Wet mop and/or vacuum with HEPA-filtered vacuum before leaving work area.</li> <li>8. Place dust mat at entrance and exit or work area.</li> <li>9. Remove or isolate HVAC system in areas where work is being performed.</li> </ol>
<b>Class III</b>	<ol style="list-style-type: none"> <li>1. Obtain infection control permit before construction begins.</li> <li>2. Isolate HVAC system in area where work is being done to prevent contamination of the duct system.</li> <li>3. Complete all critical barriers or implement control cube method before construction begins.</li> <li>4. Maintain negative air pressure within work site using HEPA-filtered air filtration units.</li> <li>5. Do not remove barriers from work area until complete project is thoroughly cleaned by environmental services department.</li> <li>6. Vacuum work area with HEPA-filtered vacuums.</li> <li>7. Wet mop with disinfectant.</li> <li>8. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.</li> <li>9. Contain construction waste before transport in tightly covered containers.</li> <li>10. Cover transport receptacles or carts. Tape covering.</li> <li>11. Remove or isolate HVAC system in areas where work is being performed.</li> </ol>
<b>Class IV</b>	<ol style="list-style-type: none"> <li>1. Obtain infection control permit before construction begins.</li> <li>2. Isolate HVAC system in area where work is being done to prevent contamination of the duct system.</li> <li>3. Complete all critical barriers or implement control cube method before construction begins.</li> <li>4. Maintain negative air pressure within work site using HEPA-filtered air filtration units.</li> <li>5. Seal holes, pipes, conduits, and punctures appropriately.</li> <li>6. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving the work site or they can wear cloth or paper coveralls that are removed each time they leave the work site.</li> <li>7. All personnel entering the work site are required to wear shoe covers.</li> <li>8. Do not remove barriers from work area until completed project is thoroughly cleaned by the environmental services department.</li> <li>9. Vacuum work area with HEPA-filtered vacuums.</li> <li>10. Wet mop with disinfectant.</li> <li>11. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.</li> <li>12. Contain construction waste in tightly covered containers before transporting.</li> <li>13. Cover transport receptacles or carts. Tape covering.</li> <li>14. Remove or isolate HVAC system in areas where work is being done.</li> </ol>

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**PERFORMANCE REQUIREMENTS**

**1. Planning Phase**

1. Infection Control Department will participate in project kick-off meeting
2. Infection Control Department personnel will be involved in the planning phases for all renovation and new construction projects specific to the following major components (schematic design):
  - a. number and placement of isolation rooms.
  - b. air handling systems.
  - c. number and placement of hand washing facilities.
  - d. staff and patient traffic patterns for the duration of the project.
  - e. relocation decisions regarding patient care areas, storage areas, etc.
  - f. water supply and plumbing.
  - g. waste containment, transport and disposal.
  - h. selection of finishes and surfaces that can be effectively cleaned (in clinical areas).
  - i. accommodation of personal protection equipment.
  - j. storage of moveable modular equipment.

**2. Operational Phase**

1. Medical Waste Removal
  - a. Prior to the start of the renovation or construction project, hospital personnel must remove any medical waste, including sharps containers, from the areas to be renovated or constructed.
  - b. Infection Control department will be notified immediately if unexpected medical waste is encountered.
2. Integrity of Barrier Walls
  - a. The integrity of the barrier walls will assure a complete seal of the construction zone from adjacent areas.
  - b. Depending on the location of the project, adjacent uses and duration of project, barrier walls will consist of:
    - Rigid construction or
    - Fire-rated plastic sheeting
  - c. Barrier walls will be dust proof with airtight seals maintained at the full perimeter of the walls as well as all penetrations. (Two-foot overlap flaps for access to entry if fire-rate plastic sheeting is used.)
3. Environmental Control
  - a. Negative air pressure will be maintained within the construction zone with no disruption of the air systems of the adjacent areas, depending on project location.
  - b. Constant negative pressure, if required within the construction zone, will be monitored with an alarm device, which will be maintained and monitored by construction personnel. Optimally, construction-zone air will be exhausted directly with no potential for re-circulation. If an existing exhaust system cannot be located and a tie into re-circulated are system is necessary, a pre-filter and high efficiency filter (95 percent) will be used prior to exhaust to prevent contamination of the duct. Ventilation filters will be changed as needed. Industrial grade HEPA equipped air filtration machines capable of filtering 300-800 CFM of an air flow into construction area and not less than 100 FPM at barricade entrances with doors fully open. HEPA equipment shall run continuously.
  - c. Demolition debris will be removed in tightly fitted covered carts using specific traffic patterns. If transport outside of construction areas is necessary, cart wheels will be cleaned before exiting construction area.
  - d. Exterior window seals must be assured to minimize infiltration of outside excavation debris. Windows will remain closed at all times.
  - e. When using demolition chutes, chute opening must be sealed when not in use. If conditions dictate, chute and dumpster will be sprayed with water to maintain dust control.
  - f. When openings are made into existing ceilings, use Control Cube or place polystyrene enclosure around ladder sealing off opening, fitted tight to ceiling and floor. Provide thorough cleaning of existing surfaces that become exposed to dust.

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- g. Removal of construction barriers and ceiling protection shall be done carefully outside of normal work hours. After the removal of construction barriers and ceiling protection, vacuum and clean all surfaces free of dust.
- h. When access panels are opened in occupied areas for work above ceilings, use Control Cube or polyethylene enclosure around ladder sealing off opening, fitted tight to ceiling and floor.
- i. Adhesive mats or carpets at barricade entrances and in the anteroom shall be kept clean and changed as necessary to prevent accumulation and tracking of dust.
- j. An anteroom will be used to maintain negative airflow from clean area to work area.
- k. All existing ventilation ducts within construction area will be blocked off. Method for blocking ducts shall we airtight.
- 4. Traffic Control (Public)
  - a. Designated entry and exit procedures will be defined for each construction project where applicable.
  - b. All egress pathways will be free of debris
  - c. Unauthorized personnel will not be allowed to enter the construction zone.
  - d. Only designated elevators will be used for construction activities during scheduled times.
- 5. Cleaning and Disposal
  - a. The construction zone will be maintained in a clean manner by the contractors and will be swept daily or more frequently as needed to minimize dust.
  - b. A HEPA filtered vacuum will be used for all outside areas, not under negative pressure.
  - c. Adjacent entry areas need to be damp mopped daily or more frequently to minimize dust.
  - d. Walk-off mats will be used to minimize tracking of dust into adjacent areas and will be changed as needed.
  - e. Environmental Services will be responsible for the routine cleaning of adjacent areas and for the terminal cleaning of the construction zone prior to the opening of the newly renovated or constructed area.
  - f. Construction waste must be contained before transported. Sealed plastic bags for containment and/or cover are appropriate.
- 6. Contractor Personnel Requirements
  - a. Clothing will be free of loose soil and debris.
  - b. Personal protective equipment, including protective face shield, gloves and N-95 respirators will be utilized as appropriate for the task at hand.
  - c. Contractors entering sterile/invasive procedure areas will be provided with a disposable jump suit head covering and shoe coverings, which must be removed prior to exiting the work area.
  - d. Removal of construction barriers and ceiling protection shall be done carefully.
- 7. Permits/Submittals
  - a. Submit report of infection control procedures, including location and details of barrier.
  - b. An Infection Control Permit is required for Class III or higher procedures and any activity in a Group 4 Infection Control Group. Refer to shaded area on
  - c. Construction Activity/Infection Control Matrix.
  - d. When required, obtain Infection Control Permit from Infection Control before beginning any demolition or construction work.
  - e. Permit to be displayed at entrance to work area during entire construction period.
  - f. Return permit at completion of work.
- 8. Quality Control
  - a. The Infection Control Department will monitor biological counts in vicinity of construction work on an as needed basis. Whenever safe levels are exceeded, contractor will be notified to correct conditions immediately.
  - b. All work shall be stopped on the project whenever a hazardous infection control deficiency exists. Contractor shall take immediate action to correct all deficiencies.
  - c. Failure of Contractor correct such deficiencies will result in corrective action taken by the hospital and deducting all costs from the contract.

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**3. Completion Phase**

1. After completion of construction, ventilation will meet specifications as mandated by regulatory bodies. Filter will be visually inspected for plugging or leakage.
2. The area will be thoroughly cleaned and disinfected before being placed into service.
3. Water supply lines will be flushed before placing newly renovated or constructed areas into service. Infection Control Department must be notified prior to flushing.
4. Certification that water supply lines have been disinfected in accordance with state and local regulatory bodies as required.

**A. Compliance Monitoring**

1. The Plant Operations Director will conduct compliance monitoring as necessary. The following parameters will be monitored:
  - a. air handling
  - b. integrity of barrier walls
  - c. dress code
  - d. environmental control
  - e. noise
  - f. traffic control
  - g. water supply
2. Infection Control will monitor periodically

**B. Products and Materials**

1. Sheet Plastic: Fire retardant polystyrene, 6-mil thickness.
2. Barrier Doors: Solid core wood in metal frame, painted.
3. Industrial grade HEPA- filtered units capable of a filtration rate of 300 – 800 CFM with primary and secondary filters.
4. Exhaust Hoses: Heavy duty, flexible steel reinforced; Ventilation Blower Hose, WPG.
5. Adhesive Walk-Off Mats: Provide minimum size mats of 24 inches x 36 inches.
6. Disinfectant: Hospital approved disinfectant or equal.
7. Control Cube: Portable ceiling Access Module, "Kontrol Kube Jr." with heavy duty vinyl enclosure.

**C. Barriers**

1. Closed door with masking tape applied over the frame and door is acceptable for projects that can be contained.
2. Construction, demolition or reconstruction not capable of containment within a single room must have the following barriers erected.
  - a. Airtight plastic barrier that extends from floor to ceiling. Seams must be sealed with duct tape to prevent dust and debris from escaping.
  - b. Drywall barriers erected with joints covered or sealed to prevent dust and debris from escaping.
  - c. Seal all penetrations in existing barrier airtight.
  - d. Barriers at penetration of ceiling envelopes, chases and ceiling spaces to stop movement of air and debris.
  - e. Anteroom or double entrance openings that allow workers to remove protective clothing or vacuum off existing clothing.
  - f. At elevator shafts or stairways within the field of construction.
  - g. Overlapping flap minimum 2 feet wide at polyethylene enclosures for personnel access.

**INFECTION CONTROL PROCEDURES**

**GENERAL**

- A. Maintain manpower and equipment including dust mops, wet mops, brooms, buckets and clean wiping rags for cleaning fine dust from floors I adjacent occupied areas.
- B. Contain work areas outside of construction barriers, including spaces above ceilings, with full height polyethylene sheet barrier, tightly taped.
- C. Cleanup dust tracked outside of construction area immediately.

**IMPLEMENTATION**

- A. Temporary construction barriers and closures above ceilings shall be dust tight.
- B. Removal of debris shall be in tightly covered containers draped with a damp blanket.

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- C. Adhesive mats or carpets at barricade entrances and in the anteroom shall be kept clean and changed daily, or as necessary, to prevent accumulation of dust.
- D. Any dust tracked outside of barrier shall be removed immediately. Cleaning outside barrier to be by HEPA filtered vacuum or damp mop.
- E. Any ceiling access panels opened for investigation beyond sealed areas shall be replaced immediately when unattended.
- F. Block off all existing ventilation ducts within the construction area. Method of capping ducts shall be dust tight and withstand airflow.
- G. When openings are made into existing ceilings, use Control Cube or provide polystyrene enclosure around ladder sealing off opening, fitted tight to ceiling and floor. Provide thorough cleaning of existing surfaces which become exposed to dust.
- H. Removal of construction barriers and ceiling protection shall be done carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.
- I. When access panels are opened in occupied areas for work above ceilings. Use control Cube or polyethylene enclosure around ladder sealing off opening, fitted tight to ceiling and floor.
- J. All vacuuming outside areas not under negative pressure to be with a certified HEPA filtered vacuum.
- K. Construct anteroom to maintain negative airflow from clean area through anteroom and into work area.

**RESPONSIBILITIES: GENERAL and by ACTIVITY CLASS**

- A. The Contractor is responsible for obtaining the Infection Control Permit from the Project Manager and Infection Control prior to commencing construction.
- B. The Facilities Director, Facilities Project Manager, Safety Officer and Infection Control Department will evaluate every work order. They reserve the right to add requirements to a project on an individual basis.
- C. The Infection Control Department will make periodic visits to work site to ensure compliance of policy.
- D. Class I
  - 1. Execute work by methods to minimize raising dust from construction operations.
  - 2. Immediately replace any ceiling tile displaced for visual inspection.
  - 3. Refer to Procedures on Minor Disruption for Remodeling and Procedures for Construction Facilities and Temporary Controls.
  - 4. Cleanup and disposal in accordance with defined Procedures on Cleanup and Disposal.
- E. Class II.  
Provide active means to prevent air-borne dust from dispersing into atmosphere.  
Water mist work surfaces to control dust while cutting.  
Seal unused doors with masking tape.  
Block off and seal air vents.  
Wipe work surfaces with disinfectant.
- F. Class III
  - 1. Obtain Infection Control Permit from Infection Control before construction begins.
  - 2. Isolate HVAC system in area where work is being done to prevent contamination of duct system.
  - 3. Complete all critical barriers before construction begins or implement control cube method.
  - 4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
  - 5. Contain construction waste before transport in tightly covered containers
  - 6. Cover transport receptacles or carts with cart lid and then cover with damp blanket.
  - 7. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work areas.
  - 8. Place dust mat at entrance and exit of work area.
  - 9. Remove isolation of HVAC system in areas where work is being performed.
- G. Class IV.
  - 1. Obtain Infection Control Permit from Infection Control before construction begins.
  - 2. Isolate HVAC system in area where work is being done to prevent contamination of duct system.
  - 3. Complete all critical barriers or implement control cube method before construction begins.

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4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
5. Seal holes, pipes, conduits, and punctures appropriately.
6. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using an HEPA vacuum cleaner before leaving work Site or they can wear cloth or paper coveralls that are removed each time they leave the work site.
7. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work Area.
8. Provide adhesive walk-off mats at entrance to work Area within the anteroom. Replace used mats with new mats in accordance with manufacturer's recommendations.
9. Do not remove barriers from work area until completed project is inspected by Infection Control and thoroughly cleaned by Environmental Services Department.
10. Vacuum work area with HEPA filtered vacuums.
11. Wet mop area with disinfectant.
12. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.
13. Contain construction waste before transport in tightly covered containers.
14. Cover transport receptacle or carts. Cover cart with lid and then with damp blanket.
15. Remove isolation of HVAC system in areas where work is being performed.

**ENVIRONMENTAL MONITORING**

- A. Contractor is responsible for maintaining equipment and replacement of HEPA and other filters in accordance with manufacturer's recommendations.
- B. Infection Control will perform Field inspection and testing if indicated.
- C. Engineering will confirm specified air velocity whenever barricades are erected or modified.
- D. Facilities Project Manager will be responsible for obtaining and monitoring air quality throughout project as requested by Infection Control.

**ENFORCEMENT**

- A. For breach of this infection control policy the hospital will stop the work of the Project and the Contractor shall pay for all associated costs incurred by the hospital as well as for correction for the work.
- B. The Infection Control or Facilities will record the following:  
Document each violation with photographs  
Extract Contractor or Department information from the work log.  
Maintain a record of all infection control violations.
- C. Violations of infection control policies may affect status as a responsible Contractor for bidding future work. Facilities have the right to impose a \$500.00 fine for each violation.

**ADDITIONAL REQUIRED INFECTION-CONTROL MEASURES FOR INTERNAL CONSTRUCTION AND REPAIR PROJECTS**

- A. Prepare for the project:
  1. Use a multi-disciplinary team approach to incorporate infection control into the project.
  2. Conduct the risk assessment and a preliminary walk-through with project managers and staff.
- B. Educate staff and construction workers.
  1. Educate staff and construction workers about the importance of adhering to infection-control measures during the project.
  2. Provide educational materials in the language of the workers.
  3. Include language in the construction contract requiring construction workers and subcontractors to participate in infection-control training.
- C. Issue hazard and warning notices.
  1. Post signs to identify construction areas and potential hazards.
  2. Mark detours requiring pedestrians to avoid the work area.
- D. Relocate high-risk patients as needed, especially if the construction is in or adjacent to a Protective Environment area.
  1. Identify target patient populations for relocation based on the risk assessment.
  2. Arrange for the transfer in advance to avoid delays.
  3. At-risk patients should wear protective respiratory equipment (e.g., a high-efficiency mask) when outside their PE rooms.

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- E. Establish alternative traffic patterns for staff, patients, visitors, and construction workers.
  - 1. Determine appropriate alternate routes from the risk assessment.
  - 2. Designate areas (e.g., hallways, elevators, and entrances/exits) for construction worker use.
  - 3. Do not transport patients on the same elevator with construction materials and debris.
- F. Erect appropriate barrier containment.
  - 1. Use prefabricated plastic units or plastic sheeting for short-term projects that will generate minimal dust.
  - 2. Use durable rigid barriers for ongoing, long-term projects.
- G. Establish proper ventilation.
  - 1. Shut off return air vents in the construction zone, if possible, and seal around grilles.
  - 2. Exhaust air and dust to the outside, if possible.
  - 3. If recirculated air from the construction zone is unavoidable, use a pre-filter and a HEPA filter before the air returns to the HVAC system.
  - 4. When vibration-related work is being done that may dislodge dust in the ventilation system or when modifications are made to ductwork serving occupied spaces, install filters on the supply air grilles temporarily.
  - 5. Set pressure differentials so that the contained work area is under negative pressure.
  - 6. Use air flow monitoring devices to verify the direction of the air pattern.
  - 7. Exhaust air and dust to the outside, if possible.
  - 8. Monitor temperature, air changes per hour (ACH), and humidity levels (humidity levels should be <65%).
  - 9. Use portable, industrial grade HEPA filters in the adjacent area and/or the construction zone for additional ACH.
  - 10. Keep windows closed, if possible.
- H. Control solid debris.
  - 1. When replacing filters, place the old filter in a bag prior to transport and dispose as a routine solid waste.
  - 2. Clean the construction zone daily or more often as needed
  - 3. Designate a removal route for small quantities of solid debris.
  - 4. Mist debris and cover disposal carts before transport (i.e., leaving the construction zone).
  - 5. Designate an elevator for construction crew use.
  - 6. Use window chutes and negative pressure equipment for removal of larger pieces of debris while maintaining pressure differentials in the construction zone.
  - 7. Schedule debris removal to periods when patient exposures to dust is minimal.
- I. Control water damage.
  - 1. Make provisions for dry storage of building materials.
  - 2. Do not install wet, porous building materials (i.e., sheet rock).
  - 3. Replace water-damaged porous building materials if they cannot be completely dried out within 72 hours.
- J. Control dust in air and on surfaces.
  - 1. Monitor the construction area daily for compliance with the infection-control plan.
  - 2. Protective outer clothing for construction workers should be removed before entering clean areas.
  - 3. Use mats with tacky surfaces within the construction zone at the entry; cover sufficient area so that both feet make contact with the mat while walking through the entry.
  - 4. Construct an anteroom as needed where coveralls can be donned and removed.
  - 5. Clean the construction zone and all areas used by construction workers with a wet mop.
  - 6. If the area is carpeted, vacuum daily with a HEPA-filtered–equipped vacuum.
  - 7. Provide temporary essential services (e.g., toilets) and worker conveniences (e.g., vending machines) in the construction zone as appropriate.
  - 8. Damp-wipe tools if removed from the construction zone or left in the area.
  - 9. Ensure that construction barriers remain well sealed; use particle sampling as needed.
  - 10. Ensure that the clinical laboratory is free from dust contamination.
- K. Complete the project.
  - 1. Flush the main water system to clear dust-contaminated lines.
  - 2. Terminally clean the construction zone before the construction barriers are removed.



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3. Check for visible mold and mildew and eliminate (i.e., decontaminate and remove), if present.
4. Verify appropriate ventilation parameters for the new area as needed.
5. Do not accept ventilation deficiencies, especially in special care areas.
6. Clean or replace HVAC filters using proper dust-containment procedures.
7. Remove the barriers and clean the area of any dust generated during this work.
8. Ensure that the designated air balances in the operating rooms (OR) and protective environments (PE) are achieved before occupancy.
9. Commission the space as indicated, especially in the OR and PE, ensuring that the room's required engineering specifications are met.

**RESOURCES**

- A. Guidelines for Design and Construction of the Hospital and Health Care Facilities. 1996-1997; 2001
- B. APIC State-of-the-art report: The Role of Infection Control During Construction in Health Care Facilities. April 2000, AJIC
- C. Association for Professionals in Infection Control and Epidemiology. Tool Kit – Infection Control During Construction and Renovation. 1999
- D. Infection Control During Construction. A Guide to Prevention and JCAHO Compliance. 2002
- E. Managing Water Infiltration into Buildings. University of Minnesota. Environmental Health & Safety. 1998
- F. Centers for Disease Control and Prevention. (2003). Guidelines for environmental infection control in health-care facilities: recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee.

**ATTACHMENTS**

- Control of Airborne Contaminants During Hospital Construction, etc
- Door Knob Sign
- Emergency Water Shutdown Survey
- IC Construction Permit
- IC Steps during Emergency Water Shutdown
- Interim Life Safety Daily Monitoring
- Pre-Occupancy Project Documentation Sheet
- Project Site Assessment Tool
- Rounds Compliance Monitor
- Sample Set of Signs

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Infection Control Construction Permit					1 of 1	
				Permit No:		
Location of Construction:				Project Start Date:		
Project Coordinator				Estimated Duration:		
Contractor Performing Work				Permit Expiration Date:		
Supervisor:				Telephone:		
YES	NO	CONSTRUCTION ACTIVITY		YES	NO	INFECTION CONTROL RISK GROUP
		TYPE A: Inspection, non-invasive activity				GROUP 1: Least Risk
		TYPE B: Small scale, short duration, moderate to high levels				GROUP 2: Medium Risk
		TYPE C: Activity generates moderate to high levels of dust, requires greater 1 work shift for completion				GROUP 3: Medium/High Risk
		TYPE D: Major duration and construction activities Requiring consecutive work shifts				GROUP 4: Highest Risk
CLASS I		1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace any ceiling tile displaced for visual inspection.		3. Minor Demolition for Remodeling		
CLASS II		1. Provides active means to prevent air-borne dust from dispersing into atmosphere 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Wipe surfaces with disinfectant.		6. Contain construction waste before transport in tightly covered containers. 7. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. 8. Place dust mat at entrance and exit of work area. 9. Remove or isolate HVAC system in areas where work is being performed.		
CLASS III		1. Obtain infection control permit before construction begins. 2. Isolate HVAC system in area where work is being done to prevent contamination of the duct system. 3. Complete all critical barriers or implement control cube method before construction begins.		6. Vacuum work with HEPA filtered vacuums. 7. Wet mop with disinfectant 8. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 9. Contain construction waste before transport in tightly covered containers.		
Date		4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.		10. Cover transport receptacles or carts. Tape covering.		
Initial		5. Do not remove barriers from work area until complete project is thoroughly cleaned by Env. Services Dept.		11. Remove or isolate HVAC system in areas where work is being performed/		
Class IV		1. Obtain infection control permit before construction begins. 2. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 3. Complete all critical barriers or implement control cube method before construction begins.		7. All personnel entering work site are required to wear shoe covers 8. Do not remove barriers from work area until completed project is thoroughly cleaned by the Environmental Service Dept. 9. Vacuum work area with HEPA filtered vacuums. 10. Wet mop with disinfectant.		
Date		4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.		11. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.		
Initial		5. Seal holes, pipes, conduits, and punctures appropriately. 6. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site.		12. Contain construction waste before transport in tightly covered containers. 13. Cover transport receptacles or carts. Tape covering. 14. Remove or isolate HVAC system in areas where is being done.		
Additional Requirements:						
Date Initials 12 Hour uninterrupted exchange required				Date Initials Exceptions/Additions to this permit are noted by attached memoranda		
Permit Request By:				Permit Authorized By:		
Date:				Date:		

Summary  
Revision #4

**END OF APPENDIX E**

**San Mateo County – Project Development Unit  
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DOCUMENT 01 2600

**CONTRACT MODIFICATION PROCEDURES**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. Document includes:
  - 1. Description of general procedural requirements for alterations, modifications, and extras.
- B. Reference
  - 1. Public Contract Code Section 7105(d)(2).

**1.02. General**

- A. Any change in scope of Work or deviation from Contract Documents including, without limitation, extra work, or alterations or additions to or deductions from the original Work, shall not invalidate the original Contract, and shall be performed under the terms of the Contract Documents.
- B. [not used]
- C. Only Owner may initiate changes in scope of Work or deviation from Contract Documents. (See also paragraph 1.03.A.).
  - 1. CMR may initiate changes by submitting a Change Order Request (**COR**), Notice of Concealed or Unknown Conditions, or Notice of Hazardous Waste Conditions, accompanied by a Cost Proposal (see paragraph 1.03.A).
    - a. A COR shall be submitted to request changes in the Contract Documents.
    - b. Notices of Concealed or Unknown Conditions shall be submitted in accordance with Document 00 7200 (General Conditions).
    - c. Notices of Hazardous Waste Conditions shall be submitted in accordance with Document 00 7200 (General Conditions).
  - 2. CMR shall submit RFI's for clarifications in the Contract Documents.
  - 3. Owner may initiate changes by issuing an Architectural Supplemental Instruction (**ASI**) or Amended Contract Document (**ACD**), which may revise, add to or subtract from the Work.
  - 4. Owner may initiate changes in the Work or Contract Time by issuing a Request for Proposal (RFP).
  - 5. Owner may also, by Construction Change Directive (**CCD**), order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly. A CCD shall be used in the absence of total agreement on the terms of a Change Order and may, upon express written notice designating it as a CCD, consist of a Change Order executed by Owner only.

**1.03. Procedures**

- A. Cost Proposal and Procedures. Whenever CMR is required in this Document 01 2600 to prepare a Cost Proposal, and whenever CMR is entitled to submit a Cost Proposal and elects to do so, CMR shall prepare and submit to Owner for consideration a Cost Proposal using the form attached to this Document 01 2600. All Cost Proposals must contain a complete breakdown of costs of credits, deducts and extras; itemizing materials, labor, taxes, overhead and profit and any requested changes to Contract Time. All Subcontractor Work shall be so indicated. Individual entries on the Cost Proposal form shall be determined as provided in paragraphs 1.04 and 1.05 of this Document 01 2600. After receipt of a Cost Proposal with a detailed breakdown, Owner will act promptly thereon.
  - 1. If Owner accepts a Cost Proposal, Owner will prepare Change Order for Owner and CMR signatures.
  - 2. If Cost Proposal is not acceptable to Owner because it does not agree with cost and/or time included in Cost Proposal, Owner will submit in a response what it believes to be a reasonable cost and/or adjustment, if any. Except as otherwise provided in this Document

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- 01 2600, CMR shall have seven (7) Days in which to respond to Owner with a revised Cost Proposal.
3. When necessity to proceed with a change does not allow Owner sufficient time to conduct a proper check of a Cost Proposal (or revised Cost Proposal), Owner may order CMR to proceed on basis to be determined at earliest practical date. In this event, value of change, with corresponding equitable adjustment to Contract, shall not be more than increase or less than decrease proposed.
- B. Request for Information. Whenever CMR requires information regarding the Project or Contract Documents, or receives a request for information from a Subcontractor, CMR may prepare and deliver an RFI to Owner. CMR shall use RFI format provided by Owner and Architect concurrently via email. CMR shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI, indicating time within which a response is required. CMR's failure to reference RFI to an activity on the Progress Schedule and note time criticality on the RFI shall constitute CMR's waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI.
1. CMR shall distribute response to all appropriate Subcontractors.
  2. If CMR is satisfied with the response and does not request change in Contract Sum or Contract Time, then the response shall be executed without a change.
  3. If CMR believes the response is incomplete, CMR shall issue another RFI (with the same RFI number with the letter "A" indicating it is a follow-up RFI) to Owner clarifying original RFI. Additionally, Owner may return RFI requesting additional information should original RFI be inadequate in describing condition.
  4. If CMR believes that the response results in change in Contract Sum or Contract Time, CMR shall notify Owner with the issuance of a COR. If Owner disagrees with CMR, then CMR may give notice of intent to submit a Claim as provided in Article XII of Document 00 7200 (General Conditions), and submit its Claim as provided therein. If Owner agrees with CMR, or otherwise wishes CMR to submit a Cost Proposal, then CMR must submit a Cost Proposal to the Owner. CMR's failure to deliver either the foregoing notice and Claim or Cost Proposal by the respective deadlines stated in the foregoing sentences shall result in waiver of the right to file a Cost Proposal or Claim.
  5. CMR shall be responsible for its costs to implement and administer RFIs throughout the Contract duration. Regardless of the number of RFIs submitted, CMR shall not be entitled to additional compensation for the effort required to submit the RFIs. CMR shall be responsible for both Owner and its Architect/Engineer's administrative costs for answering RFIs where the answer could reasonably be found by reviewing the Contract Documents, as determined by Owner; at Owner discretion, such costs may be deducted from progress payments or final payment.
- C. Supplemental Instruction or Field Modification. Owner may issue an Architectural Supplemental Instruction (**ASI**) or Amended Contract Document (**ACD**) (also called Field Modification) to CMR.
1. If CMR is satisfied with Supplemental Instruction and does not request change in Contract Sum or Contract Time, then Supplemental Instruction shall be executed without a Change Order.
  2. If CMR believes that Supplemental Instruction results in change in Contract Sum or Contract Time, then CMR must submit a COR and Cost Proposal to Owner at a time established by Owner.
- D. Construction Change Directives. If at any time Owner believes in good faith that a timely Change Order will not be agreed upon using the foregoing procedures, Owner may issue a CCD with its recommended cost and/or time adjustment. Upon receipt of CCD, CMR shall promptly proceed with the change of Work involved and concurrently respond to Owner's CCD at a time established by Owner.
1. CMR's response must be any one of following:
    - a. Return CCD signed, thereby accepting Owner response, time and cost.

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- b. Submit a (revised if applicable) Cost Proposal with supporting documentation (if applicable, reference original Cost Proposal number followed by letter A, B, etc. for each revision), if Owner so requests.
    - c. Give notice of intent to submit a claim as described in Article XII of Document 00 7200 (General Conditions), and submit its claim as provided therein.
  2. If the CCD provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
    - a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
    - b. Cost to be determined in a manner agreed.
  3. CCD signed by CMR indicates the agreement of CMR therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.
  4. If CMR does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by Owner on the basis of reasonable expenditures and savings of those performing the Work attributable to the change including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. If the parties still do not agree on the price for a CCD, CMR may file a Claim per Article XII of Document 00 7200 (General Conditions). CMR shall keep and present an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this paragraph shall be limited to those provided in paragraphs 1.4 and 1.5 of this Document 01 2600.
  5. Pending final determination of cost to Owner, amounts not in dispute may be included in Applications for Payment. The amount of credit to be allowed by CMR to Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by Owner. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.
- E. Owner Requested RFP. Owner RFP will detail all proposed changes in the Work and request from CMR a Cost Proposal including proposed changes in Contract Sum and Contract Time from CMR. CMR shall furnish a Cost Proposal through to Owner at a time established by Owner. Upon approval of Cost Proposal, Owner will issue a Change Order directing CMR to proceed with extra Work. If the parties do not agree on the price or time for an RFP, Owner may either issue a CCD or decide the issue per Article XII of Document 00 7200 (General Conditions). CMR shall perform the changed Work notwithstanding any claims or disagreements of any nature.
- F. Differing Site Conditions and/or Hazardous Waste Conditions. CMR shall submit Notices of Differing Site Conditions and/or Hazardous Waste Conditions to resolve problems regarding differing underground Site conditions encountered in the execution of the Work pursuant to Article XIV of Document 00 7200 (General Conditions). If Owner determines that a change in Contract Sum or Contract Time is justified, Owner will issue RFP or CCD.
- G. All Changes.
  1. Documentation of Change in Contract Sum and Contract Time:
    - a. CMR shall document each proposal for a change in cost or time with sufficient data to allow evaluation of the proposal.
    - b. CMR shall, on request, provide additional data to support computations for:
      - (i) Quantities of products, materials, labor and equipment.
      - (ii) Taxes, insurance, and bonds.
      - (iii) Overhead and profit.
      - (iv) Justification for any change in Contract Time and new Progress Schedule showing revision due, if any.
      - (v) Credit for deletions from Contract, similarly documented.
    - c. CMR shall support each claim for additional cost, and for Work performed on a cost-and-percentage basis, with additional information including:
      - (i) Credit for deletions from Contract, similarly documented.

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- (ii) Origin and date of claim.
  - (iii) Dates and times Work was performed and by whom.
  - (iv) Time records and wage rates paid.
  - (v) Invoices and receipts for products, materials, equipment and subcontracts, similarly documented.
- H. Correlation of Other Items.
  - 1. CMR shall revise Schedule of Values and Application for Payment forms to record each authorized Change Order or CCD as a separate line item and adjust the Contract Sum as shown thereon prior to the next monthly pay period.
  - 2. CMR shall revise the Progress Schedules prior to the next monthly pay period.
  - 3. CMR shall enter changes in Project Record Documents prior to the next monthly pay period.
- I. Responses. For all responses for which the Contract Documents, including without limitation this Document 01 2600, do not provide a specific time period, recipients shall respond within a reasonable time.
- J. Disputes. For all disputes arising from the procedures herein, CMR shall follow Article XII of Document 00 7200.

**1.04. Cost Determination**

- A. Total Cost of Extra Work or Work Omitted. Total cost of extra Work or of Work omitted shall be the sum of actually incurred labor costs, material costs and equipment rental costs as defined herein (together, **Direct Costs of Construction**) plus overhead and profit markup as allowed herein. This limit applies in all cases of claims for extra Work, whether calculating Cost Proposals, Change Orders CCDs or any other Contract Modifications, or calculating claims of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. Neither CMR nor Subcontractors may recover any other costs arising out of or connected with the performance of extra Work, of any nature. No special, incidental or consequential damages may be claimed or recovered against Owner, its representatives or agents, whether arising from breach of contract, negligence or strict liability, unless specifically authorized in the Contract Documents.
- B. Overhead and Profit Markup. (Overhead and Profit shall be as defined in paragraph 1.8 of this Document 01 2600) Overhead and profit markup shall be a maximum of 20 percent of the Direct Costs of Construction, to be allocated between CMR and Subcontractors as CMR directs.
  - 1. Overhead and profit on labor for extra Work shall be 15 percent.
  - 2. Overhead and profit on materials for extra Work shall be 15 percent.
  - 3. Overhead and profit on equipment rental for extra Work shall be 10 percent.
  - 4. When extra Work is performed by a first tier Subcontractor, CMR shall receive a 5 percent markup on Subcontractors' total costs of extra Work. First tier Subcontractor's markup on its Work shall not exceed 15 percent.
  - 5. When extra Work is performed by a lower tier Subcontractor, CMR shall receive a total of 5 percent markup on the lower tier Subcontractors' total costs of extra Work. CMR and first tier Subcontractors and lower tier Subcontractors shall divide the 10 percent markup as mutually agreed.
  - 6. Notwithstanding the foregoing, in no case shall the total markup on any extra Work exceed 20 percent of the Direct Costs of Construction, notwithstanding the actual number of contract tiers.
- C. Contingency. Contingency shall be adjusted by 3 percent of Direct Cost of Construction of all extra work.
- D. On Contract Modifications covering both extra Work and Work omitted, overhead and profit shall be allowed, and contingency shall be adjusted, on the net increase only to Direct Costs of Construction. When the net difference is a deletion, no percentage for overhead and profit, or contingency, shall be allowed, but rather an appropriate percentage deduction shall be issued in the amount of the net difference.
- E. Overhead and profit markup shall include profit, small tools, cleanup, engineering, supervision,

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warranties, cost of preparing the cost proposal, jobsite overhead, home office overhead, and all amounts included within the definition thereof in paragraph 1.8 below. No markup will be allowed on taxes, insurance, and bonds.

- F. Taxes.
  - 1. All State sales and use taxes, County and applicable City sales taxes, shall be included.
  - 2. Federal and Excise tax shall not be included.
- G. Subcontract-Operated Equipment. When Subcontractor (of any tier)-operated equipment is used to perform extra Work, cost to Owner of operator shall be as follows:
  - 1. Payment for equipment will be made in accordance with paragraph 1.5.3 below.
  - 2. Payment for cost of labor will be made at no more than rates of such labor established by collective bargaining agreements for type of worker and location of Work, whether or not owner-operator is actually covered by such an agreement.
- H. Accord and Satisfaction: Every Change Order, Contract Modification and accepted CCD shall constitute a full accord and satisfaction, and release, of all CMR and Subcontractor claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay and any other type of claim. CMR may elect to reserve its rights to disputed claims arising from or relating to the changed Work at the time it signs a Change Order or approves a CCD, but must do so expressly in a writing delivered concurrently with the executed Change Order or approved CCD, and must also submit a Claim for the reserved disputed items pursuant to Article XII of Document 00 7200 no later than thirty (30) days of CMR's first written notice of its intent to reserve rights.

**1.05. Cost Breakdown**

- A. Labor. Cost of labor for Subcontractor workers (including forepersons when authorized by Owner) used in actual and direct performance of extra Work. Labor rate, whether employer is Subcontractor or other forces, will be sum of following:
  - 1. Actual Wages: Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation, and similar purposes.
  - 2. Labor surcharge: Payments imposed by local, county, state, and federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages as defined in paragraph 1.5.1(1) above, such as taxes and worker's compensation insurance. Such labor surcharge shall not exceed that set forth in California Department of Transportation official labor surcharges schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein.
- B. Material. Only materials furnished by Subcontractor and necessarily used in performance of extra Work will be paid for. Cost of such materials will be cost, including sales tax, to purchaser (Subcontractor or other forces) from supplier thereof, except as the following are applicable:
  - 1. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to Owner notwithstanding fact that such discount may not have been taken.
  - 2. For materials salvaged upon completion of extra Work, salvage value of materials shall be deducted from cost, less discounts, of materials.
  - 3. If cost of a material is, in opinion of Owner, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in paragraph 1.5.2(1) of this Document 01 2600.
- C. Equipment Rental. For Subcontractor-owned equipment, payment will be made at rental rates listed for equipment in California Department of Transportation official equipment rental rate schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein. If there is no applicable rate for an item of equipment, then payment shall be made for Subcontractor-owned equipment at rental rate listed in the most recent edition of the Association of Equipment Distributors (AED) book. For rented equipment, payment will be made based on actual rental invoices. Equipment used on extra Work shall be of proper size and type. If, however, equipment of unwarranted



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size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type, as determined by Owner. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of \$100 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.

1. For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra Work being performed or on standby as approved by Owner. The following shall be used in computing rental time of equipment:
    - a. When hourly rates are listed, less than 30 minutes of operation shall be considered to be ½ hour of operation.
    - b. When daily rates are listed, less than four hours of operation shall be considered to be ½ Day of operation.
  2. For equipment that must be brought to Site to be used exclusively on extra Work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:
    - a. Owner will pay for costs of loading and unloading equipment.
    - b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
    - c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission.
    - d. Owner will not make any payment for transporting and loading and unloading equipment if equipment is used on Work in any other way than upon extra Work.
  3. Rental period may begin at time equipment is unloaded at Site of extra Work and terminate at end of the performance of the extra Work or Day on which Owner directs discontinuance of use of equipment, whichever first occurs. Excluding Saturdays, Sundays, and Owner legal holidays, unless equipment is used to perform extra Work on such Days, rental time to be paid per Day shall be four hours for zero hours of operation, six hours for four hours of operation and eight hours for eight hours of operation, time being prorated between these parameters. Hours to be paid for equipment that is operated less than eight hours due to breakdowns, shall not exceed eight less number of hours equipment is inoperative due to breakdowns.
- D. Work Performed by Special Forces or Other Special Services. When Owner and CMR, by agreement, determine that special service or item of extra Work cannot be performed by forces of any Subcontractors, service or extra Work item may be performed by specialist. Invoices for service or item of extra Work on basis of current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with established practice of special service industry to provide complete itemization. In those instances wherein Subcontractors are required to perform extra Work necessitating a fabrication or machining process in a fabrication or machine shop facility away from Site, charges for that portion of extra Work performed in such facility may, by agreement, be accepted as a specialist billing. Owner must be notified in advance of all off-Site Work. In lieu of overhead and profit provided in paragraph 1.4.2 of this Document 01 2600, 15 percent will be added to specialist invoice price, after deduction of any cash or trade discount offered or available, whether or not such discount may have been taken.

**1.06. Force-Account Work**

- A. If it is impracticable because of nature of Work, or for any other reason, to fix an increase or decrease in price definitely in advance, the CMR may be directed to proceed at a not-to-exceed (NTE) maximum price which shall not under any circumstances be exceeded. Subject to such limitation, such extra Work shall be paid for at actual necessary cost for Force-Account Work

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or at the negotiated cost, as determined by Owner. The cost for Force-Account Work shall be determined pursuant to paragraphs 1.04 and 1.05 of this Document 01 2600.

- B. Force-Account Work shall be used when it is not possible or practical to price out the changed Work prior to the start of that Work. In these cases, Force-Account Work will be utilized during the pricing and negotiation phase of the change. Once negotiations have been concluded and a bilateral agreement has been reached, the tracking of the Work under Force-Account is no longer necessary. Force-Account Work shall also be used when negotiations between Owner and CMR have reached an impasse and a bilateral agreement on the value of the changed Work cannot be reached. Owner may approve other uses of Force-Account Work.
- C. Whenever any Force-Account Work is in progress, definite price for which has not been agreed on in advance, CMR shall report to Owner each Business Day in writing in detail amount and cost of labor and material used, and any other expense incurred in Force-Account Work on preceding Day, by using the Cost Proposal form attached hereto. No claim for compensation for Force-Account Work will be allowed unless report shall have been made.
- D. Whenever Force-Account Work is in progress, definite price for which has not been agreed on in advance, CMR shall report to Owner when 75 percent of the NTE amount has been expended.
- E. Force-Account Work shall be paid as extra Work under this Document 01 2600. Methods of determining payment for Work and materials provided in this paragraph 1.06 shall not apply to performance of Work or furnishings of material that, in judgment of Owner, may properly be classified under items for which prices are otherwise established in Contract Documents.

**1.07. Owner-Furnished Materials**

- A. Owner reserves right to furnish materials as it deems advisable, and CMR shall have no claims for costs and overhead and profit on such materials.

**1.08. Overhead and Profit Defined**

- A. The following constitutes charges that are deemed included in overhead and profit for all Contract Modifications, including Force-Account Work or CCD Work, whether incurred by CMR, Subcontractors, or suppliers, and neither CMR nor any Subcontractor may invoice or receive payment for these costs separately:
  - 1. Drawings: field drawings, Shop Drawings, etc., including submissions of drawings
  - 2. Routine field inspection of Work proposed
  - 3. General Superintendence
  - 4. General administration and preparation of cost proposals, schedule analysis, change orders and other supporting documentation as necessary
  - 5. Computer services
  - 6. Reproduction services
  - 7. Salaries of project Architect/Engineer, superintendent, timekeeper, storekeeper and secretaries
  - 8. Janitorial services
  - 9. Temporary on-Site facilities:
    - a. Offices
    - b. Telephones
    - c. Plumbing
    - d. Electrical: Power, lighting
    - e. Platforms
    - f. Fencing, etc.
    - g. Water
  - 10. Home office expenses
  - 11. Insurance and Bond premiums
  - 12. Commissions
  - 13. Procurement and use of vehicles and fuel used coincidentally in Work otherwise included in the Contract Documents
  - 14. Surveying

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- 15. Estimating
- 16. Protection of Work
- 17. Handling and disposal fees
- 18. Final cleanup
- 19. Other incidental Work
- 20. All amounts for items in Bid Items 3 and 4 as described in Document 01 1000 (Summary).

**1.09. Records And Certification**

- A. Force-Account (cost reimbursement) charges shall be recorded daily and summarized in Cost Proposal form attached hereto. CMR or authorized representative shall complete and sign form each day. CMR shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; a list by size type and identification number of equipment and hours operated; and an indication of all Work performed by specialists.
- B. No payment for Force-Account Work shall be made until CMR submits original invoices substantiating materials and specialist's charges.
- C. Owner shall have the right to audit all records in possession of CMR relating to activities covered by CMR's claims for modification of Contract, including Force-Account Work and CCD Work.
- D. Further, Owner will have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, in possession of CMR relating to any transaction or activity occurring or arising out of, or by virtue of, the Contract. If CMR is a joint venture, right of Owner shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member. This right shall be specifically enforceable, and any failure of CMR to voluntarily comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been subject to the Article XII of Document 00 7200.

**ARTICLE II – PRODUCTS – NOT USED**

**ARTICLE III – EXECUTION – NOT USED**

**END OF DOCUMENT 00 2600**

**COST PROPOSAL FORM FOLLOWS ON NEXT PAGE**

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**COST PROPOSAL (CP)**

**SAN MATEO HEALTH SYSTEM CAMPUS UPGRADE PROJECT**

Contract Number \_\_\_\_\_

CP Number: \_\_\_\_\_

Date: \_\_\_\_\_

In \_\_\_\_\_ Response \_\_\_\_\_ To \_\_\_\_\_

RFP #, etc.

**To: COUNTY OF SAN MATEO**

Attention: \_\_\_\_\_

**[ENTER OWNER ADDRESS]**

Telephone (\_\_\_\_) [\_\_\_\_]

Subject Ref. No: \_\_\_\_\_

(for Project Manager use only)

Fax: (\_\_\_\_) [\_\_\_\_]

**From: [INSERT CMR'S NAME/ADDRESS]**

This Cost Proposal is in response to the above-referenced \_\_\_\_\_ [insert RFP, etc. as applicable].

Brief description of change(s): \_\_\_\_\_

ITEM DESCRIPTION	CMR	SUB 1	SUB 2	SUB 3	SUB 4	TOTAL
Direct Labor Cost						
Material						
Equipment						
<b>Total Cost of Construction</b>						
CMR Self-Performing 15 percent						
Performing Subcontractor's Overhead & Profit on Materials 15 percent						
Performing Subcontractor's Overhead & Profit on Equipment 10 percent						
Overhead & Profit to CMR for Subcontractor's Work 5 percent						
Contingency (3%)						
(Percent of Total Cost above not including any O/P or contingency)						
<b>GRAND TOTAL</b>						
<b>REQUESTED CHANGE IN CONTRACT TIME (DAYS)</b>						
By CMR:	Signature:				Date:	

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**END OF DOCUMENT – COST PROPOSAL**

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**DOCUMENT 01 2900**

**PAYMENT PROCEDURES**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. Document includes description of requirements and procedures for determining amount of Work performed and for obtaining payment for Work performed.

**1.02. References**

- A. California Public Contract Code
- B. Code of Civil Procedure
- C. Government Code

**1.03. Scope of Work**

- A. Work under Contract Documents, or under any Bid Item, allowance, or alternate, shall include all labor, materials, taxes, transport, handling, storage, supervision, administration, and all other items necessary for the satisfactory completion of Work, whether or not expressly specified or indicated.

**1.04. Determination of Quantities**

- A. Quantity of work to be paid for under any item for which a unit price is fixed in Contract Documents shall be number, as determined by Owner, of units of work satisfactorily completed in accordance with Contract Documents or as directed by Owner. Unless otherwise provided, determination of number of units of work so completed will be based, so far as practicable, on actual measurement or count within prescribed or ordered limits, and no payment will be made for work done outside of limits. Measurements and computations will be made by methods set forth in Contract Documents, including without limitation this Document 01 2900. If methods are not so set forth, measurements shall be made in any manner which Owner considers appropriate for class of Work measured (e.g., pre-assigned values, percentage completion, units completed or incremental milestones). Contractor must immediately inform Owner of any disputes regarding quantity measurements and shall immediately supply Owner with any documentation supporting the disputed measurements.

**1.05. Scope of Payment**

- A. Except as otherwise expressly stated in Document 01 1000 (Summary), payment to Contractor at the unit price or other price fixed in Contract Documents for performing Work required under any item, or (if the Contract is on a single lump sum price basis) at the lump sum price fixed in the Contract Documents for performing all Work required under Contract Documents, and as either may be adjusted pursuant to any approved Change Order or Construction Change Directive, shall be full compensation for completing, in accordance with Contract Documents, all Work required under the item or under Contract Documents, and for all expense incurred by Contractor for any purpose in connection with the performance and completion of said Work, including all incidental work necessary for completion of the Work.
- B. The Contract Sum, whether lump sum, unit price or otherwise, shall be deemed to include all costs necessary to complete required Work, all costs (if any) for loss or damage arising from nature of Work or prosecution of the Work, and from action of elements. Unless Contract Documents expressly provide otherwise, the Contract Sum shall be deemed to include:
  - 1. Any and all costs arising from any unforeseen difficulties which may be encountered during, and all risks of any description connected with, prosecution of Work or prosecution of Bid Item (whether lump sum or unit price) until acceptance by Owner;
  - 2. All expenses incurred due to suspension, or discontinuance of Work or discontinuance of Bid Item (whether lump sum or unit price) as provided in Contract Documents;
  - 3. Escalation to allow for cost increases between time of Contract Award and completion of Work or completion of Bid Item (whether lump sum or unit price).

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- C. Whenever it is specified herein that Contractor is to do work or furnish materials of any class for which no price is fixed in Contract Documents, it shall be understood that Contractor is to do such work or furnish such materials without extra charge or allowance or direct payment of any sort, and that cost of doing work or furnishing materials is to be included in price Bid, unless it is expressly specified herein, in particular cases, that work or material is to be paid for as extra work.
- D. No payment shall be made for materials or equipment not yet incorporated into the Work, except as specified in Document 01 1000 (Summary) or as may be agreed to by Owner in its sole discretion.
- E. Where Contractor requests payment on the basis of materials and equipment not incorporated in the Work, Contractor must satisfy the following conditions:
  - 1. The materials and/or equipment shall be delivered and suitably stored at the Site or at another local location agreed to in writing, for example, a mutually acceptable bonded and insured warehouse;
  - 2. Full title to the materials and/or equipment shall vest in Owner at the time of delivery to the Site, warehouse or other storage location;
  - 3. Obtain a negotiable warehouse receipt, endorsed over to Owner for materials and/or equipment stored in an off-site warehouse. No payment will be made until such endorsed receipts are delivered to Owner;
  - 4. Stockpiled materials and/or equipment shall be available for Owner inspection, but Owner shall have no obligation to inspect them and its inspection or failure to inspect shall not relieve Contractor of any obligations under the Contract Documents. Materials and/or equipment shall be segregated and labeled or tagged to identify these specific Contract Documents;
  - 5. After delivery of materials and/or equipment, if any inherent or acquired defects are discovered, defective materials and/or equipment shall be removed and replaced with suitable materials and/or equipment at Contractor's expense;
  - 6. At Contractor's expense, insure the materials and/or equipment against theft, fire, flood, vandalism, and malicious mischief, as well as any other coverages required under the Contract Documents;
  - 7. Contractor's Application for Payment shall be accompanied by a bill of sale, invoice or other documentation warranting that Owner has received the materials and equipment free and clear of all liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect Owner interest therein, all of which must be satisfactory to Owner. This documentation shall include, but not be limited to, conditional releases of mechanics' liens and stop notices from all those providing materials and equipment as to which the Application for Payment relates, as well as unconditional releases of the same from the same as to the previous Application for Payment for which they have not already been provided.
- F. Amounts previously paid for materials and equipment prior to incorporation into the Work shall be deducted from amounts otherwise due Contractor as they are incorporated.
- G. Nothing in the Contract Documents shall be construed as vesting in Contractor any right of property ownership in the materials used in the Work after they have been attached or affixed to the Work or the soil, or after payment has been made for ninety percent (90%) of the value of materials delivered to the site of the Work, or stored subject to or within the control of Owner. All such materials become the property of Owner upon being so attached or affixed or upon payment of ninety percent (90%) of the value of material delivered to the Work site or stored subject to or within the Owner's control.

**1.06. Basis of Payment**

- A. Unit Price Quantities: When estimated quantity for specific portions of Work is listed in Proposal Form, quantity of Work to be paid for shall be actual number of units satisfactorily completed, as determined by Owner and certified by Contractor, in accordance with Contract Documents.
- B. Lump Sum: When estimated quantity for specific portion of Work is not indicated and unit is designated as lump sum, payment will be on a lump sum basis for Work satisfactorily completed in accordance with Contract Documents.
- C. Allowances: Allowance items (if any) will be paid as provided in Document 01 1000 (Summary). Funds authorized for Allowance Work will not be released for Contract payments unless Owner has authorized Allowance Work in writing.
- D. Owner does not expressly, or by implication, agree, warrant, or represent in any manner, that actual amount of Work will correspond with amount shown or estimated and reserves right to increase or

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decrease amount of any class or portion of Work, to leave out entire Work item or items, or to add Work not originally included in Contract Documents, when in its judgment such change is in best interest of Owner. No change in Work shall be considered a waiver of any other condition of Contract Documents. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as otherwise expressly provided for in Contract Documents, because of any differences between amount of Work actually done and estimated amount as set forth herein, or for elimination of Work items.

**1.07. Progress Payments**

- A. If requested by Contractor, progress payments will be made monthly.
- B. Schedule of Values.
  - 1. Within twenty Days from issuance of Notice of Award and prior to Contractor's first Application for Payment, submit a detailed breakdown of its Bid by Permit/Bid Items, scheduled Work items and/or activities, including coordination responsibilities and Project Record Documents responsibilities (Schedule of Values). Where more than one Subcontractor comprises the work of a Work item or activity, the Schedule of Values shall show a separate line item for each subcontract. Categorize items per CSI MasterFormat 2004 Division format established in Table of Contents, identifying each line item by number and title of respective Specification Sections. Furnish such breakdown of the total Contract Sum by assigning dollar values (cost estimates) to each applicable Progress Schedule network activity, which cumulative sum equals the total Contract Sum. The Schedule of Values shall contain Owner's name, the Project's name, number and location, Contractor's name and address and date, and shall be in a format and contain such detail as may be directed by Owner to facilitate and clarify future progress payments to Contractor for direct Work under Contract Documents.
  - 2. Contractor's overhead, profit, insurance, cost of bonds (except to the extent expressly identified in a Bid Item) and/or other financing, as well as "general conditions costs," (e.g., Site cleanup and maintenance, temporary roads and access, off-site access roads, temporary power and lighting, security, and the like), shall be identified as separate line items (and shall not be prorated through all activities) so that the sum of all the Schedule of Values line items equals Contractor's total Contract Sum, less any allowances designated by Owner. Scheduling, record documents and quality assurance control shall be separate line items.
  - 3. Owner will review the breakdown in conjunction with the Progress Schedule to ensure that the dollar amounts of this Schedule of Values are, in fact, fair market cost allocations for the Work items listed. Upon favorable review by Owner, Owner will accept this Schedule of Values for use. Owner shall be the sole judge of fair market cost allocations.
  - 4. Owner will reject any attempt to increase the cost of early activities, i.e., "front loading," resulting in an inaccurate reallocation of moneys until such "front loading" is corrected. Repeated attempts at "front loading" may result in suspension or termination of the Work for default, or refusal to process progress payments until such time as the Schedule of Values is acceptable to Owner.
- C. Applications for Payment. Contractor shall establish and maintain records of cost of the Work in accordance with generally accepted accounting practices. In addition:
  - 1. On or before the 22nd day of each month, Contractor shall submit to Owner a marked up copy of an Application for Payment for the cost of the Work put in place during the period of the current month. This marked up copy of percentages complete will allow Owner and the Project Inspector to inspect and confirm these percentages. Owner will then return the results of its review to the Contractor so it can prepare its monthly billing in time for the Schedule update/payment meeting as noted in Document 01 3100. The agreed Application for Payment shall be for the total value of activities completed or partially completed, including approved activity costs, based upon Schedule of Values prices (or Bid item prices if unit price) of all labor and materials incorporated in the Work up until midnight of the 25th Day of that one month period, less the aggregate of previous payments. Accumulated retainage shall be shown as a separate item in payment summary. Contractor shall submit in a form acceptable to Owner an itemized cost breakdown of Contractor's record of Cost of the Work, together with supporting data and any certification required by Owner. If Contractor



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- is late submitting its Application for Payment (or the preliminary marked up Application for Payment), the Application may be processed at any time during the succeeding one-month period, resulting in processing of Contractor's Application for Payment being delayed for more than a Day for Day basis.
2. Applications for Payment may include, but are not necessarily limited to the following:
    - a. Material, equipment, and labor incorporated into the Work, less any previous payments for the same;
    - b. Up to 75 percent of the cost of equipment identified in paragraph 1.05.E. of this Document 01 2900 (if any), if purchased and delivered to the Site or stored off Site, as may be approved by Owner.
    - c. Up to 50 percent of the cost of materials identified in paragraph 1.05.E. of this Document 01 2900 (if any), specifically fabricated for the Project that are not yet incorporated into the Work.
  3. Concurrently with each Application for Payment, or as otherwise provided in Contract Documents, Contractor shall submit Contractor and its Subcontractors' certified payroll records required to be maintained pursuant to Labor Code section 1776 for all labor performed during pay periods ending during the period covered by the Application for Payment. All such submissions shall be in such form (including without limitation hard copy or electronic) as provided in Contract Documents or as Owner may request.
  4. At the time any Application for Payment is submitted, Contractor shall certify in writing the accuracy of the Application and that Contractor has fulfilled all scheduling requirements of Document 00 7200 (General Conditions) and Document 01 3200 (Construction Progress Documentation), including updates and revisions. A responsible officer of Contractor shall execute the certification.
  5. Payment Applications must be accompanied by all (if any) documentation required by Owner's SBE Program.
  6. If Contractor fails to timely deliver any of the following items, Owner may in its sole discretion, withhold five percent (5%) of each Application for Payment unless and until received:
    - a. All required monthly progress schedule update information required by Contract Documents (including without limitation Document 01 3200 Construction Progress Documentation).
    - b. All Project Record Document submittals required by the Contract Documents (including without limitation Document 01 7800 Closeout Submittals).
  7. Each Application for Payment shall list each Change Order and Construction Change Directive (CCD) executed prior to date of submission, including the Change Order/CCD Number, and a description of the work activities, consistent with the descriptions of original work activities. Submit a monthly Change Order/CCD status log to Owner.
  8. Contractor shall maintain consistency with previous approved Applications for Payment.
  9. If Owner requires substantiating data, submit information requested by Owner, with cover letter identifying Project, Application for Payment number and date, and detailed list of enclosures. Submit one copy of substantiating data and cover letter for each copy of Application for Payment submitted.
  10. If Contractor fails or refuses to participate in work reconciliations or other construction progress evaluation with Owner, Contractor shall not receive current payment until Contractor has participated fully in providing construction progress information and schedule update information to Owner.
- D. Progress Payments.
1. Owner will review Contractor's Application for Payment following receipt. If adjustments need to be made to percent of completion of each activity, Owner will make appropriate notations and return to Contractor. Contractor shall revise and resubmit. All parties shall update percentage of completion values in the same manner, i.e., express value of an accumulated percentage of completion to date.
  2. Each Application for Payment may be reviewed by Owner and/or inspectors to determine whether the Application for Payment is proper, and shall be rejected, revised, or approved by Owner pursuant to the Schedule of Values prepared in accordance with paragraph 1.07.B. of this Document 01 2900.

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3. If it is determined that the Application for Payment is not proper and suitable for payment, Owner will return it to Contractor as soon as practicable, but no later than seven Days after receipt, together with a document setting forth in writing the reasons why the Application for Payment is not proper. If Owner determines that portions of the Application for Payment are not proper or not due under the Contract Documents, then Owner may approve the other portions of the Application for Payment, and in the case of disputed items or defective Work not remedied, may withhold up to 150 percent of the disputed amount from the progress payment.
  4. Pursuant to Public Contract Code section 20104.50, if Owner fails to make any progress payment within 30 Days after receipt of an undisputed and properly submitted Application for Payment from Contractor, Owner shall pay interest to Contractor equivalent to the legal rates set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure. An Application for Payment is not considered undisputed until it has been reviewed and approved by Owner's PDU Director or Director's Designee. The 30-Day period shall be reduced by the number of Days by which Owner exceeds the seven-Day return requirement set forth herein.
  5. As soon as practicable after approval of each Application for Payment for progress payments, Owner will pay to Contractor in manner provided by law, an amount equal to 90 percent of the amounts otherwise due as provided in the Contract Documents, or a lesser amount if so provided in Contract Documents, provided that payments may at any time be withheld if, in judgment of Owner, Work is not proceeding in accordance with Contract, or Contractor is not complying with requirements of Contract, or to comply with stop notices or to offset liquidated damages accruing or expected.
  6. Before any progress payment or final payment is due or made, Contractor shall submit satisfactory evidence that Contractor is not delinquent in payments to employees, Subcontractors, suppliers, or creditors for labor and materials incorporated into Work. This specifically includes, without limitation, conditional lien release forms for the current progress payment and unconditional release forms for past progress payments. Owner also may elect in its sole discretion to pay progress payments by joint check to Contractor and each Subcontractor having an interest in that progress payment in such amount.
  7. Owner reserves and shall have the right to withhold payment for any equipment and/or specifically fabricated materials that, in the sole judgment of Owner, are not adequately and properly protected against weather and/or damage prior to or following incorporation into the Work.
  8. Granting of progress payment or payments by Owner, or receipt thereof by Contractor, shall not be understood as constituting in any sense acceptance of Work or of any portion thereof, and shall in no way lessen liability of Contractor to replace unsatisfactory work or material, though unsatisfactory character of work or material may have been apparent or detected at time payment was made.
  9. When Owner shall charge sum of money against Contractor under any provision of Contract Documents, amount of charge shall be deducted and retained by Owner from amount of next succeeding progress payment or from any other monies due or that may become due Contractor under Contract. If, on completion or termination of Contract, such monies due Contractor are found insufficient to cover Owner charges against it, Owner shall have right to recover balance from Contractor or Sureties.
- E. Retention Changes.
1. Following satisfactory and timely completion of individual Project Component Group, following Contractor's request, Owner may, in its sole discretion, elect to do one or more of the following:
    - a. Notwithstanding paragraph 1.07.D.5 above, pay any or all subsequent Applications for Payment for progress payments at the rate of 95 percent of the amounts otherwise due.
    - b. Release to Contractor any retention otherwise held by Owner.
  2. Owner reserves the right to revoke any election under paragraph 1.07.D.5 above at any time.
  3. Nothing in this paragraph 1.07.D. shall lessen or diminish any Owner right or remedy, including without limitation Owner right to require Contractor to perform all Work within the time otherwise required in the Contract Documents.

**1.08. Substitution of Securities in Lieu of Retention**

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- A. In accordance with the provisions of Public Contract Code section 22300, substitution of securities for any moneys withheld under Contract Documents to ensure performance is permitted under following conditions:
1. At request and expense of Contractor, securities listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and Owner which are equivalent to the amount withheld under retention provisions of Contract shall be deposited with Controller or with a state or federally chartered bank in California, as the escrow agent, who shall then pay such monies to Contractor. Upon satisfactory completion of Contract, securities shall be returned to Contractor.
  2. Alternatively, Contractor may request and Owner shall make payment of retentions earned directly to the escrow agent at the expense of Contractor. At the expense of Contractor, Contractor may direct the investment of the payments into securities and receive the interest earned on the investments upon the same terms provided for in this Document 01 2900 for securities deposited by Contractor. Upon satisfactory completion of Contract Documents, Contractor shall receive from escrow agent all securities, interest, and payments received by the escrow agent from Owner, pursuant to the terms of this Document 01 2900. Pay to each Subcontractor, not later than 20 Days after receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention withheld to insure the performance of Contractor.
  3. Contractor shall be beneficial owner of securities substituted for monies withheld and shall receive any interest thereon.
  4. Enter into escrow agreement with Controller according to Document 00 6801 (Escrow Agreement for Security Deposit in Lieu of Retention), as authorized under Public Contract Code section 22300, specifying amount of securities to be deposited, terms and conditions of conversion to cash in case of default of Contractor, and termination of escrow upon completion of Contract Documents.
  5. Public Contract Code section 22300 is hereby incorporated in full by this reference.

**1.09. Substantial Completion Payment**

- A. Following issuance of Certificate of Substantial Completion, submit Application for Payment reflecting Certificates of Partial Substantial Completion (if any) issued previously for Owner occupancy of designated portions of Work.
- B. Required administrative actions and submittals that precede or coincide with this application include:
1. Occupancy permits and similar approvals.
  2. Warranties and maintenance agreements (dated to commence on date of Substantial Completion).
  3. Test/adjust/balance records.
  4. Maintenance and training instructions and completion of training as required by the Contract Documents, including Document 01 8200 (Demonstration and Training).
  5. Meter readings.
  6. Start-up performance reports.
  7. Change-over information related to Owner's occupancy, use, operation, and maintenance.
  8. Advice on shifting insurance coverages.
  9. Final progress photographs.
  10. Comprehensive list of incomplete or non-complying Work (initial punch list).
  11. Any other items required by Document 01 7800 (Closeout Submittals)

**1.10. Final Payment**

- A. As soon as practicable after all required Work is completed in accordance with Contract Documents, including commissioning, punch list, testing, record documents and Contractor maintenance after Final Acceptance, Owner will pay to Contractor, in manner provided by law, unpaid balance of Contract Sum of Work (including without limitation retentions), or whole Contract Sum of Work if no progress payment has been made, determined in accordance with terms of Contract Documents, less sums as may be lawfully retained under any provisions of Contract Documents or by law.
- B. Prior progress payments shall be subject to correction in the final payment. Owner determination of

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amount due as final payment shall be final and conclusive evidence of amount of Work performed by Contractor under Contract Documents and shall be full measure of compensation to be received by Contractor.

- C. Contractor and each assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment, and as a condition precedent to Owner obligation to make final payment, Document 00 6530 (Agreement and Release of Any and All Claims) discharging Owner, its officers, agents, employees, and consultants of and from liabilities, obligations, and claims arising under Contract Documents.

**1.11. Effect of Payment**

- A. Payment will be made by Owner, based on Owner observations at the Site and the data comprising the Application for Payment. Payment will not be a representation that Owner has:
1. Made exhaustive or continuous on-Site inspections to check the quality or quantity of Work;
  2. Reviewed construction means, methods, techniques, sequences, or procedures;
  3. Reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by Owner to substantiate Contractor's right to payment; or
  4. Made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum.

**1.12. Materials**

- A. General Requirements
1. Contractor must not purchase any materials, supplies, or equipment for the Work subject to any chattel mortgage or subject to a conditional sale or other agreement by which any interest therein or in any part thereof is retained by the seller or the Supplier.
  2. Contractor warrants free and clear title to all material, supplies, and equipment Installed or incorporated in the Work and agrees upon Completion of the Work to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by Contractor, to Owner free from any claims, liens or charges of any kind. Contractor nor any person, firm, or corporation furnishing materials, labor or services for any Work has the right to place a lien upon the premises or any improvement or appurtenances therein.
  3. The provisions of this Document 00 2900.1.12 (General Requirements), must be inserted in all Subcontracts and material contracts and notice of its provisions must be provided to all persons furnishing material for the Work when no formal contract is entered into for such material.

**ARTICLE II – PRODUCTS – NOT USED**

**ARTICLE III – EXECUTION – NOT USED**

**END OF DOCUMENT 00 2900**

**DOCUMENT 01 3100**

**PROJECT MANAGEMENT AND COORDINATION**

**ARTICLE I - GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 - Related Documents And Sections
    - c. 1.03 – Definitions (Not Used)
    - d. 1.04 – Coordination
    - e. 1.05 – Pre-work Verification
    - f. 1.06 – Administrative Actions
    - g. 1.07 - Conservation
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents And Sections (Not Used)**

**1.03. Definitions (Not Used)**

**1.04. Coordination**

- A. Contractor must not delegate Contractor's responsibility for coordination of the Work to any Subcontractor.
- B. Contractor must provide a General Superintendent whose sole responsibility is administration of the Contractor's Work and the coordination of the Work of the Contractor's Subcontractors and suppliers.
- C. Contractor to financially compensate Owner for any originally-submitted Contractor's staff being removed from the Project without Owner's written authorization. Financial compensation is to be determined by Owner.
- D. Contractor must provide administrative and supervisory personnel as needed or required for timely compliance with all administrative requirements of the Contract Documents and proper coordination of the performance of the Work.
- E. Contractor must ensure that each Subcontractor provides personnel as reasonably required for management and coordination of the Subcontractor's Work and for coordination of the Subcontractor's Work with the Work of the entire Project.
- F. Contractor must coordinate the Work to ensure efficient and orderly installation of each part of the Work of the entire Project including but not limited to:
  - 1. Coordinating all aspects of the Work as required to provide the Owner with a complete and operable facility.
  - 2. Coordinating the Work with the work of other contractors and entities to ensure efficient and orderly installation of each part of the Work of the entire Project.
  - 3. Managing the Project Shut Down process between and among all subcontractors in accordance with Owner's policy, which requires ten (10) working days' notice and approval prior to any Shut Down.
  - 4. All MEP, utilities, and medical gas shut downs that affect any hospital critical system will require an MOP (Method of Procedure) to be generated for that specific Shut Down. The MOP will then be submitted to Owner ten (10) working days prior for review and approval so as not to affect the Project schedule for this work.
  - 5. Coordinating installation of different components and systems of the Work to ensure maximum accessibility for required maintenance, service, and repair.
  - 6. Coordinating the Work included in different Sections of the Project Manual that depend on each other for proper installation, connection, and operation.

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7. Coordinating the Work of all Subcontractors and suppliers.
8. Coordinating the Work in such a manner to avoid delays and permit proper and efficient installation of the Work by all Subcontractors.
9. Coordinating electrical/mechanical Work, particularly between general trades and mechanical/electrical trades, including the work of Owner and other contractors, so that sleeves, hangers, chases, openings, etc., required for pipe, conduit, and other installations of like character are duly and properly Provided and Installed as Work progresses.
10. Coordinating all cutting, fitting and patching that may be required to make the parts of the Work come together properly for the completed Project as shown or as reasonably implied by the Contract Documents.
11. Coordinating for future installation of work by others that is not included in the Contractor's Work but is shown or specified in the Contract Documents.
12. Coordinating delivery of materials in accordance with the Official Progress Schedule
13. Coordinating and cooperating in the timing and sequencing of Contractor's Work with the work of other contractors or the Owner.
14. Sequencing the Work to obtain the best results where installation of one component of the Work depends on installation of other components, before or after its own installation.
15. Making adequate provisions to accommodate items scheduled for later installation by Contractor, Owner, or other contractors.
16. Checking the drawings of the Owner or other contractors for interferences with Contractor's Work and promptly reporting to Owner, in writing, any potential interferences between the Contractor's Work and the work of Owner or the work of other contractors.
17. Utilizing the Contract Documents and Owner accepted Submittals to check and coordinate the Work so that no interferences or conflicts between trades occur. This checking and coordination must be performed and completed before construction is commenced in each affected area and may require the preparation and submission of Coordination Drawings.
18. Furnishing to other contractors, whose work is fitted to Contractor's Work, Record Documents, Coordination Drawings, details, and erection drawings giving full information regarding the Fabrication, assembly, and installation of Contractor's Work.
19. Preparing memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings. Prepare similar memoranda for the Owner and separate contractors if coordination of their Work is required.
20. Resolving disputes between Subcontractors.
21. In the case of a request for a hospital critical system Shut Down, a meeting must be coordinated between Contractor, the subcontractor performing the work, Owner's Facilities Coordinator, and the CM/PM. The meeting will be for the sole purpose of reviewing the MOP submitted by the Contractor or Subcontractor performing the work and for all required participants to acknowledge and approve the MOP. Once all approve the MOP the Shut Down request will be signed off and distributed to all parties involved with a copy of the approved MOP attached.

**1.05. Pre-Work Verification**

- A. Prior to starting a particular type or kind of Work:
  1. Review all Contract Documents and other relevant data related to the type or kind of Work to be performed;
  2. Check Owner accepted Submittals and verify dimensions at Project Site;
  3. Review manufacturers' instructions applicable to conditions under which Work is to be installed;
  4. Inspect areas, surfaces or construction receiving the Work; and
  5. Report to Owner in writing any concerns, issues, or problems observed during Contractor's Pre-Work verification at least five (5) working days before beginning Phase II work on the Project.
- B. Start of Work shall signify compliance with the above requirements and acceptance of previously placed construction or substrates as being in satisfactory condition to achieve proper installations and first quality workmanship as intended under these Contract Documents.

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Failure to so inspect and report to Owner shall constitute an acceptance of the previously placed construction or substrates.

**1.06. Administrative Actions**

- A. Administrative actions include, but are not limited to, the following:
  - 1. Preparation, update, and revision of Contractor's Official Progress Schedule. (See Document 01 3200, Construction Progress Documentation.)
  - 2. Delivery and review of Submittals. (See Document 01 3300, Submittals.)
  - 3. Project Meetings. (See Document 01 3150, Project Meetings.)
  - 4. Project closeout activities. (See Document 01 7700, Closeout Procedures.)
- B. Coordinate timing of required administrative actions with construction activities and activities of Owner and other contractors to avoid conflicts and ensure orderly progress of the Work.

**1.07. Conservation**

- A. Coordinate Work to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
- B. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.

**ARTICLE II - PRODUCTS** (Not Used)

**ARTICLE III - EXECUTION** (Not Used)

**ARTICLE IV - FORMS** (Not Used)

**END OF DOCUMENT 013100**

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DOCUMENT 01 31 20

**BUILDING INFORMATION MODELING (BIM) AND COORDINATION DRAWINGS**

**ARTICLE I - GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents and Sections
    - c. 1.03 – General Requirements
    - d. 1.04 – BIM Kick-off/Coordinating Meeting and Pre-Construction/Construction Phase BIM Activities
    - e. 1.05 – Initial Hosting of BIM by Architect during Design Phases
    - f. 1.06 – Transfer to and Hosting of BIM by CMR
    - g. 1.07 – As-built Model
    - h. 1.08 - Scheduling
    - i. 1.09 - Coordination Drawings
    - j. 1.10 - Contractor Responsibilities
    - k. 1.11 - Coordination Drawing Requirements
    - l. 1.12 - Non-Conforming Work
    - m. 1.13 - Submittal Requirements
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents and Sections**

- A. Section 01 31 00, "Project Management and Coordination"
- B. Section 01 31 20, "Coordination Drawings"
- C. Section 01 32 50, "Record Documents (As-Builts)"
- D. Section 01 33 00, "Submittal Procedures"
- E. Section 01 45 00, "Quality Control"
- F. Section 01 77 00 "Closeout Procedures"
- G. Section 01 78 00 "Closeout Requirements"

**1.03. General Requirements**

- A. CMR and its major sub-contractors must be capable of utilizing the BIM to perform the functions assigned to them.
- B. The personnel assigned to lead the BIM responsibilities on this Project shall have extensive hands-on experience in successfully delivering complex projects in BIM and possess excellent knowledge in the use of the various BIM software and platforms. Resumes of proposed BIM leads shall be submitted to Owner for review and approval at project commencement. Owner reserves the right to request personnel change as needed
- C. The intended BIM uses for this Project include, but are not limited to, the following applications. Models shall be set up and developed to support these intended uses:
  - Visualization
  - Phasing Study and Analysis
  - Cross-disciplinary Coordination
  - Design and Construction Documentation
  - Program Verification



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- Option Management
  - Design analysis e.g. accessibility, traffic, area, sightline, engineering, energy, daylight, etc.
  - Quantity Takeoff and Cost
  - Field BIM
  - Change Management
  - Facility and Asset Management
- D. The BIM and any portion of the BIM is a work for hire for the benefit of Owner and will be provided to Owner as a contract deliverable that may be used by Owner without restriction for the use on this Project. CM/GC grants to Owner a license in perpetuity to use and reproduce the BIM and any portion of the BIM for any purpose whatsoever related to this Project. CM/GC and its sub-contractors shall transfer to Owner copyrights or licenses necessary for Owner to use the BIM and supporting information.
- E. The BIM is not a Construction Document or Contract Document, and does not supplement or supersede the final permitted Drawings or Specifications.

**1.04. BIM Kick-off/Coordinating Meetings and Pre-Construction/Construction Phase BIM Activities**

- A. Owner will provide "BIM Standard and Specifications for San Mateo County Project Development Unit" at project commencement for CMR as guideline to develop the BIM strategy for the Project.
- B. CMR shall collaborate with Architect to develop an integrated Building Information Modeling ("BIM") Execution Plan ("BXP") to document the project delivery standards and protocols for the BIM uses and deliverables to submit to County for approval. This will include and use the current version of Level of Development Specification (LOD) published by BIM Forum to specify and articulate with a high degree of clarity the use, content and reliability of BIM at various stages in the design and construction process, such as elements to be modeled, model element authors, timing for element modeling, precision/details to be included, etc. Following County approval, CMR shall work in BIM with Architect in accordance with the BXP.
- C. At the onset of the BIM design model creation process, the project BIM team will participate in a BIM Kick-Off Meeting at project initiation.
- D. CMR and all sub-contractors that will be interacting with or using BIM information will meet with Architect and its design team to develop protocols for developing, implementing, reviewing, and exchanging information through the BIM. Through the BIM kick-off meetings and subsequent regular coordination meetings, CMR, major sub-contractors and Architect's design team will

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discuss, coordinate, test and adjust their BIM practices, to allow information to be used, to the greatest practical extent, by all parties for their respective purposes.

- E. Regular coordination meetings shall be held during Pre-Construction and Construction Phases to review BIM usage and make updates as appropriate to maximize the benefits of BIM to support the Project delivery.
- F. BIM shall be used as design and construction process review tool to facilitate project discussions.

**1.05. Initial Hosting of BIM by Architect during Design Phases**

- A. The Design Building Information Model (“**BIM**”) based on the architectural and structural designs shall be developed by the Architect throughout design phases incorporating all modifications approved by Owner.
- B. Architect shall host, manage and share the BIM during development of the Project's design, from Concept Design through Construction Documents phases.

**1.06 Transfer to and Hosting of BIM by CMR**

- A. Upon the completion of Final Construction Documents, Architect will provide the federated BIM to the CMR who will host and manage the BIM through construction and until completion of the Project. CMR's hosting and managing responsibilities shall include without limitation: (i) collecting, coordinating, and the usability of, incoming models from Project participants; (ii) maintaining periodic record copies; (iii) aggregating incoming models and making the BIM available for use and viewing by Project participants; (iv) performing and assisting in performing clash detection in the model and/or with any Owner-approved modifications; (v) issuing periodic clash detection reports; (vi) providing and maintaining file sharing of models with Project team; (vii) managing access rights; and (viii) updating the BIM to reflect current designs and revisions.
- B. CMR will use the BIM to assist in its work to coordinate the design and the implementation of the design during construction. CMR will perform/manage clash detection and coordination process during the construction phase, through preparation of all shop drawings and submittals necessary for construction, and shall correct and clarify any clashes, coordination or issues. Coordination,

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updates and clarifications resulting from such further modeling (whether performed by Architects, Contractor or sub-contractors) shall be within the CM/GC scope of work.

**1.07 As-Built Models**

CM/GC shall coordinate with Architects during construction on design changes and incorporate all approved changes into the As-Built Models based on RFI, marked up prints, drawings and other

information regularly and at Project completion. Deliverables for As-built models in the Record Set shall include the native source files of all applicable trades/sub-trades.

Please see Section 00 0700 (General Conditions), Section 01 3250 - Record Documents (As-Builts), Section 01 7700 (Closeout Procedures) and 01 7800 (Closeout Requirements) for additional requirements.

**1.08 Scheduling of Coordination Drawing Submittals**

Schedule preparation and processing of Coordination Drawings in accordance with the specific Submittal deadlines and timeframes stated below.

- A. Unless otherwise specifically stated in the Contract Documents, or needed for proper coordination of the installation of early Work, all Coordination Drawing Submittals are due no later than 120 Days after the Start Date stated in the Notice to Proceed.
- B. Unless a longer period is specifically stated elsewhere in the Contract Documents, allow at least 21 Days for Owner's review and return of all Coordination Drawings Submittals and resubmittals.

**1.09 Coordination Drawings**

Contractor must prepare and submit both hardcopies and associated clash detection reports in electronic format (Navisworks or other formats) to demonstrate the coordination of methods, materials, equipment, plans, or sequence of Contractor proposes use when:

- A. Coordination Drawings are specifically required.
- B. Limited space is available for installation of different components.
- C. Coordination is needed for installation of Products and materials fabricated by separate entities.
- D. The relationship of components is shown on separate Shop Drawings or Submittals.
- E. Coordination Drawings must be prepared and submitted for the following systems, equipment, and spaces:
  - 1. HVAC
  - 2. Plumbing
  - 3. Electrical
  - 4. Fire Sprinkler
  - 5. Fire Suppression
  - 6. Shielding

**1.10 Contractor Responsibilities**

- A. Supervise preparation of coordinated drawings conducted in BIM and other associated formats
- B. Assign space allocation priorities

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- C. Notify Owner in writing of unresolved conflicts or interferences found during the preparation of Coordination Drawings.

**1.11 Coordination Drawing Requirements**

- A. Coordination Drawings must include but are not necessarily limited to the following:
  - 1. Submit combined, comprehensive mechanical and electrical systems Coordination Drawings.
    - a. Include ductwork, mechanical pipe, plumbing, electrical, sprinkler systems, and ceiling systems overlaid on structural frame.
    - b. Size ductwork, mechanical pipe, plumbing, electrical, and sprinkler system components as shown on Drawings. Downsizing of Mechanical/Electrical/Plumbing (MEP) systems is not permitted.
    - c. Show seismic restraints where required on systems.
- B. Indicate how:
  - 1. Work will fit in the available space
  - 2. Work of the various trades or systems will Interface
  - 3. Contractor intends to sequence the Installation

**1.12 Non-Conforming Work**

- A. Work not installed within designated coordination areas in compliance with the Owner accepted Coordination Drawings will be considered non-conforming Work subject to removal and replacement at no additional cost to Owner.

**1.13 Submittal Requirements**

- A. Submit one (1) electronic file set and three (3) copies of each Coordination Drawing Submittal.
  - 1. Comply with requirements of Section 01 33 00 – “Submittal Procedures”
- B. Signatures required on each sheet of Coordination Drawings:
  - 1. Coordination Drawing(s) must be signed and dated by Contractor and individual Subcontractors.
  - 2. By act of signature and submittal of the single combined Coordination Drawing(s), Contractor and each Subcontractor acknowledge that Work for which Contractor or said Subcontractor is responsible has been coordinated with the Work of Contractor and all other Subcontractors.

**ARTICLE II –PRODUCTS** (Not used)

**ARTICLE III – EXECUTION** (Not used)

**ARTICLE IV – FORMS** (Not Used)

**END OF DOCUMENT**

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DOCUMENT 01 31 50

**PROJECT MEETINGS**

**ARTICLE I – GENERAL Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 - Related Documents
    - c. 1.03 – Definitions
    - d. 1.04 – Project Meetings
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents**

- A. Section 01 32 00, "Construction Progress Documentation"
- B. Section 01 35 63, "Solid Waste Management and Recycling Plan"
- C. Section 01 45 00, "Quality Control"
- D. Section 01 50 00, "Temporary Facilities and Controls"
- E. Section 01 77 00, "Procedures for Substantial Completion and Final Completion"

**1.03. Definitions**

- A. Decision/Action Tracking Report. A report prepared by the CMR recording all actions, commitments, and decisions (items) made at various Project Meetings and conferences. At a minimum, the report must track the name of the person responsible for the item, a description of the required action or decision, the initiation date of the item, the due date for the item, actual completion date of the item, and the current status of the item. Copies of the Decision/Action tracking report must be provided to all attendees and must be submitted to the Owner within twenty-four (24) hours of the meetings.

**1.04. Project Meetings**

- A. General.
  - 1. CMR must inform participants of date and time of each meeting and preside at all required meetings throughout progress the Work unless otherwise directed by Owner.
  - 2. CMR must prepare agenda for all meetings and provide to all attendees prior to the meetings.
  - 3. CMR must attend all meetings as required by the Contract Documents.
  - 4. CMR must attend and/or conduct additional meetings as directed by the Owner's Project Manager.
  - 5. CMR must conduct meetings and conferences at the Project Site in the Contractor's on-site temporary job trailer, unless otherwise indicated or required by Owner.
  - 6. CMR's job trailer must contain a conference table and sufficient seating to accommodate twelve (12) meeting participants.
  - 7. CMR must prepare and distribute meeting minutes.
  - 8. CMR must maintain notes from all meetings and conferences in the form of a Decision/Action Tracking Report.
- B. Preconstruction Conference.
  - 1. The Owner will schedule and conduct a Preconstruction Conference before starting construction but no later than 21 Days after execution of the Agreement.
  - 2. Conference will be held at Project Site or another convenient location designated by Owner.
  - 3. Participants:
    - a. Owner's Project Manager (Mandatory Attendance Required)
    - b. Designer of Record (Mandatory Attendance Required)
    - c. Contractor's Authorized Representative (Mandatory Attendance Required)

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- d. Contractor's QC Manager (Mandatory Attendance Required)
- e. Major Subcontractors (Mandatory Attendance Required)
- f. Testing Laboratory Representative
- g. Other interested parties
- 4. All participants at the conference must be familiar with Project and authorized to conclude matters relating to the Work.
- 5. Agenda. Items of significance to be discussed at the meeting include:
  - a. Introductions
  - b. Review Scope of Work
  - c. Emergencies
  - d. Interim Life Safety
  - e. Required Notifications
  - f. Contractor Quality Control (QC) System
  - g. Testing and Inspection Laboratory
  - h. Coordination
  - i. Normal Hours of Work
  - j. Workplace Environment
  - k. Use of Project Site
  - l. Security
  - m. Disruption of Owner's Normal Operations
  - n. Use of Owner's Facilities
  - o. Temporary Facilities and Controls
  - p. Accepting Material Deliveries
  - q. General Correspondence
  - r. Additional Detailed Instructions
    - 1. Field Modifications
    - 2. Requests for Information (RFI)
    - 3. Change Orders
    - 4. Progress Payments
    - 5. Submittals (List of Owner's Submittal reviewers)
  - s. Record Documents
  - t. Owner Furnished Contractor Installed (OFCI) Equipment
  - u. Environmental Issues
  - v. Tentative Schedule
  - w. Liquidated Damages
- 6. The Owner will prepare meeting minutes of the Preconstruction Conference and distribute minutes to the attendees.
- C. Schedule (See Section 01 32 00).
- D. Solid Waste Management Plan (See Section 01 35 63, "Solid Waste Management and Recycling Plan").
- E. Quality Control Meetings.
  - 1. CMR must conduct and take minutes of all meetings required by Section 01 45 00, "Quality Control".
- F. Progress Meetings.
  - 1. The CMR and Owner's Project Manager will work together to establish a schedule of construction Progress Meetings. The frequency of these Progress Meetings shall be at the discretion of Owner's Project Manager, and shall be no more often than once each week. Contractor must attend Progress Meetings at the times and locations scheduled. The progress meetings will be located at the Contractor's on-site field office unless the Owner's Project Manager approves an alternate location.
  - 2. Attendees:
    - a. Owner's Project Manager
    - b. Designer of Record
    - c. Contractor Authorized Representative
    - d. Contractor's QC Manager
    - e. As-needed Subcontractor(s)

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- f. Testing Laboratory Representative (TBD)
- g. Other entities concerned with current progress or involved in planning, coordination, or performance of future activities must be represented at these meetings.
- 3. Agenda:
  - a. Review and update Contractor's Decision/Action Tracking Report from previous Progress Meeting
  - b. Schedule Review
    - 1. Review progress since the last meeting
    - 2. Compare current progress against Official Progress Schedule
    - 3. Determine how construction behind schedule will be expedited
    - 4. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
  - c. Review present and future needs of each entity present, including the following:
    - 1. Interface requirements
    - 2. Sequence of operations
    - 3. Status of Submittals
    - 4. Status of key deliveries
    - 5. Status of off-site fabrication
    - 6. Site access issues
    - 7. Site utilization
    - 8. Temporary facilities and controls
    - 9. Infection Control
    - 10. Interim Life Safety
    - 11. Normal Hours of Work
  - d. Progress cleaning
  - e. Change Orders.
- 4. At a minimum, the Contractor must maintain notes for all Progress Meetings in the form of a Decision/Action Tracking Report. Copies of the Decision/Action tracking report must be provided to all attendees and two (2) copies must be submitted to the Owner within twenty-four (24) hours of the meetings.
- 5. Closeout Conference (See Section 01 77 00, "Procedures for Substantial Completion and Final Completion")
- 6. Progress Schedule and Billing Meetings.
  - a. A meeting will be held on approximately the 25<sup>th</sup> of each month or as otherwise agreed to with Owner (but no more than once every thirty {30} days) to review the schedule update submittal and progress payment application.
    - 1. At this meeting, at a minimum, the following items will be reviewed:
      - i. Percent complete of each activity;
      - ii. Time impact evaluations for Change Orders and Time Extension Request;
      - iii. Actual and anticipated activity sequence changes;
      - iv. Actual and anticipated duration changes; and
      - v. Actual and anticipated Contractor delays.
    - 2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, Contractor's General Superintendent and Scheduler shall attend these meetings.
    - 3. Contractor shall set aside sufficient time to review the progress schedule and the monthly pay application, and plan on the meeting taking no less than two hours.
- 7. Special Meetings.
  - a. Any party may call special meetings by notifying all desired participants and Owner five (5) Days in advance, giving reason for meeting. Special meetings may be held without advance notice in emergency situations.
  - b. At any time during the progress of Work, Owner shall have authority to require Contractor attend meeting of any or all of the Subcontractors engaged in Work or in other work, and notice of such meeting shall be duly observed and complied with by Contractor.

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- c. Contractor shall schedule and conduct coordination meetings (including as required with other contractors, Owner and its representatives, utility owners and others) as necessary to discharge coordination responsibilities in Document 00 72 00 (General Conditions). Contractor shall give Owner five (5) Days written notice of coordination meetings. Contractor shall maintain minutes of coordination meetings. Attendees shall have seven (7) Days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of coordination meetings.
- d. Contractor to submit minutes of meetings to all attendees within three (3) days of the meeting.
- 8. Safety Meetings.
  - a. Conduct monthly Contractor Safety Committee meetings.
  - b. Conduct weekly toolbox safety talks.
- G. Commissioning Meetings
- H. Demonstration and Training Meetings (See Section 01 82 00, "Demonstration and Training")

**ARTICLE II - PRODUCTS** (Not Used)

**ARTICLE III - EXECUTION** (Not Used)

**ARTICLE IV - FORMS** (Not Used)

**END OF DOCUMENT 01 31 50**



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**DOCUMENT 01 3200**

**CONSTRUCTION PROGRESS DOCUMENTATION**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents and Sections
    - c. 1.03 - Definitions
    - d. 1.04 - General Requirements
  - 2. Article II – Products
    - a. 2.01 - Scheduling Software
  - 3. Article III – Execution
    - a. 3.01 - Basic Progress Schedule Requirements
    - b. 3.02 - CPM Progress Schedule
    - c. 3.03 - Schedule Orientation Meeting
    - d. 3.04 - Preliminary Contract Schedule
    - e. 3.05 - Baseline Schedule
    - f. 3.06 - Official Progress Schedule
    - g. 3.07 - Monthly Update of Official Progress Schedule
    - h. 3.08 - Revised Official Progress Schedule
    - i. 3.09 - Short Interval Schedule
    - j. 3.10 - Recovery Schedule
    - k. 3.11 - Cost Breakdown
    - l. 3.12 - Time Extensions
    - m. 3.13 - Submittal Logs
    - n. 3.14 - Project Reports
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents and Sections (Not Used)**

**1.03. Definitions**

- A. Baseline Schedule. The Contractor's initial CPM Progress Schedule accepted by the Owner as presenting an orderly and realistic plan for completion of the entire Work of the Project. When accepted by the Owner's Project Manager, the Contractor's Baseline Schedule becomes the initial version of the CPM Progress Schedule.
- B. CPM Progress Schedule. The CPM Progress Schedule is the Contractor's Progress Schedule prepared in chart or graph format, consistent in all respects with the Contract Time(s) and order of Work, presented in sufficient detail to show the chronological relationship of all activities of the Project including but not limited to planned starting and completion dates of various activities, submittal of Shop Drawings, procurement of materials and equipment, and deliveries of materials and equipment. The Contractor's Progress Schedule prepared in CPM Precedence format using the Owner approved scheduling software required by this Document 01 3200.
- C. Preliminary Contract Schedule (also called an Initial Schedule). The Contractor's CPM Progress Schedule presenting its detailed sequence of early operations including procurement of materials and equipment for a minimum of ninety (90) Days from the official Contract start date stated in the Notice to Proceed. The Preliminary Contract Schedule must also present all Milestones, sequences, and activities occurring during the entire Contract Time that are specifically required by the Contract Documents to be shown on the Contractor's Preliminary Contract Schedule.

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- D. Recovery Schedule. Contractor's detailed schedule indicating how Contractor intends to recover lost time.
- E. Revised CPM Progress Schedule. Contractor's written request to revise the current version of the Official Progress Schedule. If the Owner accepts the Contractor's request to revise the Official Progress Schedule, it becomes the new current version of the Official Progress Schedule.
- F. Short Interval Schedule. The Contractor's four-week schedule showing the past week, the week submitted, and two weeks thereafter. The Short Interval Schedule must correlate with the current version of the CPM Progress Schedule and reference the appropriate activity numbers.

**1.04. General Requirements**

- A. Perform scheduling of Work under this Contract in accordance with requirements of this Document 01 3200.
  - 1. Schedule, monthly payment requests, and project status reporting requirements of the Contract Documents shall employ scheduling as required in this Document 01 3200.
- B. Upon Award of Contract, immediately commence development of Preliminary Contract Schedule to ensure compliance with schedule submittal requirements.
- C. Contractor's obligations under this Document 01 3200 are hereby deemed material obligations justifying Owner remedies for default if Contractor fails to perform. Nothing in this paragraph 1.04.C. of this Document 01 3200 or the lack of an express statement that any other Contract Documents provision is or is not material shall be considered in determining whether any such other provision is material.
- D. Employ competent scheduling personnel or a schedule consultant with experience performing scheduling required herein on a minimum of two prior, similar projects, and with first-hand knowledge of this Project, including monthly site visits.
- E. Progress Schedule shall be based on, and incorporate milestone and completion dates specified, in Contract Documents.
- F. Overall time of completion and time of completion for each milestone shown on CPM Progress Schedule shall adhere to times in Document 00 5201 (Agreement), unless an earlier (advanced) time of completion is requested by Contractor and agreed to by Owner. A Change Order shall formalize any such agreement.
  - 1. Owner is not required to accept an earlier (advanced) schedule, i.e., one that shows early completion date(s) for the contract time.
  - 2. Contractor is not entitled to extra compensation in event agreement is reached on an earlier (advanced) schedule and contractor completes its work, for whatever reason, beyond completion date shown in earlier (advanced) schedule but within the contract time.
  - 3. A schedule showing the work completed in less than the contract time, which has been accepted by owner, shall be considered to have project float. The project float is the time between the scheduled completion of the work and contract substantial completion for each Project Component. Project float is a resource available to both owner and contractor.
  - 4. Float ownership: neither owner nor contractor owns float. The project owns the float. As such, liability for delay of any substantial completion or final completion date rests with the party whose actions, last in time, actually cause delay to a substantial completion or final completion date.
    - a. For example, in the event of unexcused delay by Party A and Party B, and if Party A uses some, but not all of the float and Party B later uses remainder of the float as well as additional time beyond the float, Party B shall be liable for the time that represents a delay to the Substantial Completion date.
    - b. Under this scenario, Party A would not be responsible for the time since it did not consume all of the float and additional float remained; therefore, the Substantial Completion Date was unaffected.
- G. CPM Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing CPM Progress Schedule and monitoring actual progress rests with Contractor.
- H. Failure of CPM Progress Schedule to include any element of the Work or any inaccuracy in CPM Progress Schedule will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. Owner acceptance of Schedule shall be for its use in monitoring

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and evaluating job progress, payment requests, and time extension requests, and shall not, in any manner, impose a duty of care upon Owner, or act to relieve Contractor of its responsibility for means and methods of construction.

- I. Transmit to Owner by email, no less than monthly, current progress schedule in electronic form (in soft copy and PDF), to include the entire electronic file without abridgment, inclusive of all updates.

## **ARTICLE II - PRODUCTS**

### **2.02. Scheduling Software**

- A. Utilize an Owner approved computer-scheduling software, for all scheduling including schedule updates, and employ scheduling personnel experienced and competent in it. For all activities or impacts shown in schedule, Contractor shall complete all data points in the software to specifically include the activities, their durations, their logic ties and their resources.
- B. Each Schedule (Preliminary, Baseline, CPM Progress and updates) shall indicate all separate fabrication, procurement and field construction activities required for completion of the Work, including but not limited to the following:
  5. All Contractor, Subcontractor, and assigned Contractor work shall be shown in a logical work sequence that demonstrates a coordinated plan of work for all contractors. The intent is to provide a common basis of acceptance, understanding, and communication, as well as interface with other contractors.
  6. Activities related to the delivery of Contractor and Owner-furnished equipment to be Contractor and Owner installed per Contract shall be shown.
  7. All activities shall be identified through codes or other identification to indicate the building (i.e. buildings, Site work) and Contractor/Subcontractor responsibility to which they pertain.
  8. Break up the Work schedule into activities of durations of approximately twenty-one (21) Work Days or less each, except for non-field construction activities or as otherwise deemed acceptable by Owner.
  9. Show the critical path in red. For each activity, show early start, late start, early finish, late finish, durations measured in Days, float, resources, predecessor and successor activities, planned workday/week for the activity, material quantities, and scheduled/actual progress payments.
- C. Seasonal weather conditions (which do not constitute a delay as defined herein) shall be considered in the planning and scheduling of all work influenced by high or low ambient temperatures or presence of high moisture for the completion of the Work within the allotted Contract Time.
- D. Failure by Contractor to include any element of Work required for performance of the Work on the detailed construction schedule shall not excuse Contractor from completing all Work required within the Contract Time.
- E. A three-week "look ahead," detailed daily bar chart schedule shall be updated and issued weekly in hard copy and electronically.
- F. Monthly updates shall include schedule sorts in hard copy, by bid item (geographic work area) with critical items shown in red float and with early/late start and finish dates, to facilitate meaningful review and assessment of schedule.

## **ARTICLE III- EXECUTION**

### **3.01. Not Used**

### **3.02 CPM Progress Schedule**

- A. General Requirements.
  1. When indicated in the Notice to Bidders, Contractor must submit a CPM Progress Schedule.
  2. Personnel preparing CPM Progress Schedules must be qualified and experienced in preparing Critical Path Method ("CPM") schedules and must be capable of producing the schedules and reports required by this Document. If not previously provided, at least seven (7) Days prior to the Schedule Orientation Meeting, Contractor must submit for Owner acceptance, qualifications of Contractor's proposed scheduler including references from the owner on the last three (3) recent projects where the proposed scheduler prepared the required project schedules.

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Owner's acceptance of Contractor's proposed scheduler may be withheld until twenty-one (21) days after Contractor's Baseline Schedule Submission.

3. Contractor must use scheduling software as required by Document 01 3200.
4. Contractor must provide Owner with three (3) copies of each schedule submission and electronic copies of the schedule data files on Flash Drive. The Flash Drive must be permanently labeled to indicate the contents of the drive and include the submittal number and data date.
5. The Project Time for completion of the entire Project and the Milestone times must adhere to the start and finish times stated in the Contract Documents, unless Contractor formally requests and Owner's Authorized Representative Approves in writing earlier (advanced) time(s) of completion. Approval of such request shall be at Owner's discretion and must be in the form of a Change Order.
6. Float Time is not for the exclusive benefit of either Contractor or Owner. Contractor must not include contingency activities.
7. Failure of the CPM Progress Schedule to include an element of the Work required for performance of this Contract, or inaccuracy in CPM Progress Schedule, will not relieve Contractor from responsibility for accomplishing all the Work required and will not constitute grounds for delay.
8. Failure of Contractor to substantially comply with requirements of this Document 01 3200 will constitute a failure by Contractor to prosecute Work with such diligence as will ensure its completion within Contract Time(s) and may be considered grounds for termination or other remedy by Owner pursuant to terms of this Contract.

### **3.03 Schedule Orientation Meeting**

Within seven (7) Days of the official Contract start date stated in the Notice to Proceed, Contractor will conduct a Schedule Orientation Meeting to review the requirements of the Contract Documents for preparing, submitting, updating, and revising the various Project schedules. This is a separate meeting from the Preconstruction Conference and is dedicated exclusively to discussions about the scheduling requirements for the Project.

- B. Contractor must review the requirements of the Contract Documents related to scheduling prior to the meeting and be prepared to discuss its general approach to meeting the requirements. This meeting must be attended by:
  1. Owner's Project Manager or designee.
  2. Contractor's Authorized Representative and scheduler.
  3. Any other personnel deemed advisable to attend by Owner or Contractor.
- C. The following items will be reviewed and discussed during the meeting:
  1. Schedule preparation and submission requirements
  2. Level of involvement of Subcontractors in the schedule development effort
  3. Schedule updates.
  4. Schedule revisions.
  5. Recovery Schedules
  6. Short Interval Schedules (SIS)
  7. Establishing the time element of Change Orders.
  8. County Holidays and Hours of Work
  9. Technical Scheduling Requirements
  10. Data exchange and communication.

### **3.04 Preliminary Contract Schedule**

- A. No later than twenty-eight (28) Days after the start date for the Work stated in the Notice to Proceed, Contractor must submit three (3) prints (plots) of a Preliminary Contract Schedule and corresponding schedule data files Flash Drive.
- B. The Preliminary Contract Schedule must be a time-scale, precedence CPM diagram. The data/status date for the Preliminary Contract Schedule must be the first day of the Contract Time as stated in the NTP.
- C. The Preliminary Contract Schedule must include:

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1. The Contractor's general plan of Work in accordance with the Milestones and Project Time(s) stated in the Contract Documents.
2. Details of Contractor's planned mobilization.
3. Sequence of early operations including procurement of materials and equipment for a minimum of 90 days from the official Contract start date stated in the Notice to Proceed.
4. All mandatory activities, sequences, and durations required in the Contract Documents including but not limited to:
  - a. A start Milestone for the Notice to Proceed.
  - b. An activity for verification of all existing conditions and dimensions.
  - c. An activity for installation of temporary site enclosure fence.
  - d. All completion Milestones.
  - e. All Owner Inspection and Punchlist activities preceding each completion Milestone. The durations for each of these activities must be consistent with the durations allowed by the Contract Documents.
  - f. All equipment and system Performance Periods (run-in periods).
  - g. Key Commissioning activities and sequences.
- D. Owner will review the Preliminary Contract Schedule for conformance with the requirements of the Contract Documents. Owner will return the Preliminary Contract Schedule with comments within fourteen days (14) Days after receipt.
- E. Contractor must use the Owner accepted Preliminary Contract Schedule with Owner's comments as the basis for the Baseline Schedule submission. Unless otherwise requested by the Contractor and approved in writing by the Owner's Project Manager, the activities, durations, and logic that appear in the Owner accepted Preliminary Contract Schedule must remain unchanged in the Baseline Schedule submission.

**3.05 Baseline Schedule**

- A. Within fourteen (14) Days from the official Contract start date stated in the Notice to Proceed, Contractor must submit a Baseline Schedule presenting an orderly and realistic plan for completion of the entire Work of the Project including consideration of and compliance with all Milestones, activity sequencing, activity durations, and other scheduling restrictions imposed by the requirements of the Contract Documents. The Baseline Schedule submittal must include three (3) schedule prints (plots) and must also be submitted to the owner.
- B. The Baseline Schedule submission must include and/or comply with the following minimum requirements:
  1. Provide a time scaled, cost and resource loaded CPM schedule in precedence format.
  2. Show the plan for completion of the Work for each Milestone within the time(s) specified. Each activity must be coded to its corresponding Milestone.
  3. Dates Contractor requests access to areas requiring removal of Asbestos containing materials by Owner.
  4. Provide a list identifying all imposed restraints.
  5. Activity Calendars:
    - a. Indicate all activity calendars used.
    - b. All activity calendar(s) must identify workdays, holidays, and shift work (by trade).
    - c. All activity calendar(s) must include:
      - (1) All work hour restrictions including but not limited to CEQA requirements, anticipated weather delays, and restriction imposed by local Governmental Agencies.
      - (2) All workday activity calendars must have the same holidays unless approved in writing by the Project Manager.
      - (3) All activity calendars must cover entire Contract Time.
      - (4) The global seven-day/week activity calendar must have no non-work days.
  6. All completion Milestones required by the Contract Documents must be shown on the specific Milestone completion date(s) identified in the Contract Documents and must be attached to a seven-day/week activity calendar. The seven-day/week activity calendar must have no non-work days.
  7. Include dependencies (relationships) and logic ties between activities.

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8. Open-ended activities are not permitted.
9. Unless otherwise Approved in writing by Owner's Project Manager, no single activity on the schedule shall have a duration longer than fifteen (15) workdays, except for fabrication, installation, procurement, Punch List, and equipment commissioning (run-in) activities.
10. Activity durations shall be the total number of actual days required to perform each activity. The consideration of weather impact on completion of the Work must be included in the associated activity calendar and not included in individual activity durations.
11. No single activity shall have more than one Subcontractor responsible for its performance.
12. For Subcontractor activities, include a responsibility code for each activity corresponding to the Subcontractor responsible for performing the Work.
13. The sum of the values of all the activities in the Baseline Schedule must equal the total Contract Sum.
14. Unless otherwise specifically Approved in writing by the Owner's Project Manager, if the start of an activity depends on the Owners acceptance of a Submittal(s), identify as two (2) separate preceding activities the preparation and review of the Submittal(s).
15. Unless a longer period is specifically stated in the Contract Documents, Owner will have a minimum of 21 Days to review Complete Submittals.
16. Do not schedule activities that are dependent on Submittal acceptance or material delivery to start earlier than the expected approval or delivery dates.
17. Identify as separate activities procurement of major equipment and materials. At a minimum, procurement of major equipment and materials must include the following five (5) dependent activities:
  - a. Place purchase order
  - b. Prepare Submittal
  - c. Review and accept Submittal
  - d. Fabricate/Manufacture
  - e. Delivery
18. Identify as separate activities the installation of all Owner Furnished and Owner Installed Items. If Contractor requires product installation information for Owner Furnished Items, include specific interface flags indicating when product installation information is required.
19. If required, include activities for all equipment/systems Performance Period(s). Performance Period activities must occur after operational testing is completed and before Contractor certifies the Work of the Milestone is complete.
20. Include individual activities for the final clean-up effort associated with each Milestone and the final cleanup of the entire Project.
21. Include activities for Contractor completion certification for each Milestone and Project Completion Certification.
22. Include activities and indicate the number of Days (21 Days) allowed for the Owner to perform Milestone and Project completion inspections.
23. Show the number of days needed by the Contractor to correct deficiencies in the completed Work (Punch List durations) for each Milestone and final Project completion.
24. The duration for Contractor's Punch List activities must not be less than thirty (30) Days. Punch list activities must be shown as starting no earlier than Contractor's receipt of Owner prepared Punch List.
25. The data/status date for the Baseline Schedule must be the first day of the Contract Time as stated in the NTP.
26. Show each Milestone required by the Contract Documents as independent. Do not tie (link) milestones together.
27. All Milestones required by the Contract Documents must be shown on the specific Milestone completion date identified in the Contract Documents and must be attached to a seven-day activity calendar.
28. Include a Project start milestone for the Notice to Proceed (NTP)
29. Unless otherwise requested by the Contractor and approved in writing by the Owner's Project Manager, the activities, durations, and logic that appear in the Owner accepted Preliminary Contract Schedule must remain unchanged in the Baseline Schedule submission

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- 30. Activities must be included for all required reviews, approvals, and permits performed by or issued by regulatory agencies.
- 31. Activities must be included for final submission of Record Documents (as-built Drawings and Project Manual) and other key closeout activities.
- C. If Owner provides Activity ID Code guidelines, Activity Code requirements, or activity Interface requirements to the Contractor for the purpose of merging the Contractor's Baseline Schedule into the Owner's master Project Schedule, Contractor must comply with these requirements and restrictions.
- D. Owner will review the Baseline Schedule submission for conformance with the requirements of the Contract Documents. Within twenty-one (21) Days after receipt, Owner's Project Manager will accept the Baseline Schedule or will return it with comments. If the Baseline Schedule is returned with comments, Contractor must revise the schedule to incorporate the comments and resubmit within three (3) Days.

**3.06. CPM Progress Schedule**

- A. The Owner accepted Baseline Schedule becomes the initial version of the CPM Progress Schedule.
- B. The CPM Progress Schedule must not be revised without the prior written Approval of the Owner's Project Manager.

**3.07. Monthly Update of the CPM Progress Schedule**

- A. Contractor must submit a monthly update to the CPM Progress Schedule. All updates must be submitted with three (3) prints of the Updated CPM Progress Schedule and must also be submitted to the Owner.
- B. The submission of the Updated CPM Progress Schedule must coincide with the end date of the monthly progress payment period.
- C. The Updated CPM Progress Schedule must include:
  - 1. Contractor's estimated percentage complete for each activity not yet complete.
  - 2. Actual start/finish dates for each activity.
- D. The Updated CPM Progress Schedule must **not** include:
  - 1. Added or deleted activities
  - 2. Changes to the network logic
  - 3. Changes to the cost or resource loading
  - 4. Any other changes, revisions or modifications of any kind
- E. Owner's Project Manager will meet with Contractor to verify the Contractor's estimate of the percentage complete for each activity not yet complete. If agreement cannot be reached on the actual progress for any activity, Owner's determination will be used.
- F. If, during the updating process, it is discovered that actual progress is posted against out of sequence activities, before submission of the next Updated CPM Progress Schedule, Contractor must submit a Revision Request to the Owner, revising the schedule logic to be consistent with the actual progress and sequence of the Work.
- G. Special Reports
  - 1. Owner may request, from month-to-month, any two of the following special reports:
    - a. Total Float Time sorted from least to most.
    - b. Activities sorted by early start.
    - c. Activities sorted by late start.
    - d. Activities grouped by subcontractor, selected trades or buildings.
    - e. Activities with scheduled early start dates in a given time frame (i.e. 30-day or 60-day outlook).
    - f. A manpower report based on actual person hours per month and compared to total planned person hours per month for early start and late start of the activities.

**3.08. Revised CPM Progress Schedule**

- A. A Revised CPM Progress Schedule must be submitted by the Contractor whenever the Contractor desires to change its sequence or method of construction, add or delete activities, change logic ties

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or restraints, change activity durations, modify cost or resource loading, incorporate Approved Change Orders into the schedule, or whenever Directed by Owner's Project Manager.

- B. All revision requests must be in writing, must explain in narrative why each activity change or revision is being requested, and must be based on the most recent Owner accepted Updated CPM Progress Schedule
- C. When out of sequence activities appear in the Updated CPM Progress Schedule, Contractor must submit a Revised CPM Progress Schedule. The Revised CPM Progress Schedule must incorporate a revised schedule logic that conforms to current job status.
- D. All Revised CPM Progress Schedule revision requests must be submitted with three (3) prints of an a electronic copy the requested revisions and must also be submitted. .
- E. If the Owner's Project Manager accepts the Revised CPM Progress Schedule, it will become the new current version of the CPM Progress Schedule.
- F. If Owner provides additional Interface requirements to the Contractor for the purpose of coordinating the Contractor's schedule with the Schedules of other contractors or the Owner's master Project Schedule, Contractor must revise their schedule to incorporate the Interface Flags at no additional cost to the Owner.

**3.09. Short Interval Schedule**

- A. An updated Short Interval Schedule (SIS) must be submitted to the Owner at each Progress Meeting. Each attendee at the Progress Meeting must be provided one (1) copy of the SIS.
- B. The Short Interval Schedule must be submitted throughout the entire Contract Time.
- C. The Short Interval Schedule must be a four-week schedule and include the past week, the week submitted, and two weeks thereafter.
- D. The Short Interval Schedule must contain sufficient detail to evaluate daily progress and manpower/equipment loading and must correlate with the current version of the Official Progress Schedule and reference the appropriate activity numbers.
- E. The Short Interval Schedule must indicate all planned and actual tests and inspections.

**3.10. Recovery Schedule**

- A. If any activity falls more than 7 Days behind schedule, upon Owner's request, Contractor must submit a Recovery Schedule within five days indicating how Contractor intends to make up the lost time. Form and detail of the Recovery Schedule must be appropriate to explain and display how Contractor intends to reschedule delinquent activities to regain compliance with the Contract Time(s). Submit an electronic copy and one hard copy (plots) to the Owner.
- B. If the Owner's Authorized Representative accepts the Contractor's Recovery Schedule, Contractor must submit a Revised CPM Progress Schedule revision request as required by Document 01 3200.3.08 above. The Revised CPM Progress Schedule must be based on and limited to the modifications indicated in the Recovery Schedule and accepted by the Owner's Authorized Representative.

**3.11. Not Used**

**3.12. Time Extensions**

- A. When Contractor is directed to proceed with changed work or otherwise requests a time extension, Contractor shall prepare and submit, within five (5) Days from the direction to proceed, a Time Impact Analysis (**TIE**) that includes both a written narrative and a schedule diagram depicting how the changed work affects other schedule activities. The schedule diagram shall show how Contractor proposes to incorporate the changed work in the schedule, and how it impacts the current Schedule update critical path or otherwise. Contractor is also responsible for requesting time extensions based on the TIE's impact on the critical path. The diagram shall be tied to the main sequence of scheduled activities to enable Owner to evaluate the impact of changed work to the scheduled critical path. Use attached form. Comply with their requirements of paragraph 3.12.A. of this Document 01 3200 for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc. Contractor is responsible for all costs associated with the preparation of TIE's, and the process of incorporating TIE's into the current schedule update. Provide Owner with three (3) copies



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- of each TIE both in hard copy and electronic file.
- B. Contractor is responsible for requesting time extensions for time impacts that, in the opinion of Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accordance with Document 00 7200 (General Conditions).
  - C. Where an event for which Owner is responsible impacts the projected Substantial Completion date, Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. Contractor shall also include a detailed cost breakdown of the labor, equipment, and material Contractor would expend to mitigate Owner-caused time impact. Contractor shall submit mitigation plan to Owner within seven (7) Days from the date of discovery of said impact. Contractor is responsible for the cost to prepare the mitigation plan.
  - D. Failure to request time, provide TIE, or provide the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.
  - E. No time will be granted under the Contract Documents for cumulative effect of changes.
  - F. Owner will not be obligated to consider any time extension request unless requirements of Contract Documents are complied with.
  - G. Failure of Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.
  - H. Notwithstanding any other provision of this Document 01 3200, if Contractor does not submit a TIE within the required five (5) Days for any issue, Contractor hereby agrees that Contractor does not require a time extension for that issue.
  - I. If the Owner's Authorized Representative Approves a time extension request, a Change Order extending the Contract Time will be issued.
  - J. Upon receipt of an executed Change Order, modifying the Contract Time, or earlier if Directed in writing by the Owner, Contractor must submit a request for revision to the Official Progress Schedule. The revision request must be based on and limited to the modifications to the Contract Time identified in the Change Order. Submit three (3) copies and corresponding electronic data via email.
  - K. Owner is not obligated to consider time extension requests unless the requests are made in accordance with the requirements of the Contract Documents.

**3.13. Submittal Log**

- A. Within fourteen (14) Days after the Contract start date stated in the Notice to Proceed, Contractor must Submit three (3) copies of a Submittal Log and corresponding electronic data files via email. Submittal Log must be prepared in accordance with the requirements of this Document 01 3200 and in a format acceptable to Owner.
- B. Unless otherwise specifically stated in the Contract Documents, no Submittal shall show an Owner's review and return duration of less than twenty (21) Days.
- C. Owner may refuse to take action on any Submittal without prior receipt and acceptance of the Submittal Log.
- D. Submittals must indicate the corresponding activity numbers on the Contractor's Preliminary Contract Schedule.
- E. Each week, on a day agreed to between Contractor and Owner's Project Manager, Contractor must review the Submittal Log with the Owner's Project Manager. If requested by the Owner's Project Manager prior to the weekly meeting, Contractor must provide the Owner's Project Manager with three (3) copies of an updated Submittal Log and corresponding electronic data files on Compact Disks (CDs) indicating the current status of all required Submittals. The electronic file must be permanently labeled to indicate the contents of the file and include the submittal number and data date.
- F. The updated Submittal Log must be grouped by Definable Feature of Work and include, at a minimum, the following information for all Submittals and resubmittals in accordance with the Contract Documents:
  - 1. A unique Submittal tracking number
  - 2. Description of the Submittal
  - 3. Date required by Contract Documents for submission of Submittal to Owner
  - 4. Owner's Distribution Group (Owner's parallel reviewers)

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5. Total number of Copies of Submittal required to be Submitted to Owner's reviewers
  6. Anticipated date Contractor will receive Submittal information from Subcontractor/Supplier.
  7. Actual date Contractor received Submittal information from Subcontractor/ Supplier.
  8. Anticipated Date for Submission to Owner
  9. Actual Date Transmitted to Owner
  10. Owner Review Time allowed by Contract Documents (No less than 21 Days)
  11. Cross reference to corresponding activity number on Contractor's Progress Schedule
  12. Project Manual section(s) requiring submission of Submittal
  13. Actual date when Contractor received Submittal(s) back from Owner
  14. Owner's action on Submittal (No Exceptions Taken, Make Corrections Noted, Revise and Resubmit, or Rejected)
  15. Submittal Type (Type 1 or Type 2)
  16. Submittal Designation
  17. Definable Feature of Work (DFOW)
  18. Comments/Remarks
- G. After acceptance of the Contractor's Submittal Log by the Owner, Contractor must make all Submittals in accordance with the "Anticipated Date for Submission to Owner" indicated in the Log. Owner has the right to return all Submittals to the Contractor "Returned Without Review," if the Submittal is submitted prior to the "Anticipated Date for Submission to Owner" indicated in the accepted Contractor's Submittal Log.

**3.14. Project Reports**

A. Contractor's Daily Report.

1. Contractor must submit a Contractor's Daily Report, in a form prescribed or accepted by Owner, for each day worked. At a minimum the report must indicate:
  - a. All workers by trade
  - b. Subcontractor activity
  - c. Activity identification number(s)
  - d. Cost Breakdown number(s) if a Basic Project Schedule is required
  - e. Equipment on site
  - f. Material deliveries
  - g. Tests and Inspections performed
  - h. Infection Control
  - i. Interim Life Safety
  - j. Weather conditions
  - k. Other significant items

B. Each Contractor's Daily Report must be submitted no later than the following day email.

Procurement Status Log.

1. Contractor must submit electronic data files via email of a Procurement Status Log not later than twenty-one (21) Days after the start date for the Work stated in the Notice to Proceed.
2. The Procurement Status Log must include:
  - a. A complete list of items to be purchased that require acceptance by the Owner of a Submittal
  - b. The Submittal tracking number from the Submittal Log that uniquely identifies the Submittal.
  - c. The corresponding CPM activity identification number from the Preliminary Contract Schedule, Baseline Schedule, or Official Progress Schedule as available.
  - d. The date the purchase order was placed or is anticipated to be placed
  - e. If the purchase order is placed, indicate the purchase order number, name of the Supplier, and Fabricator or Manufacturer of each item
  - f. The time required by the vendor to prepare the Submittal
  - g. The review and approval duration for the Submittal (21 Days)
  - h. The anticipated duration of Fabrication/Manufacture
  - i. The delivery duration
  - j. The anticipated delivery date

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- k. The actual delivery date
- 3. Each month, the Procurement Status Log must be updated and submitted with the Updated Official Progress Schedule or more frequently if requested by Owner's Project Manager. Submit an electronic copy of updated Procurement Log and corresponding electronic data files via email.
- 4. If requested by Owner's Project Manager, Contractor must submit two (2) copies of each purchase order *issued by Contractor or Subcontractors*.
- C. Other Reports
  - 1. Contractor must submit to Owner, as specified or Directed, copies of all other reports required by the Contract Documents or other Governmental Agencies including but not limited to:
    - a. Certified Payroll
    - b. Hazardous Materials list(s)
    - c. Copies of incident or accident and injury reports
    - d. Force Account Reports and Documentation
    - e. Monthly Progress Payment Requests

**ARTICLE IV - FORMS** (Not Used)

**END OF DOCUMENT 01 3200**

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**DOCUMENT 01 3250**

**RECORD DOCUMENTS (AS-BUILTS)**

**ARTICLE I - GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents and Sections
    - c. 1.03 - Definitions
    - d. 1.04 - Record Documents
    - e. 1.05 - Concealed Work
    - f. 1.06 – Maintenance of documents and samples
    - g. 1.07 – Record Set
    - h. 1.08 - Progress Payments
    - i. 1.09 - Closeout and Acceptance of the Work
    - j. 1.10 - Submittals
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents And Sections (Not Used)**

**1.03. Definitions**

- A. As-Builts. A set of the Contract Documents including Drawings and Project Manual updated on a continuous basis to indicate conditions encountered and the final configuration of a Project as it was constructed. As-Builts include any change or clarification to the Contract Documents and dimensional information showing the actual locations of Installed components of the Work. (Also known as “Record Documents” or “As-Built Documents.”)
- B. Record Set. Project Manual, Drawings, Addenda, Change Orders, Field Modifications, Requests for Information (RFI), Submittals, Product Data, Samples, Shop Drawings, Field Test and inspection records, and Coordination Drawings located at the Project Site.

**1.04. Record Documents**

- A. As-Builts Drawings.
  - 1. Contractor must maintain at the Project Site at least one set of As-Built Drawings indicating the actual configuration of the Project as it is constructed.
  - 2. The Contractor must maintain the As-Built Drawings in good and current condition and post all changes and clarifications to the As-Built Documents on a daily basis.
  - 3. Contractor must handle the As-Built Drawings with great care, must not use the As-Built Drawings for any other purposes, and must keep them clean and readable.
  - 4. The As-Built Drawings must provide sufficient detail to make it possible to correctly and easily locate, identify, and establish sizes and routing of all piping and the like, as well as other features of concealed Work.
  - 5. The As-Built Drawings must indicate, by appropriate notations in the As-Built Drawings, all modifications or changes made to the Drawings by Addenda, Change Order, RFI, or Field Modification.
  - 6. If Work is installed differently from, or in a location other than that shown on the Drawings, or if Contractor finds existing conditions to be different than indicated on the Drawings, Contractor must accurately note such variations on the As-Builts Drawings in red on a daily basis as the Work progresses.
  - 7. Label each page of the field set of the As-Built Drawings, “As Built Record Drawings” in neat large printed letters in the lower righthand corner.

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8. Contractor must post to the As-Built Drawings on a daily basis all:
  - a. Addenda
  - b. Change Orders
  - c. Field Modifications
  - d. Requests for Information
  - e. Approved Product Substitutions
  - f. All other details and dimensions not on the Bid Documents
- B. As-Built Project Manual.
  1. Contractor must post to the As-Built Project Manual on a daily basis:
    - a. All modifications or changes made to the Project Manual by:
      - (1) Addenda
      - (2) Change Order
      - (3) Field Modification
      - (4) Request for Information (RFI)
      - (5) Approved Product Substitutions
      - (6) All other information not in the Bid Documents
    - b. The Products selected and used in the Work of the Project
    - c. For each approved substitution provided and/or installed, legibly mark each section of the Project Manual to record:
      - i. Manufacturer
      - ii. Trade name
      - iii. Catalog number
      - iv. Supplier

**1.05. Concealed Work**

- A. The As-Built Documents must indicate the locations of underground Work and Work concealed inside any construction.
- B. Contractor shall document the as-built condition with photographs to be used for As-Built Documents before concealing any Work.
- C. The specific location of all turns, centerline, invert elevations and rates of fall in underground and concealed Work must be indicated.
- D. Legibly mark to record actual construction:
  1. Depths of various elements of foundation in relation to finish first floor datum.
  2. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
    - a. Give sufficient horizontal and vertical dimensions to accurately trace route and invert of each concealed line or item.
    - b. Accurately locate each capped, plugged or stubbed line.
  3. Location of internal utilities and appurtenances concealed in the Work, referenced to visible and accessible features of the structure.
    - a. Give sufficient horizontal and vertical dimensions to accurately trace route and invert of each concealed line or item.
    - b. Accurately locate each capped, plugged or stubbed line.

**1.06. Maintenance of Documents and Samples**

- A. Store As-Built Documents in Contractor's field office apart from documents used for construction.
- B. Provide files and racks for storage of As-Built Documents.
- C. File Record Set documents in accordance with CSI format.
- D. Maintain all documents in a clean, dry, legible condition and in good order.
- E. Do not use As-Built Documents for construction purposes.
- F. Make As-Built and Record Set documents available at all times for inspection by the Owner's Project Manager or authorized representative.

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**1.07. Record Set**

- A. Contractor shall submit Record Set at the Substantial Completion of each Project Component including but not limited to:
  - 1. As-Built Project Manual
  - 2. As-Built Drawings
  - 3. Addenda
  - 4. Change Orders
  - 5. Field Modifications
  - 6. Requests for Information (RFI)
  - 7. Submittals
  - 8. Approved Substitution Requests
  - 9. Record Product Data
    - a. Maintain one copy of each Owner accepted Product Data Submittal at the Project Site.
    - b. Mark-up changes in actual Work in comparison with submitted information.
      - (1) Include both variations in product as delivered to Project Site and variations from manufacturer's instructions and recommendations for installation.
      - (2) Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned at a later date by direct observation.
    - c. Note Related Change Orders, if any.
  - 10. Approved Samples
  - 11. Approved Shop Drawings
  - 12. Test and inspection records
  - 13. Coordination Drawings
  - 14. Verified survey records
  - 15. All Permit Approval documents from Authorities Having Jurisdiction and any other regulatory authorities including but are not limited to the following:
    - a. Certificates of Inspection:
      - (1) Elevators
      - (2) Fire Marshal
    - b. Other Certificates:
      - (1) Occupancy Certificate from local building department or the County's Department of Planning & Development, as required.
      - (2) Final Clearance by the OSHPD FLSO.
      - (3) 100% Construction Report from the OSPHD ACO.
    - c. SWPPP Notice of Termination (NOT)

**1.08. Progress Payments**

- A. The County Project Manager and/or the Project Inspector shall review the As-Built Documents prior to and as a condition of approving each progress payment.

**1.09. Closeout and Acceptance Of The Work**

- A. Contractor must submit closeout documents at the Substantial Completion of each Project Component and receive approval from County.
- B. Contractor must mark the drawings "As-Built Record Drawings" and mark the As-Built Project Manual "As-Built Record Project Manual."
- C. Contractor must sign each drawing in the final set of As-Built Drawings and sign the cover of the final As-Built Project Manual.
- D. The Work shall not be recommended for Acceptance until Owner's Project Manager receives satisfactory Record Documents from Contractor.

**1.10. Submittals**

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- A. Submit three (3) paper copies and one (1) electronic copies (both PDF and source files) on flash drive of Record Set.
- B. Accompany submittal with a transmittal letter containing:
  - 1. Date
  - 2. Project title and number
  - 3. Contractor's name and address
  - 4. Title and number of each Record Document (As-Built)
  - 5. Signature of QC Manager or Contractor's Authorized Representative

**ARTICLE II - PRODUCTS** (Not Used)

**ARTICLE III - EXECUTION** (Not Used)

**ARTICLE IV - FORMS** (Not Used)

**END OF DOCUMENT 01 3250**

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DOCUMENT 01 3300

**SUBMITTALS**

**ARTICLE I - GENERAL**

**1.01 Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents and Sections
    - a. 1.03 - Definitions
    - b. 1.04 - Scheduling
    - c. 1.05 - Deviations
    - d. 1.06 - Action Submittals
    - e. 1.07 - Informational Submittals
    - f. 1.08 - Identification
    - g. 1.09 - Certification
    - h. 1.10 - Packaging, Transmittal and Distribution
    - i. 1.11 - Owner or Designer of Record's Action
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02 RELATED DOCUMENTS AND SECTIONS (Not used)**

**1.03 GENERAL REQUIREMENTS FOR SUBMITTALS**

- A. General.
  - 1. Shop Drawings, Product Data, Samples and similar Submittals are not Contract Documents. Their purpose is to demonstrate those portions of the Work for which Submittals are required and the way the Contractor proposes to conform to the information provided and the design concept expressed in the Contract Documents.
  - 2. All Submittals are instruments of Contractor. By submitting Shop Drawings, Product Data, Samples and similar Submittals, Contractor represents that the Contractor has determined and verified materials, construction methods, field measurements and related field construction criteria, coordinated the Work of the Subcontractors, and has checked and coordinated the information contained within the Submittal with the requirements of the Contract Documents and other Submittals.
  - 3. Owner's review of Submittals is for general compliance with the requirements of the Contract Documents. Contractor is solely responsible for all quantities, dimensions, weights, gauges, materials, Fabrication processes, construction methods, coordination with the Work of other trades, and construction safety precautions. Owner's review does not relieve the Contractor of responsibility for errors and omissions in the Submittals or from responsibility for proper fitting and construction of the Work, nor from furnishing materials and Work required by Contract Documents that may not be indicated or shown on the Submittal(s).
  - 4. Owner's review of Contractor's Submittal(s) does not relieve Contractor of any responsibilities for the successful completion of the Work in conformity with the requirements of the Contract Documents. The Owner may reject any defective Work notwithstanding any review or previous acceptance of a Submittal associated with the Work.
  - 5. The Contractor is not relieved of the responsibility for any deviation from the requirements of the Contract Documents by Owner's review of Submittals unless the Contractor has specifically informed Owner, in writing, of such deviation at the time of Submittal, and Owner has provided specific written consent to each specific deviation. Making notations on the Submittal of proposed deviation is not sufficient to satisfy this requirement. Each proposed deviation must be clearly noted on the Submittal and separately itemized and explained in



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writing in the transmittal accompanying the Submittal. For each Submittal, the Contractor must indicate that the Submittal contains “**No Deviations**” or itemize the proposed deviations on the transmittal accompanying the Submittal. This written list of deviations is in addition to any indications or marks on the Shop Drawings, Product Data, Coordination Drawings, Samples, or other Submittals indicating the proposed deviations.

6. No Work requiring Submittals shall be performed until Owner has accepted the pertinent Submittals. Where a Submittal is required, any related Work performed before the Owner's review and acceptance of the Submittal will be at Contractor's sole risk, expense and responsibility.
7. Except as otherwise specifically stated in the Contract Documents or specifically Approved by Owner's Project Manager, all required Preconstruction Submittals must be submitted within twenty (20) Days after the start date for the Work as stated in the Notice to Proceed. General acceptance of the Contractor's Progress Schedule, Submittal Log, or other related submittals by the Owner does not constitute specific Approval by the Owner's Project Manager for deviation from the 20 Day cut-off date for Preconstruction Submittals. Contractor must make a specific request in writing for each proposed deviation and the Owner's Project Manager must grant specific written Approval for each proposed deviation to the cut-off date.
8. When certification of materials, systems or equipment is required by the Contract Documents, Design Professional and Owner are entitled to rely upon the accuracy and completeness of such certifications and the calculations and other professional analysis supporting the certifications.
9. When descriptive catalog designations, including Manufacturer's name, product brand name, or model number(s) are referred to in the Contract Documents, such designations shall be considered as being those found in industry publications of current issue at date of first Notice to Bidders.
10. Contractor must allow sufficient time for reviews, revisions and resubmittals to avoid delays in the Work. No extension of the Contract Time will be authorized because of failure to transmit Complete Submittals enough in advance of the Work to permit processing within the timeframes allowed by Contract. Contractor is responsible for all costs of delays caused by Submittals that are tardy or are not Complete Submittals.
11. Submittals not required by the Contract Documents will not be reviewed and will “Returned Without Action” or may be discarded.
12. If a returned Submittal is required to be resubmitted more than once due to Contractor's failure to comply the Submittal requirements, Contractor may be charged all costs associated with re-review of the Submittal. The charges may be deducted from progress payments due or to become due to the Contractor.
13. Do not highlight pertinent Submittal information with markings that turn opaque when copied. Improperly highlighted Submittals may be returned to Contractor “Returned Without Action.”

**B. Contractor's Responsibilities.**

1. Contractor must, at its own expense, provide for Owner's review all Submittals required by the Contract Documents.
2. If a Submittal deadline submission date is not stated in the Contract Documents for a specific Submittal or group of Submittals, make the Submittal or group of Submittals far enough in advance to avoid any Critical Path delay to the CPM Progress Schedule.
3. Before submission, Contractor must:
  - a. Determine and verify all field dimensions and conditions.
  - b. Verify and correlate all dimensions in the Contract Documents with field dimensions and conditions.
  - c. Verify materials, catalog numbers and similar data.
  - d. Coordinate Contractor's Work with that of Subcontractors.
  - e. Coordinate the Work of the Subcontractors' Work with that of each other.
  - f. Review and coordinate all Subcontractors' Submittals with the requirements of the Contract Documents.
  - g. Review and coordinate all Submittals with Submittals previously accepted by the Owner.

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- h. Coordinate as required with all public agencies involved.
  - i. Secure necessary approvals from public agencies and others and signify by stamp or other means that they have been secured.
  - j. Verify the feasibility of the construction methods.
  - k. Coordinated the Submittal with Construction safety precautions.
  - l. Review and coordinate all Contractor's Submittals with the requirements of the Contract Documents.
4. Submittals must be provided to the Owner in an electronic format, as identified below in Paragraph C below. Complete Submittal(s) for each Definable Feature of Work and must not be submitted piecemeal. Owner has the right to withhold action on partial Submittals until the missing Submittal items are received, or return the partial Submittal to the Contractor "Returned Without Action." At Owner's sole discretion, the Owner may agree to review a Contractor's partial Submittal. If the Owner agrees to review a Contractor's partial Submittal, and the submittal is marked "No Exceptions Taken," or "Make Corrections Noted" the Owner's acceptance of the partial Submittal subject to its compatibility with future Submissions and additional partial Submissions for portions of the Work not covered in the reviewed partial Submission and does not constitute acceptance of the deletion of specified or required items not shown in the partial Submission.
5. Coordinate submission of Submittals for related parts of the Work so the Submittals may be reviewed concurrently. Owner has the right to withhold action on a Submittal requiring coordination with other Submittals until related Submittals are received.
6. Prior to Submission to the Owner, Contractor must certify all Submittals for compliance with the requirements of the Contract Documents. The Owner and Owner's Consultants are entitled to rely upon the Contractor's certification and the accuracy and completeness of the Contractor's efforts supporting such certification.
7. Contractor must resubmit Submittals via Buzzsaw as required until Owner's acceptance is obtained.
8. Contractor must make any required corrections and resubmit corrected Submittals until achieving acceptance.
9. Unless otherwise specifically stated in the Contract Documents, Contractor must resubmit Submittals requiring resubmission within seven (7) Days of return of Submittal by Owner.
10. On resubmittals, clearly indicate all revisions, changes, and deviations from the original Submittal. This includes directing specific attention, in writing, to revisions other than those requested by the Owner on previous Submittals.
11. Contractor must include answers to any questions or clarifications required by Subcontractors and/or Suppliers.
- C. Submittal Copies.
1. If the required number of Submittal copies are not established or summarized in specific sections of the Contract Documents, Contractor must provide the number of copies indicated below. Scanned reproductions must be clearly identified and legible or will be rejected.
- a. Three (3) electronic copy of each (provided on Flash Drive) :
    - i. Shop Drawing
    - ii. Coordination Drawing
    - iii. Erection plan
    - iv. Equipment installation plan
    - v. Record Drawings (as-built)
  - b. Three (3) electronic copy of each (provided on Flash Drive):
    - i. Product Data sheet
    - ii. Manufacturer, Vendor, or Subcontractor Certification
    - iii. Catalog cut
    - iv. Operation and Maintenance Data
    - v. Qualifications
    - vi. Laboratory Test Reports
    - vii. Owner Demonstration and Training Materials including Videotapes

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- viii. Quality Control Plan
    - ix. Solid Waste Management Plan
    - x. Storm Water Pollution Prevention Plan (SWPPP)
  - c. Three (3) electronic copy of each (provided on Flash Drive):
    - i. Fire Protection Plan
  - d. Three (3) electronic copy of each (provided on Flash Drive):
    - i. Incident Reports
    - ii. Accident Reports
    - iii. Progress Schedules (plus one (1) electronic copy in CD format)
    - iv. Project Manual (as-built)
    - v. Hazardous Waste Manifests
    - vi. Permits
    - vii. Cost Breakdown (plus one (1) electronic copy in CD format)
    - viii. Survey Records
    - ix. Dispute documentation (plus one (1) electronic copy in CD format)
    - x. Certified Claim (original signature required on each claim certification)
  - e. Three (3) electronic copy of each (provided on Flash Drive):
    - i. Sample
    - ii. Payment Application
    - iii. Material On Hand Payment Request
- D. Minimum Submittal Review Times.
  - 1. Time for review shall commence on Owner's receipt of a Complete Submittal.
  - 2. Time for review shall end on Owner's return of Submittal.
  - 3. Allow at least twenty-one (21) Days for Owner's review and return following Owner receipt of a Complete Submittal.
  - 4. Allow additional time if processing must be delayed to permit coordination with subsequent Submittals. Owner will advise Contractor when a Submittal being processed must be delayed for coordination.
  - 5. Allow at least twenty-one (21) Days for Owner's review and response to resubmittals.
- E. Action & Distribution.
  - 1. When "No Exceptions Taken" is indicated, Contractor may proceed with Fabrication, Manufacture, or construction, providing such Work complies with the requirements of the Contract Documents.
  - 2. When "Make Corrections Noted" is indicated, Contractor may proceed with Fabrication, Manufacture, or construction, providing such Work complies with the requirements of the Contract Documents and the corrections noted. The above two categories are considered as accepted Submittals.
  - 3. When other notations are indicated, Contractor is advised that no Work shall be Fabricated, Manufactured, or constructed, and Contractor must make a revised submission.
  - 4. Contractor must promptly distribute copies of the accepted Submittals to its Subcontractors, Suppliers, vendors, Fabricators and/or Manufacturers as applicable.
  - 5. Submittals received from sources other than through Contractor's office will be "Returned Without Action" or may be discarded.
  - 6. Submittals that are not required by the Contract Documents may be returned to the Contractor "Returned Without Action" or may be discarded.
  - 7. Informational Submittals, on which Owner is not required to take action, will not be returned to the Contractor.
- F. Use for Construction.
  - 1. Use only final Submittals with mark(s) indicating acceptance by Owner or Designer of Record.
  - 2. No portion of Work requiring Submittals shall be commenced until Owner or Designer of Record, on the Owner's behalf, has accepted the Submittal.
  - 3. Contractor must Fabricate, construct and furnish all Work in accordance with the accepted Submittals.

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4. Contractor must immediately upon receipt from Owner, distribute Owner accepted Submittals to all parties concerned.
5. Contractor must keep at least one (1) copy of each accepted Submittal at the job site.

**1.04 General Requirements for Shop Drawings**

- A. Contractor must furnish Shop Drawings for temporary work and methods of construction such as formwork, falsework, and for other temporary work and methods of construction Contractor proposes to use.
- B. Contractor must Furnish scaled drawings showing how the Work of all trades (HVAC, plumbing, fire protection, electrical, etc.) will coordinate to form a complete Installation, and where Work affects existing buildings or parts thereof, and/or existing utilities.
- C. Present Shop Drawings in a clear and thorough manner. Identify details by reference to sheet and detail, schedule, and room numbers shown on Drawings.
- D. Please follow the requirements of Document 00 3350 (BIM/Project Coordination) for any BIM submissions or other requirements needed for project coordination.

**1.05 General Requirements for Coordination Drawings**

- A. The Contract Documents indicate general arrangement and location of the various systems and elements of Work. Final locations, elevations, clearances, etc., are governed by actual equipment and material Provided by Contractor and by actual building conditions.
- B. Before Work is Installed, Contractor must carefully examine the Contract Documents, Submittals, and Shop Drawings relating to the entire Work with each other and the actual building conditions and verify that the Work will be accommodated in spaces provided.
- C. Contractor must prepare Coordination Drawings when:
  1. Limited space is available for installation of different components
  2. Coordination is required for installation of products and materials Fabricated by separate entities.
  3. The relationship of components is shown on separate Shop Drawings.
  4. Coordination Drawings are specifically required by other sections of the Project Manual.
  5. Please follow the requirements of Document 00 3350 (BIM/Project Coordination) for any BIM submissions or other requirements needed for project coordination.

**1.06 General Requirements for Samples**

- A. Contractor must submit without charge such Samples as may be required by the Contract Documents.
- B. Unless a greater quantity is required elsewhere in the Contract Documents, three (3) of each required Sample must be Submitted
- C. Tags or labels shall be securely affixed to samples and contain as a minimum, the following information: Project Name, Contractor's Name, Contract Title and Number, Date, Transmittal Number, Product Manufacturer's or Fabricator's Name, trade name, lot style, color, model, etc., locations of use, and Contract Document reference.
- D. Owner will retain one of each Sample.
- E. Contractor must not use any materials or equipment for which Samples are required to be submitted until Owner has performed such Submittal review, save only at Contractor's risk and expense.
- F. Owner's review of any Sample is only for the characteristics thereof or for the uses named in such review and no other. Owner's acceptance of any Sample is not a modification or change of any requirements of the Contract Documents. Upon Owner's acceptance of any Sample or material, no additional Sample of that material will be considered and no change in brand or make is permitted.
- G. Where variation in color, pattern, texture or other characteristic is inherent in the material or product to be Provided, the Contractor must Submit at least 3 multiple units that show

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approximate limits of the variations. Installed items or materials exceeding the variation of the accepted samples are considered defective Work.

**1.07 General Requirements for Substitutions**

- A. Whenever in the Contract Documents any material, product, thing, or service is indicated or specified by grade, patent, brand, trade or proprietary name, or by Manufacturer, such specifications shall be followed exactly.
- B. The Contractor may submit a proposal for Alternative material, product, thing, or service within thirty-five (35) Days after the official start date stated in the Notice to Proceed. At the sole discretion of the Owner's Authorized Representative, Owner may give written consent to the submission of a Product Substitution request after expiration of the thirty-five (35) Day time limit.
- C. If the material, product, thing, or service offered by Contractor is not, in the opinion of the Owner's Authorized Representative, substantially equal or better than that specified, then Contractor must furnish that material, product, thing, or service specified or one that in the opinion of the Owner's Authorized Representative is substantially equal or better in every respect.
- D. The burden of proof as to the equality of any material, product, thing, or service Contractor proposes for Product Substitution is the responsibility of the Contractor.
- E. The opinion of the Owner's Authorized Representative of the substantial equality or superiority of any material, product, thing, or service proposed for substitution will be based on but not be limited to consideration of such factors as: physical characteristics of weight, gauge, composition, hardness, toughness, ductility, durability, brittleness, etc., as compared to the specified item, or as delineated in the Contract Documents; dimensional compatibility with the materials it combines with to produce a unified design system; compatibility with products in use by Owner elsewhere; all aspects of finished appearance including form, texture and color, that may affect other design elements; performance, functionality, and ease and economy of maintenance and operation. Owner's Authorized Representative will review and respond in writing to substitution submittals within twenty-one (21) Days after receipt of all information Owner requires to make a final determination.
- F. Owner will consider proposals for substitution of materials, Products, things, or services only when such proposals are accompanied by full and complete technical data, and all other information requested by the Owner is submitted, in order to evaluate the proposed Product Substitution. Owner may require substantiating documents to prove quality, delivery time, and cost. Burden of proof as to comparative quality, suitability, and performance of offered materials, Products, things, or services is the responsibility of the Contractor. Owner's Authorized Representative, after recommendation from Design Professional(s), will be the sole judge as to such matters. In the event Owner's Authorized Representative rejects the use of such Alternative(s) submitted, then one of the particular materials, Named Products, things, or services originally specified in the Contract Documents must be Provided.
- G. Contractor is responsible for all design and engineering costs, Submittal and resubmittal costs, and costs of associated changes, for the review and acceptance of all proposed and accepted Product Substitutions. Costs incurred by Owner for additional Design Professional and/or CM services to process, design, engineer or adapt Product Substitutions may be deducted from payments to Contractor.
- H. Installation of Substitutions
  - 1. Contractor must replace any substitution(s) installed without Owner's consent with the specified item(s) at Contractor's expense.
  - 2. Contractor must not proceed with any Product Substitution or change until Owner's Authorized Representative has completed all reviews, made recommendations and granted consent.
  - 3. If Owner's Authorized Representative accepts a Product Substitution, Contractor must make all changes in the Work including changes to Contract and Record Documents at no additional cost to Owner.

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4. If an accepted Product Substitution is more expensive than the specified material, process, or article Contractor must bear all additional costs of such material, process, or article so Provided.
5. If mechanical, electrical, structural, or other changes are required for the Installation or fit of Alternative materials, articles, or equipment, or because of deviations from Contract Drawings and Specifications, such changes must not be made without written consent of the Owner's Authorized Representative, and must be made without additional cost to Owner.

**ARTICLE II - PRODUCTS** (Not used)

**ARTICLE III - EXECUTION**

**3.01. Definitions**

- A. Action Submittals. Submittals requiring Owner or Designer of Record's written response.
- B. Informational Submittals. Submittals not requiring Owner or Designer of Record's written response. (Survey notes, CM Daily Report, Laboratory test reports, etc.)
- C. Preconstruction Submittals. Action Submittals and Informational Submittals requiring Owner's acceptance before Contractor may proceed with the installation of Work or the procurement of the materials and/or equipment covered by the Submittal.
- D. Schedule. Schedule preparation and processing of Submittals in accordance with other sections of the Contract Documents and the specific Submittal deadlines and timeframes stated in the Contract Documents. Unless a longer period is specifically stated in the Contract Documents, allow at least 15 Days for Owner's review and return of all Submittals and resubmittals.

**3.02. Deviations**

- A. Specifically identify each proposed deviation from the requirements of the Contract Documents.
  1. Only making notations on the Submittal is not sufficient to satisfy this requirement. (See also Document 00 7000.3.26.1.5.)
  2. Each proposed deviation must be clearly highlighted, encircled, noted, or otherwise clearly identified on the Submittal and individually explained in writing in the transmittal accompanying the Submittal.
  3. Making notations on the Submittal without the attached written explanation will not relieve the Contractor of responsibility for deviation from the requirements of the Contract Documents.
  4. Unless specific deviations have been noted in writing by the Contractor and specifically accepted in writing by the Owner or Designer of Record, no deviations from the requirements of the Contract Documents are permitted.
- B. If a Submittal contains no proposed deviation(s) from the requirements of the Contract Documents, the Contractor must indicate on the transmittal accompanying the Submittal that the Submittal contains "**No Deviations**" from the requirements of the Contract Documents.

**3.03. Action Submittals**

- A. Prepare and submit Action Submittals required by individual sections of the Project Manual.
- B. Product Data
  1. Collect information into a single Complete Submittal for each Definable Feature of Work and type of product or equipment.
  2. If information must be specially prepared for Submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
  3. Mark each copy of each Submittal to show which Products and options are applicable.
  4. Include the following information, as applicable:
    - a. Manufacturer's written recommendations.
    - b. Manufacturer's product specifications.
    - c. Manufacturer's installation instructions.
    - d. Standard color charts.
    - e. Manufacturer's catalog cuts.
    - f. Diagrams showing factory-installed wiring, controls and piping diagrams.

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- g. Printed performance curves, performance characteristics and capacities.
  - h. Operational range diagrams.
  - i. Mill reports.
  - j. Standard product operating and maintenance manuals.
  - k. Compliance with recognized trade association standards.
  - l. Compliance with recognized testing agency standards.
  - m. Application of testing agency labels and seals.
  - n. Notation of coordination requirements.
  - o. Show wiring, piping diagrams, controls.
- C. Shop Drawings.
- 1. Preparation: Include the following information, as applicable:
    - a. Dimensions.
    - b. Identification of Products.
    - c. Fabrication and installation drawings.
    - d. Roughing-in and setting diagrams.
    - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
    - f. Shopwork manufacturing instructions.
    - g. Templates and patterns.
    - h. Schedules.
    - i. Design calculations.
    - j. Compliance with specified standards.
    - k. Notation of coordination requirements.
    - l. Notation of dimensions established by field measurement.
    - m. Floor plans indicating points of attachment for support.
    - n. Identify details by reference to Drawing and detail, schedule, or room numbers shown and specified.
  - 2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
  - 3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" (215 by 280 mm) but no larger than 36" x 48" (914 mm x 1219 mm).
  - 4. Contractor must review and coordinate all Subcontractors' Shop Drawings before submission to Owner. If required or needed, Contractor must prepare and submit Coordination Drawings.
  - 5. Submittals must be complete for each item of Work and must not be submitted piecemeal.
  - 6. Present Shop Drawings in a clear and thorough manner. Identify details by reference to sheet and detail, schedule, and room numbers shown on Drawings.
- D. Samples.
- 1. Each Sample must clearly note the manufacturer, trade name, product, lot style, color, model, etc., locations of use, and Contract Document reference.
- E. Coordination Drawings.
- 1. Contractor must prepared and submit drawings to demonstrate the coordination of methods, materials, equipment, plans, or sequence the Contractor proposes to use when:
    - a. Coordination Drawings are specifically required by other sections of the Project Manual.
    - b. Limited space is available for installation of different components.
    - c. Coordination is required for installation of Products and materials Fabricated by separate entities.
    - d. The relationship of components is shown on separate Shop Drawings or Submittals.
  - 2. Coordination Drawings must be submitted in the format required for Shop Drawings.
  - 3. Please follow the requirements of Document 00 3350 (BIM/Project Coordination) for any BIM submissions or other requirements needed for project coordination.

**3.04. Informational Submittals**

- A. Prepare and submit Informational Submittals required by other section of the Project Manual via Buzzsaw.

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- B. Material Certificates. Prepare written statements on manufacturer's letterhead certifying that material complies with the requirements of the Contract Documents. An officer or other individual authorized to sign documents on behalf of that entity must sign certificates and certifications.
- C. Material Test Reports. Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with the requirements of the Contract Documents.
- D. Preconstruction Test Reports. Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.
- E. Field Test Reports. Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with the requirements of the Contract Documents.
- F. Maintenance Data. Prepare written and graphic instructions and procedures for operation and normal maintenance of Products and equipment.
  - 1. Comply with the close-out requirements set forth in the Contract Documents.
- G. Manufacturer's Instructions. Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment.
  - 1. Include name of product and name, address, and telephone number of manufacturer.
  - 2. Include the following, as applicable:
    - a. Preparation of substrates.
    - b. Required substrate tolerances.
    - c. Sequence of installation or erection.
    - d. Required installation tolerances.
    - e. Required adjustments.
    - f. Recommendations for cleaning and protection.
- H. Manufacturer's Field Reports. Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
  - 1. Name, address, and telephone number of factory-authorized service representative making report.
  - 2. Statement on condition of substrates and their acceptability for installation of product.
  - 3. Statement that Products at Project Site comply with the requirements of the Contract Documents.
  - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  - 6. Statement whether conditions, Products, and installation will affect Warranty/Guarantee.
  - 7. Other required items indicated in individual sections of the Contract Documents.

**3.05. Identification**

- A. Place a permanent label, or title block on each Submittal for identification.
  - 1. The label or title block must include:
    - a. Project name and number
    - b. Date
    - c. Name of Contractor
    - d. Unique Submittal identifier, including revision number
    - e. As appropriate:
      - i. Name of Subcontractor
      - ii. Name of Supplier
      - iii. Name of Manufacturer
      - iv. Name of Fabricator
    - f. Number and title of appropriate section of the Project Manual



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- g. Drawing number and detail references, as appropriate
    - h. Name of firm or entity that prepared each Submittal.
  - B. Contractor must provide a space approximately 3" x 3" on label or beside title block of each page of each Submittal to record review markings and action taken by Owner or Designer of Record.
  - C. Contractor must number all Submittals serially and continue in sequence. Resubmittals must have suffix letter A, B, C, etc. following the original Submittal number.
- 3.06. Certification**
  - A. After Contractor's review of each Submittal for compliance with the requirements of the Contract Documents:
    - 1. Mark with certification stamp before submitting to Owner or Designer of Record.
    - 2. Include Project name, Specification section, Contractor's signature, and date of certification.
    - 3. The Contractor's Authorized Representative must wet sign and date the certification.
- 3.07. Packaging, Transmittal And Distribution**
  - A. Packaging.
    - 1. Collect individual Submittals into a Complete Submittal for each Definable Feature of Work
    - 2. Individual Submittals and Complete Submittal must be adequately wrapped or packaged to prevent damage during delivery.
    - 3. All reproducible drawings must be rolled and not folded.
  - B. Transmittal.
    - 1. Transmit each Complete Submittal using Buzzsaw.
      - a. Owner and Designer of Record may discard Submittals received from sources other than Contractor.
      - b. Owner and Designer of Record will not review Submittals that are not accompanied by Contractor's transmittal and will return them "Returned Without Action."
    - 2. On the transmittal, or a separate sheet attached to the transmittal prepared on Contractor's letterhead, record relevant information, requests for data, revisions, and each deviation from requirements of the Contract Documents, including minor variations and limitations.
    - 3. Transmittal Form. Provide the following information:
      - a. Project name and location.
      - b. Date.
      - c. Destination (To:).
      - d. Source (From:).
      - e. Subcontractor's, Supplier's and/or manufacturer's name, address, and telephone number.
      - f. Submittal Distribution Group
      - g. Submittal Type (Type 1 or Type 2)
      - h. Reference to applicable sections or parts of the Contract Documents.
      - i. Reference to the appropriate Definable Feature of Work
      - j. Unique Submittal identifier, including revision number. Contractor must number all Submittals serially and continue in sequence. Resubmittals must have suffix letter A, B, C, etc. following the Submittal
      - k. Product identification or Shop Drawing title, number, revision and date as applicable.
      - l. Submittal and transmittal distribution record.
      - m. Itemize each proposed deviation from the requirements of the Contract Documents. If a Submittal contains no proposed deviation(s), indicate that the Submittal contains "No Deviations." Owner and Designer of Record may return Submittals "Returned Without Action" that do not list proposed deviations or state that Submittal contains "No Deviations" from the Contract Documents.
      - n. Remarks.
      - o. Signature of transmitter.
  - C. Parallel Distribution of Submittals
    - 1. Contractor is required to make parallel distribution of Submittals to multiple Submittal reviewers.

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2. Contractor must, at its own expense, make parallel distribution of all Submittals.
3. Submittals must be concurrently transmitted to all parallel reviewers.

**3.08. Owner or Designer of Record's Action**

A. General.

1. Owner will not review Submittals that do not bear the Contractor's certification stamp and will return them "Returned Without Action."

B. Action Submittals. Owner or designer of record will review each submittal, make marks to indicate corrections or modifications required, and return it.

1. Owner or Designer of Record will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
  - a. Final Unrestricted Release: When "No Exceptions Taken" is indicated, Contractor may proceed with Fabrication, Manufacture, or construction, providing such Work complies with the requirements of the Contract Documents. Final acceptance will depend on that compliance.
  - b. Final-but-Restricted-Release: When "Make Corrections Noted" is indicated, Contractor may proceed with Fabrication, Manufacture, or construction, providing such Work complies with the requirements of the Contract Documents and the corrections noted. Final acceptance will depend on that compliance.
  - c. When stamped "No Exceptions Taken" or "Make Corrections Noted" the Submittal is considered "acceptable."
  - d. Returned for Resubmittal: Where the Submittal is marked "Revise and Resubmit," do not proceed with the Work covered by the Submittal, including purchasing, Fabrication, delivery, or other activity for the product Submitted. Revise or prepare a new submittal according to the Owner's or Designer of Record's notations and corrections.
  - e. Rejected: Where the submittal is marked "Rejected," do not proceed with the Work covered by the submittal, including purchasing, Fabrication, delivery, or other activity for the product Submitted. Prepare a new Submittal for a product that complies with the requirements of the Contract Documents.
  - f. Incomplete: Where the submittal is marked "Submit Additional Information," do not proceed with the Work covered by the Submittal. Prepare additional information requested, or required by the Contract Documents, that indicates compliance.
  - g. Returned Without Action: Where the submittal is marked "Returned Without Action," it was not reviewed and Contractor must not proceed with the Work covered by the Submittal. Prepare a new Submittal that complies with the requirements of the Contract Documents.

A. Resubmittals. Contractor must make all required corrections and submit corrected resubmittals until achieving final acceptance.

B. Information Submittals. Information Submittals, on which Owner is not required to take action, will not be returned to the Contractor.

C. Submittals received from sources other than Buzzsaw will be "returned without action" or may be discarded.

**ARTICLE IV - FORMS (Not Used)**

**END OF DOCUMENT 01 3300**

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**DOCUMENT 01 34 00**

**SAFETY SUBMITTALS**

**ARTICLE I - GENERAL**

**1.01. Scope**

- A. Contractor shall prepare and submit written Safety Plans and Programs as specified herein prior to start of the Work. All written Safety Plans and Programs required to be submitted herein must be favorably reviewed by Owner prior to the Contractor starting Work.

**1.02. Owner's Review of Submittals**

- A. Neither Owner review of, nor comments on, any of the submittals shall constitute a representation of warranty as to compliance with any legal requirements. Owner reserves the right to reject all or portions of a submittal as inadequate to protect health, or safety. If conditions change, Contractor shall promptly update the Plans and Programs, as appropriate, and submit the revised Plans and Programs to Owner at no additional charge to Owner.

**1.03. Plans and Programs**

- A. Submit the following site-specific, s within the time period established in Document 00510 Notice of Award and, in any event, prior to starting Work:
1. Health and Safety Plan:
    - a. For Non-Hazardous Waste Operations:  
Describe the health and safety hazards anticipated in performing the work, measures to be taken to reduce those hazards and to protect employees and the public. Include procedures for identifying and reporting unforeseen hazards.
    - b. For Potential Hazardous Waste Operations:  
Describe the health and safety hazards anticipated in performing the work, measures to be taken to reduce those hazards and to protect employees and the public. Include procedures for identifying and reporting unforeseen hazards.  
Identify an individual(s), either an employee or subcontractor, who is trained in accordance with CCR Title 8, Section 5192 (Cal/OSHA), Hazardous Waste Operations and Emergency Response (HAZWOPER), and who is qualified to identify potentially hazardous wastes or contaminated soils which might be encountered on the jobsite. Describe methods of identifying these materials and communicating the findings to Owner. The Plan does not need to comply with CCR Title 8, Section 5192 (Cal/OSHA).
    - c. For Identified Hazardous Waste Operations:  
All aspects of the Health and Safety Plan shall comply with CCR, Title 8, Section 5192 (Cal/OSHA), Hazardous Waste Operations and Emergency Response. The Plan shall be signed by an individual Certified in the Comprehensive Practice of Industrial Hygiene (CIH) by the American Board of Industrial Hygiene and trained in hazardous waste site operations as required by Section 5192. If hazard conditions change, promptly update the Plan and resubmit to Owner, at no additional charge to Owner. Include the following items:
      - 1) Training, medical, and respirator approval documentation for all employees who will work at the site.
      - 2) The names and addresses of the waste hauler and the landfill for hazardous waste.
  2. Asbestos Abatement Program in accordance with CCR Title 8, Section 1529 (Cal/OSHA):  
Include the following items:

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- a. Registration with Cal/OSHA as an Asbestos Abatement Contractor, (required for removing more than 100 square feet of materials containing greater than 0.1 percent asbestos).
  - b. Notifications for asbestos work, including Cal/OSHA, the [Bay Area Air Quality Management] District, and, where appropriate, EPA Region IX.
  - c. Training, medical, and respirator approval documentation for all employees who will work at the site.
  - d. The identity of the Competent Person, as defined by Cal/OSHA.  
A work plan to prevent asbestos fibers and debris being dispersed from the work area into the building or the environment, including diagrams showing:
    - 1) Staging of the project.
    - 2) Placement and number of negative air machines and exhausts.
    - 3) Staging of waste containers.
  - e. Weekly progress reports as the project progresses.
  - f. At project completion, documentation, including daily reports or logs, air monitoring results, waste manifests, and other similar pertinent information.
  - g. Material Safety Data Sheets for hazardous materials brought onto the site.
  - h. Procedures for identifying and reporting unforeseen hazards.
  - i. The names and addresses of the waste hauler and the landfill for asbestos waste.
3. The following items are required for the Lead Compliance Program in accordance with CCR Title 8, Section 1532.1 (Cal/OSHA):
- a. Training, medical, and respirator approval documentation for all employees who will work at the site.
  - b. The identity of the Competent Person, as defined by Cal/OSHA.
  - c. Material Safety Data Sheets for hazardous materials brought onto the site.
  - d. The Contractor's procedures for identifying and reporting unforeseen hazards.
  - e. The names and addresses of the waste hauler and the landfill for hazardous and non-hazardous wastes.
4. Storm Water Pollution Prevention Plan (SWPPP) including:
- a. A site map identifying storm drain inlets.
  - b. Identification of potential sources of pollution.
  - c. A plan to eliminate non-storm water discharges such as wastewater, spills, and others.
  - d. Best Management Practices (BMP) to minimize discharges of pollutants in storm water runoff.
  - e. How agencies and Owner will be notified in case of spills.
5. Compliance with State General Construction Activity Storm Water NPDES Permit, including:
- a. Development of a Storm Water Pollution Prevention Plan that complies with all requirements of the General Construction Activity Storm Water Permit.
  - b. Development of a color-coded site map showing:
    - 1) Areas of soil disturbance that have been stabilized.
    - 2) Areas to be graded, in addition to a time schedule.
    - 3) Areas of potential soil erosion where control practices will be implemented (Indicate the control practices and time schedule for implementation).
    - 4) Locations of post-construction projects (i.e., ponds, grassy swales, detention basins).
  - c. Development of a Site Inspection Checklist.
  - d. Submittal of the Site Inspection Checklist on a weekly basis.
6. Disposal of Fluorescent Lights and/or Ballasts Plan, as applicable.
7. Soil and Groundwater Management Plan:

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Describe how any disturbed soil or collected water will be handled, including temporary storage, testing and/or treatment, and disposal. Identify all activity where potential exists for waste to be generated, including materials associated with the destruction of monitoring wells. Where feasible, excavated soil from utility trenching may be placed back within the utility corridor near the original excavation.

Soil that cannot be placed back in the utility trench, and waste generated from other activities shall be tested by the Contractor as per General Conditions, Article 14.1, Alterations, Modifications and Force Account Work. The Contractor shall provide the name of an analytical laboratory and contact name for coordinating environmental testing.

8. Debris Containment Program:

Describe the control of debris generated by the performance of the work and how the work area will be maintained unencumbered by the debris confined inside the work area.

9. Soil and Air Pollution Management Plan:

Describe measures to be taken to control dust and prevent pollution of soil, and air resulting from the performance of the work. Describe in detail how dust, air emissions, and/or soil pollutants generated during the performance of the work will be minimized, controlled, contained, treated, and/or disposed. The Plan shall include development of a Site Inspection Checklist to be completed and submitted on a weekly basis. The Plan must also incorporate air pollution controls described in these specifications.

B. The following Plans and Programs must be made available within ten (10) calendar days only after being requested by Owner. Do not submit unless and until requested:

1. Injury and Illness Prevention Program, in accordance with CCR Title 8, Section 3203 (Cal/OSHA).
2. Hazard Communication Program, in accordance with CCR Title 8, Section 5194 (Cal/OSHA)
3. Respiratory Protection Program, in accordance with CCR Title 8, Section 5144 (Cal/OSHA).
4. Confined Space Entry Program, in accordance with CCR Title 8, Article 108. (Cal/OSHA).
5. Lockout/Tagout Program, in accordance with CCR Title 8, Sections 3314 and 2320 (Cal/OSHA).
6. Name of individual(s) having current Red Cross-equivalent first aid and CPR training.
7. Trenching and Shoring Plan, in accordance with CCR Title 8, Article 6 (Cal/OSHA).

**ARTICLE II - PRODUCTS – NOT USED**

**ARTICLE III - EXECUTION – NOT USED**

**END OF DOCUMENT 01 34 00**

**DOCUMENT 01 4100**

**REGULATORY REQUIREMENTS**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. Document includes: regulatory requirements applicable to the Project.
- B. Specific reference in the Specifications to codes and regulations or requirements of regulatory agencies shall mean the latest edition of each adopted by the regulatory agency in effect at the time of the opening of bids, except as may be otherwise specifically stated in the Contract Documents.
- C. Should any conditions develop not covered by the Contract Documents wherein the finished Work will not comply with current codes, a change order detailing and specifying the required Work shall be submitted to and approved by Owner before proceeding with the Work.

**1.02. References to Regulatory Requirements**

- A. Codes, laws, ordinances, rules, regulations and ordinances referred to shall have full force and effect as though printed in full in these Specifications. Code, laws, ordinances, rules, regulations and ordinances are not furnished to Contractor, because Contractor is assumed to be familiar with these requirements. The listing of applicable codes, laws, regulations and ordinances for hazardous waste abatement Work in the Contract Documents is supplied to Contractor as a courtesy and shall not limit Contractor's responsibility for complying with all applicable laws, regulations or ordinances having application to the Work. Where conflict among the requirements or with these Specifications occurs, the most stringent requirements shall be used.
- B. Conform to all applicable codes, laws, ordinances, rules and regulations.
- C. Precedence:
  - 1. Where specified requirements differ from the requirements of applicable codes, ordinances and standards, the more stringent requirements shall take precedence.
  - 2. Where Drawings or Specifications require or describe products or execution of better quality or higher standard than required by applicable codes, ordinances and standards, Drawings and Specifications shall take precedence so long as such increase is legal.
  - 3. Where no requirements are identified on Drawings or in Specifications, comply with all requirements of applicable codes, ordinances and standards of governing Authorities Having Jurisdiction.

**1.03. Not Used**

**1.04. Codes, Laws, Statutes, Ordinances, Rules and Regulations**

- A. During prosecution of Work to be done under Contract Documents, Contractor shall comply with applicable codes, laws, ordinances, rules and regulations, including, but not limited to, the following:
  - 1. Federal.
    - a. Americans With Disabilities Act of 1990
    - b. 29 CFR, Section 1910.1001, Asbestos
    - c. 40 CFR, Subpart M, National Emission Standards for Asbestos
    - d. Executive Order 11246
    - e. Federal Endangered Species Act
    - f. Clean Water Act
  - 2. State of California.
    - a. California Code of Regulations, Titles 5, 8, 17, 19, 21, 22, 24 and 25
    - b. California Public Contract Code
    - c. California Health and Safety Code
    - d. California Government Code
    - e. California Labor Code
    - f. California Civil Code

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- g. California Code of Civil Procedure
- h. CPUC General Order 95, Rules for Overhead Electric Line Construction
- i. CPUC General Order 128, Rules for Construction of Underground Electric Supply and Communications Systems
- j. Cal/OSHA
- k. OSHA: Hazard Communications Standards
- l. California Endangered Species Act
- m. Water Code
- n. Fish and Game Code
- o. Construction General Permit, Order 2009-009-DWQ (as amended) (if applicable)
- 3. State of California Agencies.
  - a. State and Consumer Services Agency
  - b. Office of the State Fire Marshal
  - c. Office of Statewide Health Planning and Development
  - d. Department of Fish and Game
  - e. Bay Area Air Quality Management Owner
  - f. San Francisco Bay Regional Water Quality Control Board
- 4. Local Agencies.
  - a. County of San Mateo
- 5. Other Requirements.
  - a. National Fire Protection Association (NFPA): Pamphlet 101, Life Safety.
  - b. References on Drawings or in Specifications to “code” or “building code” not otherwise identified shall include but not be limited to the codes specified in this Document 01 4100, together with all additions, amendments, changes, and interpretations adopted by code authorities of the jurisdiction.
- B. Contractor shall have access to all of the foregoing at all times.
- C. Other Applicable Codes, Laws, Ordinances and Regulations.
  - 1. Work shall be accomplished in conformance with all applicable codes, laws, ordinances, rules and regulations of federal, state, and local governmental agencies and jurisdictions having authority over the Project.
  - 2. Work shall be accomplished in conformance with all rules and regulations of public utilities and utility Owners.
  - 3. Where such codes, laws, ordinances rules, and regulations require more care or greater time to accomplish Work, or require better quality or higher standards, Work shall be accomplished in conformance to such requirements with no change to the Contract Time and Contract Sum, except where changes in laws, ordinances, rules and regulations occur subsequent to the time of opening of the bids.
- D. Change Orders and Claims:
  - 1. The California Public Contract Code, including but not limited to Section 7105(d)(2), and the California Government Code section 930.2 et seq., apply to all contract procedures for changes, time extensions, change orders (time or compensation) and claims. Federal law (U.S. v. Holpuch 326 U.S. 234) shall supplement but not supersede California law on these requirements.
  - 2. Any change, waiver, or omission to implement contract change order and claim procedures shall have no legal effect unless expressly permitted in a fully executed change order approved by Contractor, Owner and approved as to form by their respective legal counsel.

**1.05. Conflicts**

- A. If conflict is between referenced regulatory requirements, Contractor shall comply with the one establishing the more stringent requirement.
- B. If conflict is between referenced regulatory requirements and Contract Documents, Contractor shall comply with the one establishing the more stringent requirement.

**1.06. Required Provisions on Contract Claim Resolution**

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- A. The California Public Contract Code specifies required provisions on resolving contract claims less than \$375,000, which are set forth below, and constitute a part of this Contract.
1. For the purposes of this section, "Claim" means a separate demand by Contractor of \$375,000 or less for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by Owner. In order to qualify as a Claim, the written demand must state that it is a Claim submitted under Article XII of Document 00 7200 (General Conditions) and be submitted in compliance with all requirements of Document 00 7200 (General Conditions), Article XII. Separate Claims which total more than \$375,000 do not qualify as a "separate demand of \$375,000 or less," as referenced above, and are not subject to this section.
  2. A voucher, invoice, payment application, or other routine or authorized form of request for payment is not a Claim for purposes of this section. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a Claim under this section by submitting a separate claim in compliance with Contract Documents claim submission requirements.
  3. Caution. This section does not apply to tort claims and nothing in this section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 and Chapter 2 of Part 3 of Division 3.6 of Title 1 of the California Government Code.
- B. Procedure.
1. The Claim must be in writing, submitted in compliance with all requirements of Document 00 7200 (General Conditions), Article XII, including, but not limited to, the time prescribed by and including the documents necessary to substantiate the Claim, pursuant to Document 00 7200 (General Conditions), paragraph 12.03. Claims must be filed on or before the day of final payment. Nothing in this section is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth in Document 00 7200 (General Conditions), Article XII or elsewhere in the Contract Documents.
  2. For Claims of fifty thousand dollars (\$50,000) or less
    - a. Owner shall respond in writing within forty-five (45) days of receipt of the Claim, or
    - b. Owner may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims Owner may have against Claimant.
      - (i) If additional information is thereafter required, it shall be requested and provided in accordance with this section upon mutual agreement of Owner and Claimant.
      - (ii) Owner's written response to the Claim, as further documented, shall be submitted to Claimant within fifteen (15) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
  3. For Claims over Fifty Thousand Dollars (\$50,000) and less than or equal to \$375,000:
    - a. Owner shall respond in writing within sixty (60) days of receipt of the Claim, or
    - b. Owner may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims Owner may have against Claimant.
      - (i) If additional information is thereafter required, it shall be requested and provided in accordance with this section, upon mutual agreement of Owner and Claimant;
      - (ii) Owner's written response to the Claim, as further documented, shall be submitted to Claimant within thirty (30) days after receipt of further documentation.
  4. Meet and Confer.
    - a. If Claimant disputes Owner's written response, or Owner fails to respond within the time prescribed above, Claimant shall notify Owner, in writing, either within fifteen (15) days of receipt of Owner's response or within fifteen (15) days of Owner's failure to timely respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand Owner will schedule a meet and confer conference within thirty



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(30) days for settlement of the dispute.

- b. Following the meet and confer conference, if the Claim or any portion remains in dispute, 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 California 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 Claimant submits its written claim as set forth herein, 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.

**1.07. Compliance with Laws and Regulations**

- A. Contractor must keep informed of governmental regulations that may affect the Work. Contractor must observe and comply with, and must cause all agents, employees, Subcontractors and Suppliers to observe and comply with said regulations. Contractor shall hold harmless and indemnify Owner and all its officers, employees and consultants against any liability or claim arising from or based upon the violation of any such regulations by Contractor, its agents, employees, representatives or Subcontractors and Suppliers.
- B. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (**ADA**), programs, services and other activities provided by a public entity to the public, whether directly or through a Contractor, must be accessible to the disabled public. Contractor shall provide the services specified in the Contract Documents in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. Contractor agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under the Contract Documents and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents or assigns shall constitute a material breach of the Contract Documents.
- C. . The Contractor must comply with all of the following:
  1. Contractor must, during the term of this Contract, comply with all applicable federal, state and local rules, regulations, and laws.
  2. Contractors must maintain financial records adequate to show that County funds paid pursuant to the Contract were used for purposes consistent with the terms of the Contract. These records must be maintained during the term of this Contract and for a period of three (3) years from the termination of this Contract or until all Claims, if any, have been resolved, whichever period is longer, or longer if otherwise required pursuant to other provisions of this Contract.
- D. The failure of the Contractor to comply with Document 01 4100 - Sub-Part 1.07(C) or any portion thereof may be considered a material breach of this Contract and may, at the option of the Owner, constitute a basis for the termination of the Contract. The Contractor will be furnished reasonable notice as stated in Document 00 7200 (General Conditions) of any intended termination based on noncompliance with Document 01 4100 - Sub-Part 1.07(C), and the opportunity to respond and discuss the County's intended action.

**END OF DOCUMENT 01 4100**

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**DOCUMENT 01 4200**

**REFERENCES AND DEFINITIONS**

**ARTICLE I - GENERAL**

**1.01 Summary**

A. Document Includes.

1. Reference standards, abbreviations, symbols, and definitions used in Contract Documents.
2. Full titles are given in this Document for standards cited in other Sections of Specifications.

**1.02 Reference to Standards and Specifications of Technical Societies; Reporting and Resolving Discrepancies**

A. References.

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code, or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
2. If during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual, or code or of any instruction of any supplier, Contractor shall report it in writing at once to Owner's Representative and Architect/Engineer, and Contractor shall not proceed with the Work affected thereby until consent to do so is given by Owner.

B. Precedence.

1. Except as otherwise specifically stated in the Contract Documents or as may be provided by Change Order, CCD, or Supplemental Instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
  - a. The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
  - b. The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).
2. No provision of any such standard, specification, manual, code, or instruction shall be effective to change the duties and responsibilities of Owner, Owner's Representative, Architect/Engineer or Contractor, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to Owner, Architect/Engineer, or any of their consultants, agents, representatives or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

C. Referenced Grades, Classes, and Types.

1. Where an alternative or optional grade, class, or type of product or execution is included in a reference but is not identified in Drawings or in Specifications, provide the highest, best, and greatest of the alternatives or options for the intended use and prevailing conditions.

D. Edition Date of References.

1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date of proposal submission.
2. All amendments, changes, errata and supplements as of the effective date shall be included.

E. ASTM and ANSI References.

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1. Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision, or amendment. It is presumed that Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

### **1.03 Abbreviations**

In addition to abbreviations indicated on the Drawings, references in the Project Manual to codes, regulations, trade associations, technical societies, recognized authorities, and other institutions may include the following organizations, which are sometimes referred to only by corresponding abbreviation. Not all abbreviations are listed and not all listed abbreviations are used. Unless otherwise specifically defined in the Contract Documents, when the following abbreviations are used, the intent and meaning will be interpreted as follows:

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	Architectural Aluminum Manufacturers Association
AAN	American Association of Nurserymen
AATC	American Association of Textile Chemists
ACD	Amended Contract Document
ACI	American Concrete Institute
ACIL	American Council of Independent Laboratories
ACPA	American Concrete Pipe Association
ADA	Americans with Disabilities Act
ADC	Air Diffusion Council
AFBMA	Anti-Friction Bearing Manufacturers Association
AFPA	American Forest and Paper Association
ATIS	Alliance For Telecommunication Industry Solutions
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHA	American Hardboard Association
AHMA	Association of Home Appliance Manufacturers
AI	Asphalt Institute
AIA	American Institute of Architects
A.I.A.	American Insurance Association
AIHA	American Industrial Hygiene Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALCA	Associated Landscape Contractors of America
ALI	Associated Laboratories, Inc.
ALSC	American Lumber Standards Committee
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
AOAC	Association of Official Analytical Chemists
AOSA	Association of Official Seed Analysts
APA	American Plywood Association
API	American Petroleum Institute
APRI	Air Conditioning and Refrigeration Institute
APWA	American Public Works Association
ARMA	Asphalt Roofing Manufacturers Association

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ASA	Acoustical Society of America
ASC	Adhesive and Sealant Council
ASCE	American Society of Civil Engineers
ASI	Architectural Supplemental Instruction
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASPA	American Sod Producers Association
ASPE	American Society of Plumbing Engineers
ASSE	American Society of Sanitary Engineering
ASSHTO	American Association of State Highway and Transportation Officials
ASTM	American Society for Testing and Materials
AWCMA	American Window Covering Manufacturers Association
AWG	American Wire Gage
AWI	Architectural Woodwork Institute
AWPA	American Wood-Preservers' Association
AWPI	American Wood-Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders' Hardware Manufacturers Association
BIA	Brick Industry Association
BIFMA	Business and Institutional Furniture
CAGI	Compressed Air and Gas Institute
CalTrans	State of California, Department of Transportation
CAUS	Color Association of the United States
CBC	California Building Code
CBM	Certified Ballast Manufacturers Association
CCC	Carpet Cushion Council
CCIP	Contractor Controlled Insurance Program
CCR	California Code of Regulations
CDA	Copper Development Association
CFFA	Chemical Fabrics & Film Association, Inc.
CFR	Code of Federal Regulations
CGA	Compressed Gas Association
CISCA	Ceiling and Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CM/GC	Construction Manager/General Contractor. CM/GC also means CMR, Contractor, and General Contractor.
CMR	Construction Manager at Risk. CMR also means Contractor, General Contractor, CM/GC, and Construction Manager/General Contractor and these terms shall be interchangeable and refer to the same entity.
CPA	Composite Panel Association
CRI	Carpet and Rug Institute
CRSI	Concrete Reinforcing Steel Institute
CRA	California Redwood Association
CSI	Construction Specifications Institute
CSS	State of California Standard Specifications
CTI	Ceramic Tile Institute of America
DIPRA	Ductile Iron Pipe Research Association

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DFEH	California Department of Fair Employment and Housing
DHI	Door and Hardware Institute
DLPA	Decorative Laminate Products Association
EIA	Electronic Industries Alliance
EIMA	Exterior Insulation Manufacturers Association
EJMA	Expansion Joint Manufacturers Association
EPA	Environmental Protection Agency
ETL	ETL Testing Laboratories, Inc.
FCI	Fluid Controls Institute
FM	Factory Mutual
FS	Federal Specification of General Services Administration
FTI	Facing Tile Institute
GANA	Glass Association of North America
GA	Gypsum Association
HEI	Heat Exchange Institute
HI	Hydronics Institute
H.I.	Hydraulic Institute
HMA	Hardwood Manufacturers Association
HPMA	Hardwood Plywood Manufacturers Association
IAMPO	International Assoc of Mechanical and Plumbing Officials
IBD	Institute of Business Designers
ICBO	International Conference of Building Officials
ICEA	Insulated Cable Engineers Association
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineers
IESNA	Illuminating Engineering Society of North America
IGCC	Insulating Glass Certification Council
IMSA	International Municipal Signal Association
IRI	Industrial Risk Insurers
ISA	Instrument Society of America
LIA	Lead Industries Association, Inc.
LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturer's Association
MCAA	Mechanical Contractors Association of America
MIA	Marble Institute of America
MIL	Military Specification of U.S. Department of Defense
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry
NAAMM	National Association of Architectural Metal Manufacturers
NAIMA	North American Insulation Manufacturers Association
NAPA	National Asphalt Pavement Association
NAPF	National Association of Plastic Fabricators
NBGQA	National Building Granite Quarries Association
NCMA	National Concrete Masonry Association
NCPI	National Clay Pipe Institute
NCRPM	National Council on Radiation Protection
NCSPA	National Corrugated Steel Pipe Association
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NEII	National Elevator Industry, Inc.
NEMA	National Electrical Manufacturers Association

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NETA	International Electrical Testing Association
NFPA	National Fire Protection Association
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NPCA	National Paint and Coatings Association
NRCA	National Roofing Contractors Association
NWWDA	National Wood Window and Door Association
NSF	National Sanitation Foundation
NTMA	National Terrazzo and Mosaic Association
NUSIG	National Uniform Seismic Installation Guidelines
OSHA	Occupational Safety and Health Administration
OSHPD	Office of Statewide Health Planning Department
PCA	Portland Cement Association
PCI	Precast Concrete Institute
PDI	Plumbing and Drainage Institute
PEI	Porcelain Enamel Institute
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service [Grading Rules]
RMA	Rubber Manufacturers Association
SDI	Steel Deck Institute
S.D.I.	Steel Door Institute
SGCC	Safety Glazing Certification Council
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association, Inc.
SAE	Society of Automotive Engineers
SPRI	Single Ply Roofing Institute
SSMA	Steel Stud Manufacturers Association
SSPC	Steel Structures Painting Council
SSPMA	Sump and Sewage Pump Manufacturers Association
STI	Steel Tank Institute
SWI	Steel Window Institute
SWPA	Submersible Wastewater Pump Association
TCA	Tile Council of America
TCIA	Tree Care Industry Association
TPI	Truss Plate Institute
UBC	Uniform Building Code
UFAC	Upholstered Furniture Action Council
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
UL	Underwriters' Laboratories, Inc.
UNI	Uni-Bel PVC Pipe Association
USC	United States Code
USP	U.S. Pharmacopoeial Convention
USEPA	United States Environmental Protection Agency
WA	Wallcovering Association
WCLIB	West Coast Lumber Inspection Bureau
WDMA	Window and Door Manufacturers Association

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WIC	Woodwork Institute of California
WLPDIA	Western Lath, Plaster, Drywall Industries Association
WRI	Wire Reinforcement Institute
WSC	Water Systems Council
WSFI	Wood and Synthetic Flooring Institute
WWPA	Western Wood Products Association

#### **1.04 Definitions**

##### **A. Meaning of Words and Phrases**

1. Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth. Where abbreviations and symbols are used, such abbreviations and symbols shall be given their common meaning in the construction industry. In the Contract Documents, the neuter gender includes the feminine and masculine, and the singular number includes the plural.
2. While Owner has made an effort to identify all defined terms with initial caps, the following definitions shall apply regardless of case unless the context otherwise requires:
3. Acceptance: The formal acceptance by the Board of Supervisors of the Completion of the entire Work of the Contract, which to Owner's knowledge has been performed in accordance with the requirements of the Contract Documents and all Approved modifications thereof.
4. Addendum: A written change to the Bid Documents issued before the time fixed for the opening of Bids.
5. Additional Detailed Instructions: Detailed written and/or graphic instructions issued by the Owner to the Contractor to explain the Work more fully. Such instructions become part of the requirements of the Contract Documents without changing the requirements of the Contract Documents.
6. Agreement: The written and signed document known as Document 00 5201, (Agreement). (Sometimes also referred to as Contract Agreement or Contract.)
7. Alternative: Refer to Approved Equal and Substitution
8. Approve: Wherever in the Specifications or Drawings the words "directed", "approved", "designated", or words of like import are used, it shall be understood that the direction, approval, or designation of the Architect/Engineer is intended, unless otherwise expressly stated. Similarly, the words "approved", "acceptable", "satisfactory", or words of like import, shall mean approved by, acceptable to, or satisfactory to the Architect/Engineer, unless expressly stated otherwise. When used in conjunction with the Architect/Engineer's response to submittals, requests, applications, inquiries, reports and claims by the Contractor, the term "approved" will be held to limitations of the Architect/Engineer's responsibilities and duties as specified in the General and Supplementary Conditions. In no case will the Architect/Engineer's approval be interpreted as a release of the Contractor from responsibilities to fulfill requirements of Contract Documents or acceptance of the Work.
9. Approved Equal: Material, equipment, or method accepted by the Owner's Authorized Representative for use in the Work, as being acceptable as an equivalent in essential attributes to the material, equipment, or method specified in the Contract Documents.
10. Architect/Engineer: The entity or entities identified as such in the Contract Documents, and licensed to practice in the state.
11. Architect of Record: See Design Professional of Record
12. Award Date: Date of action taken by the Board of Supervisors accepting Contractor's Bid and authorizing its Chairperson to execute the Agreement. (Sometimes also referred to as Award.)
13. Proposal: The offer of a Proposer to perform the Work pursuant to a completed prescribed Proposal Form, properly executed and guaranteed, and timely submitted.
14. Proposal Form: The approved form upon which Owner requires a formal Proposal be prepared and submitted for the Work.

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15. Bidder's Security: The cash, cashier's check, certified check, or Proposer's bond accompanying the Proposal submitted by the Proposer as a guaranty that the Proposer will enter into a Contract with Owner for the performance of the Work of the Contract is Awarded to the Proposer.
16. Board of Supervisors: The Board of Supervisors of the County of San Mateo.
17. Chairperson: The Chairperson of the Board of Supervisors.
18. Change Order: A written amendment to the Contract, changing the Work or Contract terms, the Contract Sum and/or the Contract Time, approved and executed by the Board of Supervisors or the Owner's Authorized Representative within the limits authorized by the Board of Supervisors.
19. Claim: A separate unresolved Dispute by the Contractor for: (A) a Contract 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 Owner.
20. Complete Submittal: A group of individual Submittals, each meeting the requirements of the Contract Documents, encompassing all the Work included in a Definable Feature of Work (DFOW), and submitted to the Owner as a single Submittal package.
21. Completion: Acceptance of the Work by Owner.
22. Concealed: Work not exposed to view in the finished Work, including within or behind various construction elements.
23. Construction Manager at Risk (CMR): A construction/consultant firm or such other individual or entity as Owner may designate in writing, retained by Owner to perform project management services during design and construction. The term "Construction Manager", "Construction Manager at Risk", "CM/GC" and "Contractor" are interchangeable and shall mean the same entity.
24. Consultants: Architects, Engineers, Construction Project Managers and other professionals engaged to provide the Owner with professional services for the Project.
25. Contract: The written Agreement on the Owner's form encompassing the performance of the Work and the furnishing of labor, materials, tools, and equipment in the construction of the Work. Synonymous with "Agreement", and "Contract Agreement".
26. Contract Bonds: The Performance Bond and the Payment Bond for Public Works.
27. Contract Documents: The Bid Documents and all Additional Detailed Instructions, Field Modifications, and Approved Change Orders.
28. Contract Sum: The Contract Sum is stated in the Agreement and, including authorized adjustments by Change Order, is the total amount payable by Owner to the Contractor for performance of the Work pursuant to the Contract Documents.
29. Contract Time(s): Unless otherwise provided, the Contract Time is the period of time, including authorized adjustments, identified in the Contract Documents for Completion of the Work or a designated portion of the Work.
30. Contractor: The person or persons, firm, partnership, corporation, or combination thereof, private or municipal, or the legal representatives thereof, that entered into the Contract with Owner. (Sometimes also referred to as "Prime Contractor" or "Original Contractor".) Wherever in these specifications reference is made to Mechanical Contractor, Electrical Contractor, or other specific contractor, such reference shall be construed to mean the Prime Contractor for this Project as defined in the Agreement. The term "Construction Manager", "Construction Manager at Risk" "CM/GC" and "Contractor" are interchangeable and shall mean the same entity.
31. Contractor's Authorized Representative: The Contractor's authorized representative who has the authority to represent and act for Contractor.
32. Coordination Drawings: Contractor prepared drawings submitted by Contractor to Owner to demonstrate the coordination of methods, materials, equipment, plans, or sequence the



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- Contractor proposes to use when limited space is available for installation of different components, coordination is required for installation of Products and materials Fabricated by separate entities, or the relationship of components is shown on separate Shop Drawings or Submittals. Coordination Drawings are not considered Contract Documents.
33. Cost Breakdown: A document submitted by the Contractor to the Owner reflecting the portions of the Contract Sum allotted for the various parts of the Work. (Sometimes also referred to as "Schedule of Values".)
  34. County: The County of San Mateo, a political subdivision of the State of California.
  35. Critical Path: All references in the Contract Documents to the Critical Path mean the longest path of dependent activities within the current updated version of the Official Progress Schedule that determine when the Work of a Milestone or the entire Work of the Project will be complete.
  36. Date of Acceptance: The date of Acceptance by the Board of Supervisors of Contract Completion.
  37. Day(s): Calendar days unless otherwise designated.
  38. Deficiency List: A written list of deficiencies in the completed Work. Also sometimes referred to as "Punch List."
  39. Definable Feature of Work (DFOW): A Work task that is separate and distinct from other Work tasks and has common control requirements and work crews.
  40. Design Professional: The term "Design Professional" means a person licensed in California; as an architect pursuant to Chapter 3 (commencing with §5500) of Division 3 of the Business and Professions Code, registered as a professional engineer pursuant to Chapter 7 (commencing with §6700) of Division 3 of the Business and Professions Code, or licensed as a land surveyor pursuant to Chapter 15 (commencing with §8700) of Division 3 of the Business and Professions Code (Also sometimes referred to as "Architect/Engineer", "A/E", "Professional Engineer", "PE", "Design Consultant", and/or "Consultant".)
  41. Design Professional of Record: The term "Design Professional of Record" means the Design Professional in responsible charge of the design services or portions of the design services in connection with the Project.
  42. Directed, Requested, etc.: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", "accepted", and "permitted" mean "directed by the Architect/Engineer", "requested by the Architect/Engineer", and similar phrases. However, no such implied meaning will be interpreted to extend the Architect/Engineer's responsibility into the Contractor's area of construction supervision.
  43. Dispute: A written disagreement submitted by the Contractor seeking adjustment of Contract terms, payment of money, extension of Contract Time or other relief with respect to the terms of the Contract. A Dispute is not a Claim.
  44. Drawings: The graphic and pictorial portions of the Contract Documents, illustrating the design, character, location, and dimensions of the Work to be performed, generally including but not limited to, elevations, sections, details, schedules, General Notes, specific notes, and diagrams. Synonymous with "Drawings", "Contract Drawings", and "Plans".
  45. Emergency: A sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or essential public services.
  46. Equal, Approved Equal: Accepted or approved in writing as being of equivalent quality, utility, and appearance, in the opinion of the Architect/Engineer. The burden of proof of equality is the responsibility of the Contractor.
  47. Fabricated: Specifically assembled or made out of selected materials to meet Project specific design requirements.
  48. Department of Public Works (DPW): The DPW of County of San Mateo.
  49. Field Modification: A written instruction, clarification or additional information issued by the Owner's Project Manager to Contractor that does not change the Contract Time or Contract Sum but becomes part of the requirements of the Contract Documents.

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50. Final Acceptance: Owner's acceptance of the Work as satisfactorily completed in accordance with Contract Documents. Requirements for Final Acceptance/Final Completion include, but are not limited to:
- a. Final cleaning is completed.
  - b. All systems having been tested and accepted as having met requirements of Contract Documents.
  - c. All required instructions and training sessions having been given by Contractor.
  - d. All Project Record Documents having been submitted by Contractor, reviewed by Owner, and accepted by Owner.
  - e. All punch list Work, as directed by Owner, having been completed by Contractor.
  - f. Generally all Work, except Contractor maintenance after Final Acceptance/Final Completion, having been completed to satisfaction of Owner.
51. Final Inspection: The inspection performed by the Owner and its Consultants after the Contractor has certified that the entire Work of the Project is complete. See Document 01 7700 Closeout Procedures.
52. Force Account: The method of performing Work by or on behalf of Contractor on a time, materials and equipment basis.
53. Furnish, Supply: Contractor to purchase and deliver to the Project site, including proper storage only, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance. No installation is included.
54. General Notes: The written instructions, provisions, conditions or other requirements appearing on the Drawings, and so identified thereon, which pertain to the performance of the Work.
55. Governing Body: The Board of Supervisors of the County of San Mateo.
56. Governmental Agencies: Whenever, in the Contract Documents, reference is made to any governmental agency or officer, such reference will be deemed made to any agency or officer acting in accordance with law to the power, duties, jurisdiction, and authority of the agency or officer mentioned.
57. Guarantee: A promise or assurance given by one party to a second party that a third party's obligations will be fulfilled (i.e., Contractor agrees to guaranty the Work performed by one of its Subcontractors to the Owner). (Also sometimes referred to as Warranty/Guarantee.)
58. Indicated: Shown or noted on the Drawings. The term "indicated" is a cross-reference to graphic representations, notes or schedules on the Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in the Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used instead of "indicated", it is for the purpose of helping the reader locate the cross-reference, and no limitation of location is intended except as specifically noted.
59. Inspector: The person assigned by Owner to inspect the Work. (Also sometimes referred to as Project Inspector or Owner's Inspector or Inspector of Record.)
60. Install: Contractor to construct, erect, or set in place for the intended use, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations as applicable in each instance. Furnishing or supplying is not included. Synonymous with "Provide" for the purposes of this Contract.
61. Installer: The entity (person or firm) engaged by the Contractor, subcontractor, or sub-subcontractor for performance of a particular unit of Work at the Project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (installers) be expert in the operations they are engaged to perform.
62. Invitation to Bid: Includes any and all documents issued to Bidders that contain descriptions of the Work to be Bid or the content, form, or manner of submission of Bids. (See Public Contract Code § 4104.5.)
63. Laboratory: Any laboratory authorized or accepted by Owner to test materials and Work involved in the Contract.

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- 64. Liquidated Damages: The amount prescribed in the Contract Documents to be paid to Owner or to be deducted from any payments due or to become due Contractor for each Day's delay in completing the whole or any specified portion of the Work, beyond the time(s) allowed in the Contract Documents plus Approved time extensions.
- 65. Manufactured: Standard units usually mass-produced.
- 66. Method of Procedure (MOP): Method of Procedure document will list in detail specific steps to be taken in specific order to pre-form a specific shut down task and provisions or steps to be taken in the "what if" scenarios affecting the specific shut down. The MOP document is to be submitted with every shut down and is mandatory with all hospital critical system shut down requests.
- 67. Milestone: A specific portion of the Work identified in the Contract Documents as a Milestone.
- 68. Milestone Completion: The date determined by the Owner when the Work of a Milestone is complete. Milestone Completion does not constitute Acceptance but does establish the completion date of the Milestone for the purpose of assessment of Liquidated Damages, if any, associated with the Milestone.
- 69. Milestone Duration: The time allowed in the Contract Documents, plus Approved time extensions, for completion of the Work of a Milestone.
- 70. Mobilization: Includes preparatory work and operations, including, but not limited to, those necessary for preparation of Submittals, movement of personnel, equipment, supplies and incidentals to the Project Site, for establishment of all temporary offices, buildings and other facilities necessary for Work on the Project, and for all other work and operations which must be performed, or costs incurred including obtaining Contract Bonds and insurance, before beginning Work on the public improvement at the Project Site.
- 71. Named Products: Products identified in the Contract Documents by Manufacturer's product name. Named Products may include Manufacturer's make or model number or other designation.
- 72. Not In Contract (NIC): Items noted NIC will be furnished and installed by the Owner, or under separate contract.
- 73. Notice of Award: The letter from the Clerk of the Board of Supervisors notifying Contractor that the Board of Supervisors accepted Contractor's Bid and authorized the Chairperson to execute the Agreement.
- 74. Notice of Completion: A document executed by the Clerk of the Board of Supervisors, as authorized by the Board of Supervisors, and filed with the County Recorder, signifying that the Contract has been Completed and Accepted.
- 75. Notice to Proceed: The written notice issued by Owner's Authorized Representative to Contractor whereby the Contractor is notified of the official construction Contract start date and is authorized to proceed with the Work. Unless otherwise specified in the Contract Documents or Directed by written Order of Owner, the Contractor must begin Work within ten (10) Days following the start date for the Work as stated in the Notice to Proceed.
- 76. Official Progress Schedule: The Contractor's Progress Schedule and all revisions and updates thereto, accepted by the Owner, in accordance with the requirements of Document 01 3200, (Construction Progress Documentation).
- 77. Or Equal: Refer to Approved Equal.
- 78. Owner: The County of San Mateo.
- 79. Order: Refer to Approved, Directed, Ordered, or Required.
- 80. Owner's Authorized Representative: The person named in the Notice to Bidders whose authority includes but is not limited to the authority to approve Addenda, Change Orders, Payment Requests, and Milestone Completion(s).
- 81. Plans: See Drawings.
- 82. Preconstruction Submittals: Submittals requiring Owner's acceptance before Contractor may proceed with the installation of Work or the procurement of the materials and/or equipment covered by the Submittal.

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83. Project: The entire public improvement proposed by Owner to be constructed in whole or in part pursuant to the requirements of the Contract Documents, including any phasing or Milestone requirements.
84. Project Component: The individual components of the Project numbered 1-11 as shown and described in Document 00 1001 (Notice Inviting Proposals).
85. Project Component Group A: Project Components 1-4 as shown and described in Document 00 1001 (Notice Inviting Proposals).
86. Project Component Group B: Project Components 5-6 as shown and described in Document 00 1001 (Notice Inviting Proposals).
87. Project Component Group C: Project Components 7-11 as shown and described in Document 00 1001 (Notice Inviting Proposals).
88. Project Site: The space available to the Contractor for performance of the Work, either exclusively or in conjunction with others performing other construction as part of the Project. The extent of the Project site is shown on the Drawings, and may or may not be identical with the description of the land upon which the Project is to be built.
89. Product Data: Illustrations, Manufacturer's literature, standard schedules, performance charts, instructions, brochures, diagrams and other information submitted by the Contractor to illustrate materials or equipment for some portion of the Work. Product Data are not considered Contract Documents.
90. Project Manager: The person identified in the Notice to Bidders as the Project Manager or subsequently designated by Owner's Authorized Representative to manage the Contract and/or the Project. (Also sometimes referred to as Owner's Project Manager.)
91. Project Manual: The written volume(s) assembled for the Work, including the Introductory Information, Bidding Requirements, Contracting Requirements, General Requirements, Technical Specifications, and other written or graphic material as may be listed in the Project Manual Table of Contents, including any Addenda and Approved revisions by Owner.
92. Project Site: Space available to Contractor for performance of the Work, either exclusively or in conjunction with others performing other work as part of the Project.
93. Proposal Documents (also referred to as Bid Documents): The documents approved by the Board of Supervisors to advertise for construction of the Project, including but not limited to the contents of this Project Manual as listed in Document 00 0111 (Table of Contents) or otherwise included in the Manual.
94. Provide: Synonymous with "Install" for the purposes of this Contract: All labor, materials, equipment, supervision and whatever else is necessary to supply and incorporate a specified item into the Work in compliance with the requirements of the Contract Documents.
95. Punch List: A written list of deficiencies in the completed Work. (Also sometimes referred to as "Deficiency List.")
96. Record Documents: A set of the Contract Documents including Drawings and Project Manual updated on a continuous basis to indicate conditions encountered and the final configuration of a Project as it was constructed. Record Documents include any change or clarification to the Contract Documents and dimensional information showing the actual locations of Installed components of the Work. (Also known as "As-Builts" or "As-Built Documents".)
97. Relocate: To reinstall existing item(s) in new location complete and ready for intended use.
98. Remain: To retain item(s) in existing condition.
99. Remove: To remove item(s) completely from Project Site and dispose of in accordance with requirement of authorities having jurisdiction.
100. Request for Information (RFI): A written request by the Contractor for information or clarification regarding the requirements of the Contract Documents. Requests For Information must be numbered sequentially and presented in a format furnished or accepted by the Owner's Project Manager. The Owner's response to an RFI is considered an Additional Detailed Instruction and does not change the requirements of the Contract Documents, Contract Time, or Contract Sum.

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101. Retention: A defined percentage of the Contract Sum held by the Owner pending Completion of the Work, or any portion of the Work.
102. Samples: Physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be evaluated.
103. Shop Drawings: Drawings, diagrams, schedules, and other data specially issued for the Work by the Contractor or a Subcontractor, Sub-Subcontractor, and Suppliers to demonstrate and/or illustrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for some specific portion of the Work. Shop Drawings are not considered Contract Documents.
104. Shown: Same as "Indicated".
105. Shut Down: Shut down of any hospital or building system will require a shut down request and approval prior to the work being performed. In most cases a meeting will be held between Owner, Contractor, Subcontractor, and any other pertinent parties to review the shut down request and finalize a plan for execution. In cases involving hospital or building critical systems Contractor will be required to submit an MOP for review and approval prior to performing this work.
106. Specifications: The provisions within Divisions 1 through 16 of the Specifications.
107. Specifications Language: In the interests of clarity and reducing verbiage, these specifications are written in the imperative mood wherever possible. This language is directed at the Contractor, unless specifically noted otherwise. Incomplete sentences shall be completed by inserting "shall", "the Contractor shall", and "shall be", and similar mandatory phrases by inference. Except as worded otherwise, perform all indicated requirements whether stated imperatively or otherwise.
108. Specified: As written in the Contract Documents.
109. State: The State of California.
110. Subcontractor: A contractor, within the meaning of the provisions of Chapter 9 (commencing with § 7000) of Division 3 of the Business and Professions Code, who contracts directly with the Contractor to perform any Work of the Project. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or its authorized representative.
111. Sub-subcontractor: A contractor, within the meaning of the provisions of Chapter 9 (commencing with § 7000) of Division 3 of the Business and Professions Code, that has a direct or indirect contract with a Subcontractor to perform any Work of the Project. The term Sub subcontractor is referred to throughout the Contract Documents as if singular in number and means a Sub subcontractor or an authorized representative thereof.
112. Submittal: Data or items required by the Contract Documents to be submitted by the Contractor to the Owner. Submittals demonstrate the method, materials, plan, or sequence the Contractor proposes to use to conform to the design concept expressed in the requirements of the Contract Documents. Submittals include but are not limited to Shop Drawings, Coordination Drawings, layouts, Progress Schedules, Substitution requests, Samples, mockups, catalogs, Product Data and literature, equipment data sheets, maintenance and operating data. Unless otherwise stated in the Contract Documents, Submittals are not considered Contract Documents.
113. Substitution: A material and/or process offered by the Contractor in lieu of the specified material and/or process, and accepted by the Owner's Authorized Representative in writing as being equivalent (equal) to the specified material and/or process. (Also sometimes referred to as Product Substitution.)
114. Supplier: A person or organization contracting with Contractor, a Subcontractor or a Sub-subcontractor to supply materials and/or equipment for the Work.
115. Surety: A company that provides Contractor's bonds for bidding, performance and payment and is admitted as a surety insurer as defined in §995.120(a) of the California Code of Civil Procedure.

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116. Total Float Time: The time difference between the earliest start date and the latest start date, or between the earliest finish date and the latest finish date, of Project activities. (Also sometimes referred to as “slack time” or “Total Float” or “Float”.)
117. Warranty: A Contractor’s, Subcontractor’s, Manufacturer’s or material Supplier’s promise or assurance, written or otherwise, that it’s Products and services provided meet industry (implied) or contractual (the requirements of the Contract Documents) standards of performance. (Also sometimes referred to as Warranty/Guarantee.)
118. Work: The preconstruction, demolition, renovation and construction required by the Contract Documents, whether fully or partially completed, provided, and performed by the Contractor to fulfill his/her obligations under the Contract in accordance with the Contract Documents. The Work may constitute the whole or a part of the Project.
- B. Other Defined Terms. The following terms are not necessarily identified with initial caps; however they shall have the meaning set forth below:
1. Wherever words “as directed,” “as required,” “as permitted,” or words of like effect are used, it shall be understood that direction, requirements, or permission of Owner is intended. Words “sufficient,” “necessary,” “proper,” and the like shall mean sufficient, necessary, or proper in judgment of Owner. Words “approved,” “acceptable,” “satisfactory,” “favorably reviewed,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by Owner.
  2. Wherever the word “may” or “ought” is used, the action to which it refers is discretionary. Wherever the word “shall” or “will” is used, the action to which it refers is mandatory.

**ARTICLE II - PRODUCTS – NOT USED**

**ARTICLE III - EXECUTION – NOT USED**

**END OF DOCUMENT 01 4200**

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**DOCUMENT 01 4500**

**QUALITY CONTROL (QC) PROCESS**

**ARTICLE I - GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - 1.01 - Summary
    - 1.02 - Related Documents and Sections
    - 1.03 - Definitions
    - 1.04 - References
    - 1.05 – Contractor's Quality Control (QC) Plan
    - 1.06 - Project QC Plan Organization
    - 1.07- Notification of Non-Compliance
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)

**1.02. Related Documents and Sections (Not Used)**

**1.03. Definitions**

- A. The following definitions as used in this Section mean:
  - 1. **Authority Having Jurisdiction (AHJ)**, typically the Agency issuing permits and providing governmental oversight.
  - 2. **Corrective Action Plan** – A written document submitted by the Contractor to the Owner stating the Contractor's plan to correct an item of Work that fails to conform to the requirements of the Contract Documents. The Corrective Action Plans must be submitted with the Report of Test Results, inspection report, or Owner's Deficiency Notice no later than 10 a.m. the third workday after each failed test, inspection, or receipt by Contractor of a Deficiency Notice from the Owner.
  - 3. **Deficiency Notice** – A Report issued by the Project Inspector identifying work, which is not in compliance with the requirements of the Contract Documents, Submittals, JHA requirements and Codes. Correction by the Contractor and a request for re-inspection is required to clear the notice.
  - 4. **Quality** - Conformance to the requirements established by the Contract Documents.
  - 5. **Quality Control (QC)** - The Contractor's system in place during execution of the Work, to manage and control its own, and its Suppliers' and Subcontractors' activities to comply with the requirements of the Contract Documents.
  - 6. **Quality Level** - The degree of excellence, basic nature, character, or kind of performance of a particular type of Work set forth in the Contract Documents.
  - 7. **Quality Management** - Quality Control and assurance activities instituted to achieve the Quality Levels established by the Contract Documents.
  - 8. **Deficiency List** - A written list of Work that does not comply with the requirements of the Contract Documents (Deficiency Notice), maintained by the Project Inspector, identifying the items of Work requiring correction, the date the item was originally discovered, the anticipated date for correction of the item, and the actual date of correction.
  - 9. **Submittal Log** - A written list in a format furnished by or accepted by the Owner, indicating the status of all Submittals required by the Contract Documents, grouped by Definable Feature of Work (DFOW), and prepared and maintained by the Contractor.

**1.04. References**

- A. The publications listed below are part of the requirements of the Contract Documents to the extent referenced:

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1. ASTM A 880 (current edition) Criteria for Use in Evaluation of Testing Laboratories and Organization for Examination and Inspection of Steel, Stainless Steel, and Related Alloys
2. ASTM C 1077 (current edition) Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
3. ASTM D 3666 (current edition) Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
4. ASTM D 3740 (current edition) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
5. ASTM E 329 (current edition) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
6. ASTM E 543 (current edition) Agencies Performing Nondestructive Testing

**1.05. Contractor's Quality Control (QC) Plan**

- A. The Contractor's Quality Control Plan ensures the Quality Level required by the Contract Documents. The Contractor's QC Plan incorporates the County Project Manager, Project Inspector, Testing Lab and other QC consultant's necessary for the obligations to the AHJ and Owner's Project Goals.
- B. Contractor must establish and maintain a QC Plan, performing sufficient inspections and tests of all items of Work, including Work of its Subcontractors and Suppliers, to ensure conformance with the requirements of the Contract Documents. Contractor's Quality Control measures must be adequate to cover all construction operations and must be correlated with the Official Progress Schedule.
- C. Contractor must closely inspect all materials upon delivery, and all Work in progress for compliance with the requirements of the Contract Documents. Contractor must promptly reject and return all defective materials and rework any substandard Work without waiting for rejection by Owner or its' Project Inspector.

**1.06. Project QC Plan Organization**

- A. Contractor's Quality Control Manager
  1. Contractor shall employ full-time QC Manager that will provide daily supervision and ensure all work installed meets or exceeds the requirements of the Contractor's QC Plan and the requirements of the Contract Documents.
  2. QC Manager shall coordinate all tests and inspections with Owner's County Project Manager and/or the Inspector of Record. Contractor's QC Plan should coordinate with and integrate with the Owner's Project Inspector and testing agency outlined in Section 01 46300, et al.
  3. Duties: The QC Manager shall inspection of all parts of the work of construction in all stages of its' progress to assure that the work is in accordance with the approved contract documents. .
    - a. Immediately report to the Owner and AHJ any work that does not comply with requirements of the Contract Documents
    - b. Conduct pre-inspections of Work performed to ensure compliance with requirements of the Contract Documents and codes.
    - c. Prior to inspections certify that all Work performed, on and off the construction site, conforms to requirements of the Contract Documents; certify that all materials and equipment delivered or installed in the Work comply with the requirements of the Contract Documents. Report any deficiencies to the Owner.
    - d. Supervise and coordinate with the Owner all inspections and tests made by the Owner's Testing Laboratory as defined in Document 01 4600.
    - e. Ensure that all required tests are performed and results are reported. Indicate whether test results do or do not conform to requirements of the Contract Documents.
    - f. Attend all key Project Meetings including Preconstruction Conference, Schedule Orientation Meeting, Progress Meetings, Demonstration and Training Meetings, and Closeout Conference.



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**B. Testing Inspection and Observation Program (TI&O).**

1. The TI&O will be used to assist the contractor to establish all inspections and the CPM Progress Schedule will reflect, in sequence, the required inspection line item. Appropriate time will be afforded for each inspection on the contractor's schedule, including the three-week look ahead schedule.
2. Although the TI&O calls for specific inspections and tests to be performed, at varying stages of construction, continuous and ongoing inspections and tests will be conducted during the entirety of the Project.
3. Contractor is required to provide an Inspection Request to the Owner utilizing an agreed upon Inspection Request with 48 hours' notice.
4. Contractor is responsible to keep track of all inspections and tests, their results and any re-inspection required that is subject to the TI&O.
5. Meetings to discuss the inspection process, upcoming inspections and personnel necessary for those inspections as well as any outstanding deficiencies will be held at an interval set at the commencement of the project, however, the interval shall, at a minimum, be once per week during the entirety of the Project.

**C. Additional Contractor's QC Management(s) Duties**

1. As a minimum, Contractor shall provide **personnel** at the Project Site to coordinate with and oversee the work being performed. **No work may be performed without the Contractor's appropriate qualified personnel on site.**
2. The Contractor's QC personnel will assist and request directly to the County Project Manager or Inspector for regular inspections for all required inspections.

**D. Project Component Substantial Completion Certification.**

1. Prior to requesting the Substantial Completion Inspection of any Project Component, the QC Manager and the Contractor's Project Superintendent shall execute and furnish the following Certification to Owner:

*"The entire Work of the Project Component has been achieved Substantial Completion, inspected, tested and is in full compliance with the requirements of the Contract Documents except for the minor deficiencies listed in the attached Deficiency List.*

Certified by QC Manager \_\_\_\_\_, Date \_\_\_\_\_ "

Certified by Project Superintendent \_\_\_\_\_, Date \_\_\_\_\_ "

(Signatures)

**E. Project Component Final Completion Certification.**

1. Prior to requesting Final Inspection of the entire Work of the Project, the QC Personnel and the Contractor's Project Superintendent shall execute and furnish the following Certification to Owner:

*"The entire Work of the Project Component has been completed, inspected, tested and is in full compliance with the requirements of the Contract Documents except for the minor deficiencies listed in the attached Deficiency List.*

Certified by QC Personnel \_\_\_\_\_, Date \_\_\_\_\_ "

Certified by Project Superintendent \_\_\_\_\_, Date \_\_\_\_\_ "

(Signatures)

**1.07. Notification of Noncompliance**

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- A. If Owner or Project Inspector notifies Contractor of any observed non-compliance with the requirements of the Contract Documents, Contractor must take immediate corrective action upon receipt of such notice. Such notice, when delivered to Contractor at the Project Site, is sufficient for the purpose of notification.
- B. If Contractor fails or refuses to promptly comply with any notice of noncompliance, Owner may, in addition to other remedies provided by law and/or the Contract Documents, issue an Order to the Contractor to suspend part or all of the Work until Contractor has taken satisfactory corrective action. No part of the cost or time expended by Contractor or its Subcontractors due to such Order to suspend Work shall be made the subject of a Dispute or Claim against Owner for extension of the Contract Time, Contract Sum, or for excess costs or damages of any kind. Contractor maintains the responsibility to perform according to the contract documents, plans, specifications and at the minimum, the code.

**ARTICLE II - PRODUCTS (NOT USED)**

**ARTICLE III - EXECUTION (NOT USED)**

**END OF DOCUMENT 01 4500**

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**DOCUMENT 01 4600**

**TESTING LABORATORY SERVICES**

**ARTICLE I – GENERAL**

**1.01. Contractor's Responsibilities**

- A. Required Tests and Inspections. Coordinate and pay for all tests and inspections required by laws, ordinances, rules, regulations, orders, etc. of Governing Authorities that are not specified to be performed by the Owner's Independent Testing Laboratory, including, but not necessarily limited to, those required by the Uniform Building Code, Section 108 - "Inspections".
- B. General. Cooperate with Governing Authorities and Laboratory personnel, provide access to Work and manufacturing operations.
  - 1. Coordination: Ensure that parts of the work required to remain visible for tests and inspections remain uncovered, and that construction operations that would interfere with testing and inspection are delayed, until testing and inspection are complete.
  - 2. Covered Work: Uncover as required.
- C. Samples. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- D. Design Mixes. Furnish to the laboratory the preliminary design mix proposed to be used for concrete and other materials which require control by the Laboratory.
- E. Manufacturer's Test Reports and Certifications. Furnish copies to laboratory when required.
- F. Furnish incidental labor and facilities:
  - 1. To provide access to Work to be tested.
  - 2. To obtain and handle samples at the Project site or at the source of the product to be tested.
  - 3. To facilitate inspections and tests.
  - 4. For storage and curing of test samples done at the project site.
- G. Schedule. Provide schedule of construction to laboratory; update as required. Allow within the construction schedule the time required for the laboratory to perform tests and issue findings. Coordinate revisions to the construction schedule with the laboratory.
- H. Advance Notification. Notify the Inspector of Record sufficiently in advance of operations, 48 hours minimum, to allow for assignment of personnel and scheduling of tests.
  - 1. Compensation: When tests or inspections cannot be performed after such notice, Contractor will reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence.
- I. Contractor's Testing. Employ and pay for the services of a separate, equally qualified, independent testing laboratory to perform additional inspections, sampling and testing that may be required for the Contractor's convenience.
- J. Change of Source. Pay for costs of additional inspections and tests when sources of supply are changed by Contractor.
  - 1. Submittals: Resubmit required mix designs, certifications, etc.

**1.02 Additional Testing and Inspection**

- A. Failure of Initial Tests. If initial inspection or testing reveals a failure of the Work to comply with the Contract Documents, the Contractor shall bear all costs for any required retesting or reinspection, including reimbursement to Owner for all additional services made necessary by such failure
- B. Other Additional Testing. If the Architect/Engineer determines that any Work requires additional inspection, testing or approval, he will, upon written authorization from the Owner, direct the Contractor to order such inspection, testing or approval.
  - 1. Failure: If additional inspection, testing or approval reveals a failure of the Work to comply with the Contract Documents, the Contractor shall bear all costs, including reimbursement to the Owner for all additional services made necessary by such failure.

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2. Compliance: If additional inspection, testing or approval indicates that the Work complies with the Contract Documents, the Owner shall bear all costs, and an appropriate Change Order shall be issued.

**ARTICLE II – PRODUCTS** (Not Used)

**ARTICLE III – EXECUTION** (Not Used)

**END OF DOCUMENT 01 4600**

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**DOCUMENT 01 5000**

**TEMPORARY FACILITIES AND CONTROLS**

**ARTICLE I - GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents, Codes, and Standards
    - c. 1.03 – Definitions
    - d. 1.04 – Temporary Facilities and Controls
    - e. 1.05 – Utilities
    - f. 1.06 – Temporary Construction Facilities
    - g. 1.07 – Temporary Controls
    - h. 1.08 – Fire Protection
    - i. 1.09 – Submittals
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms - Table 01500-001, “Permit-Required Confined Spaces”

**1.02. Related Documents, Codes and Standards (Not Used)**

**1.03. Definitions**

- A. Hot Work. Hot work includes any operations capable of initiating fires or explosions, including cutting, welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, or any other similar activity.
- B. Fire Marshal. Office of State Fire Marshal, County and City of San Mateo Fire Marshals
- C. Temporary Fencing. Temporary fencing provided and Installed by Contractor as needed by Contractor to protect equipment, field office, stored items, Project Site, and Work until final demobilization.

**1.04. Temporary Facilities and Controls**

- A. Provide and pay for all temporary utilities, utility usage and service charges, utility meters, controls, and support facilities required for the Project until the Owner assumes responsibility of the aforementioned.

**1.05. Utilities**

- A. Electricity.
  - 1. Electrical service including metering devices needed by the Contractor to perform the Work must be Provided and paid for by Contractor.
  - 2. Arrange with utility company to provide service required for power and lighting, and pay all costs for service and for power used.
  - 3. Install circuit and branch wiring with area distribution boxes located so that power and lighting is available throughout the construction by the use of construction-type power cords.
  - 4. Provide adequate artificial lighting for all areas of Work in accordance with industry safety standards including OSHA requirements when natural light is not adequate for Work and for areas accessible to the public.
  - 5. If additional temporary utility poles or electric extensions are deemed necessary by the Contractor to perform Contract Work, Contractor must submit three copies of a plan showing the proposed temporary utility poles or electric extensions prior to installation. Contractor must pay for all additional temporary utility poles or electric extensions installed.
- B. Telephone and Internet Service.
  - 1. Arrange with local telephone company to provide direct line telephone and internet service at

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- the construction site.
- 2. Minimum service required:
  - a. One direct line instrument in Field Office.
  - b. Internet for office use
- 3. Pay all costs for installation, maintenance, use, and removal.
- 4. Prior to mobilization, Contractor must submit to Owner four copies of a list containing all relevant personnel contact telephone numbers, including emergency contact numbers for nights, weekends, and holidays.
- C. Water Service.
  - 1. Contractor must make arrangements and pay for all water and water metering devices required for construction purposes including landscape irrigation.
  - 2. Contractor must not assume that water required for construction purposes will be available at the Project Site at the times and in the quantities required to support Contractors construction activities.
- D. Sanitary Facilities.
  - 1. Contractor must Provide and pay for an appropriate number of sanitary facilities, in compliance with all laws and regulations, for use by Contractor and Owner's personnel.
  - 2. Regular service of the sanitary facilities must be maintained by the Contractor to keep a clean, healthy, and hygienically acceptable work environment.
  - 3. Contractor must not use Owner's Sanitary Facilities without prior written Approval of Owner's Project Manager.
- E. Waste Disposal.
  - 1. Unless otherwise specifically stated in the Contract Documents, Contractor must provide and pay for all Waste Disposal.
  - 2. Wastes must be properly handled, and stored in covered containers, and removed from the Project Site at least once each week.
  - 3. Cardboard, packing material, and similar combustible debris shall not be accumulated within buildings. Such debris, rubbish and waste material must be removed from buildings on a daily basis.
  - 4. Temporary Construction Facilities
- F. Field Office.
  - 1. The Contractor must maintain an active Field Office on site.
  - 2. Contractor may bring a portable field office on site to support the Contractor's Work.
  - 3. All project meetings will be held in the Contractor's Field Office unless otherwise Directed by Owner's Project Manager.
  - 4. Contractor to provide and maintain office for County Project Manager and Project Inspector.
- G. Advertising.
  - 1. Advertising is not permitted, except that Contractor's name may be placed on Contractor's field office.
- H. Temporary Fencing.
  - 1. The Contractor must install Temporary Fencing to protect equipment, field office, and stored items.
  - 2. Contractor must provide and pay for Temporary Fencing to protect Project Site(s) and Work areas as needed until final demobilization.
- I. Storage Areas and Sheds.
  - 1. Prior to mobilizing to the Project Site, Contractor must submit the intended location of the Contractor's storage sheds and storage areas for Owner review and acceptance.
  - 2. Contractor must confine its apparatus, storage of materials, and construction operations to areas approved by Owner's Project Manager.
  - 3. Contractor must not unreasonably encumber the premises and roads with its materials and equipment.
  - 4. The Contractor must not store any quantities of fuel, oils, solvents or any other hazardous materials in storage tanks on-site.
- J. Equipment Maintenance and Repair.
  - 1. The Contractor must perform equipment maintenance activities off site.

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2. Equipment service trucks must provide fuels and lubricants for construction equipment. Contractor must not store any quantities of fuel or oil in on-site storage tanks.
- K. Vehicular Access.
  1. All vehicles must be operated in a safe manner.
  2. Contractor's equipment must enter and leave the Project area via access routes designated by Owner, and move in the direction of public traffic at all times. All movements on or across public traveled ways must not endanger public traffic.
- L. Parking.
  1. Parking for personal vehicles of Contractor's personnel must be limited to designated areas specified or Approved by Owner's Project Manager.
  2. Personal vehicles must not be parked in the Work area.
  3. Parking of construction equipment must be limited to designated areas specified or as approved by Owner.
  4. All vehicles must be parked a minimum of 20 feet from new buildings under construction except construction vehicles may be temporarily parked for loading/unloading or other construction related operations as long as such vehicles are not left unattended at any time.
- M. Progress Cleaning.
  1. Contractor must maintain the Project Site in a clean and orderly condition at all times.
  2. The Contractor must maintain all Project areas free of waste materials, debris, dust, mud and rubbish caused by Contractor's operations.
  3. Work and storage areas must be kept clean and free of rubbish on a daily basis.
  4. Contractor must immediately remove any spillage or debris resulting from hauling operations along or across any public traveled way.
  5. Contractor must perform daily inspection of Project Site, Work areas, and public traveled ways to enforce the above requirements.
- N. Concrete Washout Areas.
  1. Concrete washout must be limited to designated areas specified or Approved by Owner.
- O. Temporary Living Facilities
  1. Contractor's employees, or others subject to the Contractor's control, are not permitted to reside on the Project Site in temporary living facilities.
- P. On-site Fabrication Areas.
  1. On-site Fabrication must be limited to designated areas specified or Approved by Owner.
- Q. Hoists, Temporary Elevators and Man-lifts.
  1. Provide facilities for hoisting materials and employees.
  2. Do not permit employees to ride hoists that comply only with requirements for hoisting materials.
  3. Selection of type, size and number of facilities is the Contractor's option.
  4. Provide properly trained operating personnel for equipment.
  5. Truck cranes and similar devices used for hoisting are considered equipment and not Temporary Construction Facilities.
  6. Permanent Elevators
    - a. Use permanent elevators only with the express written permission of the Owner's Project Manager.
    - b. Contractor must not assume Owner will grant permission to use Permanent Elevators.
    - c. If Owner grants permission to use Permanent Elevators, Contractor must comply with all conditions and restrictions associated with Owner's permission for Contractor's use of Permanent Elevators.
- R. Scaffolding.
  1. Furnish, erect and maintain all required scaffolding for the Work of this Project.
  2. Scaffolding and accessories must conform to all regulations governing such equipment.
  3. Maintain scaffolding in conformance with all applicable safety requirements.
  4. Immediately upon completion of use, remove all scaffolding and accessories from the Job Site.
  5. At the Contractor's option, individual Subcontractors may provide scaffolding for their Work; however, all scaffolding remains the responsibility of the Contractor.

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S. Temporary Enclosures.

1. Provide temporary weather-tight enclosure of exterior walls for successive areas of building as work progresses, as necessary to provide acceptable working conditions, to provide weather protection for materials, allow for effective temporary heating, and to prevent entry of unauthorized persons.
2. Provide temporary exterior doors with self-closing hardware and padlocks.
3. Temporary Enclosures must be removable as necessary for Work and for handling of materials.

**1.06. Temporary Controls**

A. Temporary Barriers.

1. Contractor must provide and maintain temporary barriers as needed to prevent unauthorized entry to Work areas.
2. Contractor must provide and maintain temporary barriers as needed to protect existing facilities and adjacent properties from damage.
3. Contractor must provide adequate measures to protect third party vehicular traffic from damage.
4. Contractor must Provide adequate measures to protect third party foot traffic from injury.
5. Install Temporary Barriers in a neat and reasonable uniform appearance, structurally adequate for required purposes.
6. Maintain Temporary Barriers during entire Construction Time.
7. Relocate Temporary Barriers as required by progress of Construction.
8. Contractor must remove Temporary Barriers when no longer needed, or at completion.

B. Protection of Work.

1. Contractor must protect installed Work and Provide special protection where needed or required by the Contract Documents.
2. Contractor must provide suitable drainage to protect the Project Site and the Work.
3. Contractor must erect such temporary structures as are necessary to protect the Work, materials, and equipment from damage.
4. Contractor must maintain staking, flagging, Temporary Fencing, and barrier fencing throughout the Contract Time as required for protecting the Work.

C. Protection of Existing Property.

1. Contractor must protect all existing utilities, facilities, landscape, fencing, equipment, furniture and all other existing structures and improvements within the Project area not specifically scheduled for demolition.
2. To the extent permitted by law, any damage caused by the Contractor to existing utilities, facilities, equipment, furniture, fencing, and all other existing structures and improvements must be fully and immediately restored at the Contractor's expense.

D. Protection of Pedestrians.

1. Contractor must pave pedestrian openings through falsework or Provide full width continuous wood walks, and keep all walkways clear.
2. Contractor must protect pedestrians from falling objects and water runoff.
3. Overhead protection for pedestrians must extend not less than four (4) feet beyond the edge of a structure.

E. Security.

1. The security of the Project Site, Work area, and stored materials is the Contractor's responsibility during the entire Contract Time.
2. Owner is not responsible for damage to or loss of Contractor's materials and equipment left at the Project Site.
3. Contractor must repair, replace, or restore all existing facilities, equipment, furniture, and new Work damaged, destroyed, lost, stolen, or defaced due to vandalism or theft.

F. Traffic Control.

1. The Contractor must not stage vehicles or equipment on railroad tracks, private property, or on any public street unless expressly authorized in advance by the local jurisdiction or private property owners.
2. The Contractor must keep all surface areas (i.e., site roads, off-site streets, and parking areas)



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- clear of dirt, mud, and debris and must clean such surfaces as needed, or as Directed by the Owner's Project Manager.
3. Locate temporary roads, drives, walks and parking facilities to provide uninterrupted access to construction offices, Work and storage areas, and other areas as required for efficient execution of the Work.
  4. Keep fire hydrants and water control valves free from obstruction and accessible for use.
  5. Provide flagmen for traffic control as needed or required.
  6. At completion of the Work, permanent roads and entranceways must be left in at least equal condition to that existing at the start of the Work, except as may be otherwise required by the Contract Documents.
- G. Noise Control.
1. Unless the Owner's Authorized Representative grants a waiver in writing, Contractor must comply with all local noise ordinances, and must limit the Normal Hours of Work accordingly.
- H. Vibration Control.
1. Vibration shall be kept to a minimum. Use of jackhammers, rotohammers, and other vibration-causing devices are not permissible, except with prior approval from Owner's Authorized Representative.
  2. Contractor will be required to make special coordination with adjacent departments near and around the work site.
- I. Dust and Odor Control.
1. Contractor must minimize dust nuisances resulting from performance of the Work, both inside and outside the Project limits, by applying either water or dust palliative, or both.
  2. Contractor shall make every effort to minimize the levels of odors and fumes and similar items to the extent possible and in accordance with local ordinances or other requirements.
- J. Surface Water Control.
1. Contractor must:
    - a. Construct whatever temporary facilities are necessary to provide prevention, control and abatement of water pollution.
    - b. Control surface drainage water to prevent damage to the Work, Project Site or adjoining properties.
    - c. Provide whatever temporary measures are needed or required including but not limited to berms, dikes, ditches, and drains to direct surface drainage away from excavations, trenches, pits, tunnels and other Work areas.
    - d. Provide, operate and maintain equipment of adequate capacity to control surface water.
    - e. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the Work, Project Site or to adjoining areas.
    - f. Plan and execute earthwork operations by methods which control surface drainage.
    - g. Expose minimum amount of bare soil at any given time.
    - h. Inspect earthwork daily for evidence of erosion and apply erosion control measures as needed or required.
  2. Contractor must obtain and pay for any discharge permits required.
- K. Trenching, Drilling, Pinning and Excavation.
1. Before any excavation, Contractor must, pursuant to California Government Code § 4216 and Cal/OSHA 8 C.C.R. 1540, outline the excavation in white paint (preferably chalk or water base), provide two workdays notice to Underground Service Alert (1-800-227-2600), obtain a locator number, and follow all necessary procedures to avoid underground facility damage.
  2. Contractor must meet all regulatory requirements and Provide adequate temporary protection before, during, and after all Trenching, Drilling, Pinning and Excavation activities.
- L. Pesticide Use.
1. Contractor must comply with the California Department of Pesticide Regulation relating to integrated pest management and pesticide use.
- M. Compliance with Owner's Policies, Ordinances, and Regulations.
1. Contractor must comply with all applicable County of San Mateo and City of San Mateo Policies, Ordinances, and Regulations regarding signs, advertising, barricades, danger signals, pesticide use, fires, smoking, security, noise, dust, vibration, odor, infection control, interim life

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safety measures (ILSMs), or other policies or regulations, and must require all persons employed on the Work to comply with all building or institutional regulations, and vehicle, street and highway codes while on the premises and roads relating to the Project Site.

**N. Temporary Heat and Ventilation.**

1. Provide temporary heat and ventilation in interior spaces prior to and when work is being performed.
2. Maintain adequate environmental conditions to facilitate progress of the Work.
3. Meet specified minimum conditions for the installation of materials.
4. Protect materials and finishes from damage due to temperature or humidity.
5. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.
6. Portable heaters must be standard approved units complete with controls and meet the requirements of this Document 01 5000.
7. Pay all costs of installation, maintenance, operation and removal, and for fuel consumed.

**O. Confined Spaces.**

1. Contractor must comply with all State and Federal OSHA requirements, and all of Owner's requirements regarding entry into confined spaces including but not limited to the following:
  - a. Before starting any Work, submit for Owners review and acceptance a confined space entry program applying to all existing permit-required confined spaces identified by Owner in the Contract Documents (see Table 015000-001, "Permit-required Confined Spaces"), or defined by regulations, and any confined spaces identified or created by Contractor or Owner during the Contract Time. Owner has the right to identify additional spaces to be treated as confined spaces by Contractor at any time during the Contract Time, without changing the Contract Sum or Contract Time if such additional spaces were created by Contractor.
  - b. Maintain written records of all entries into confined spaces and all activities conducted in confined spaces.
  - c. Coordinate all entry operations with Owner when both Contractor's personnel and Owner's personnel will be working in or near a confined space in the Project area. Owner will endeavor to give Contractor at least twenty-four (24) hours advance notice of such entry except in unforeseen situations and emergencies.
  - d. Inform Owner in writing at the conclusion of entry operations regarding the permit space program followed and any hazards confronted or created in permit spaces during entry operations.

**1.07. Fire Protection**

- A. Prior to performing any Work at the Project Site, Contractor must establish at the Project Site, methods, procedures, and equipment for emergency notification to the fire department via telephone. The street address of the construction site must be posted adjacent to the telephone, along with the public safety emergency telephone number(s).
- B. Fire Department Access Roadways.
  1. The Project Site must be accessible by fire department apparatus by means of roadways having an all-weather driving surface of not less than 20 feet of unobstructed width.
  2. The Fire Department Access Roadway must have the ability to withstand the live loads of fire apparatus, and have a minimum 15 feet of vertical clearance.
  3. Dead-end Fire Department Access Roadway in excess of 150 feet in length must be Provided with turnarounds approved by the Fire Marshal.
  4. If permanent Fire Department Access Roadways are not available during any part of the Contract Time, Contractor must Provide temporary Fire Department Access Roadways complying with the following requirements:
    - a. The roadway must be approved by the Fire Marshal. As a minimum, the roadway must consist of a (6") of road base material (Class II aggregate base rock), both compacted to a minimum of ninety-five (95%).
    - b. The perimeter edges of the roadway must be contained and delineated by curb and gutter

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- or other method approved by the Fire Marshal.
- c. Surface drainage must be Provided.
- d. The integrity of the roadway must be maintained at all times.
- e. The Contractor must include activities in Contractor's Progress Schedules for Fire Marshal approval and construction of the temporary Fire Department Access Roadway.
- C. Fire Alarm Systems.
  - 1. Fire alarm systems must be maintained operational at all times during building alterations.
  - 2. When an alteration requires modification to a portion of the fire alarm system, the portion of the system requiring Work must be isolated and the remainder of the system must be kept in service whenever practical.
  - 3. When it is necessary to shut down all or parts of the fire alarm system, Contractor must provide a fire watch or other mitigation approved by the Fire Marshal or Owner's Safety Officer. The mitigation measures must remain active until the system is returned to full service.
- D. Area Separation Walls.
  - 1. When area separation walls are required, the wall construction must be completed, with all openings protected, immediately after the building is sufficiently weather-protected at the location of the wall(s).
  - 2. Contractor's Progress Schedule must include specific activities showing the installation of area separation walls.
- E. Fire Extinguishers.
  - 1. Portable fire extinguishers must be Provided and must be mounted on a wall or post at each usable stairway such that the travel distance to any extinguisher does not exceed 75 feet.
  - 2. Mounting height to the top of the extinguisher must not exceed five feet (5').
  - 3. Extinguishers must be suitable for use on class A, B, and C (multi-purpose) or as otherwise directed by the Fire Marshal.
  - 4. The Contractor must ensure an adequate number of individuals are trained in the proper use of portable fire extinguishers.
- F. Standpipes.
  - 1. Where standpipes are required, the standpipes must be installed as required by the approved drawings when the progress of construction is not more than 35 feet in height above the lowest level of the fire department access.
  - 2. The standpipe system must be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.
  - 3. Contractor's Progress Schedule must include specific activities showing the installation of standpipes.
- G. Fire Hydrants.
  - 1. If underground water mains and fire hydrants are required as part of the Work, they must be installed, completed, and in service prior to 2<sup>nd</sup> Level first concrete slab pour.
  - 2. Contractor's Progress Schedule must include specific activities showing the installation of water mains and fire hydrants as directed by the Owner or County Fire Marshal.
- H. Fire Sprinkler Systems.
  - 1. If automatic fire sprinkler systems are required as part of the Work, the system must be placed in service as soon possible.
  - 2. Immediately upon the completion of sprinkler pipe installation on each floor level, the piping must be hydrostatically tested and inspected.
  - 3. After inspection and approval from the Fire Marshal, each floor level of sprinkler piping must be connected to the system supply riser and placed into service.
  - 4. Prior to installation of the permanent monitoring system, an exterior alarm bell may be installed and connected to a sprinkler water flow device to provide notification when the system is activated.
  - 5. For buildings equipped with fire sprinkler systems that are undergoing alterations, the sprinkler system(s) must remain in service at all times except when system modifications are necessary.
  - 6. Fire sprinkler systems undergoing modifications must be returned to service at the end of each workday unless otherwise approved by the Fire Marshal.
  - 7. The Contractor must notify Owner at the end of each workday so that Owner can confirm the

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system has been restored to service.

8. Contractor's Progress Schedule must include specific activities showing the installation of Fire Sprinkler Systems including all sequencing restrictions identified in the requirements of the Contract Documents.

**I. Exiting Requirements.**

1. All exiting requirements must comply with OSHPD-approved required drawings.
2. For new multi-story buildings, each level above the first story must be Provided with at least two usable exit stairs after the floor decking is installed. The stairways must be continuous and discharge to grade level.
3. Stairways serving more than two floor levels must be enclosed (with openings adequately protected) after exterior walls/windows are in place.
4. Exit stairs in new and existing, occupied buildings, must be lighted and maintained clear of debris and construction materials at all times. (Exception: For new multi-story buildings, one of the required exit stairs may be obstructed on not more than two (2) contiguous floor levels for the purposes of stairway construction; i.e., installation of gypsum board, painting, flooring, etc.)
5. Designated exterior assembly points must be established for all construction personnel to relocate to upon evacuation.
6. Contractor's Progress Schedule must include specific activities showing the installation of exit stairs including all sequencing restrictions identified in the requirements of the Contract Documents.

**J. Oily Rags.**

1. Oily rags and similar material must be removed daily or after use.

**K. Smoking.**

1. Smoking is prohibited anywhere on campus or on Owner's premises.
2. A suitable number of "NO SMOKING" signs must be posted to ensure smoking is controlled.

**L. Asphalt and Tar Kettles.**

1. Asphalt kettles must not be located within 20 feet of any combustible material, combustible building surface or building opening.
2. With the exception of thermostatically controlled kettles, an attendant must be within 100 feet of a kettle when the heat source is operating.
3. Ladders or similar obstacles must not form a part of the route between the attendance and the kettle.
4. Kettles must be equipped with tight-fitting covers.
5. Class A, B, and C (multi-purpose) rated portable fire extinguisher must be located within 30 feet of each asphalt kettle when the heat source is operating.
6. Class A, B, and C (multi-purpose) rated portable fire extinguishers also must be located on roofs during asphalt coating operations.

**M. Compressed Gases.**

1. Gas cylinders must be marked with the name of the contents.
2. Gas cylinders must be stored upright and secured to prevent falling.
3. When not in use, gas cylinder valve protective caps must be in place.
4. Gas cylinders must be protected against physical damage.
5. When stored, gas cylinders must be separated from each other based on their hazard classes, outside of buildings and in an Owner-designated area.
6. Combustible materials must be kept off site.
7. Gas cylinders must not be placed near elevators, unprotected platform edges or other areas where they would drop more than two feet (2').
8. Gas cylinders must not be placed in areas where they may be damaged by falling objects.
9. Ropes, chains or slings must not be used to suspend gas cylinders unless the cylinder was manufactured with appropriate lifting attachments.

**N. Liquid Petroleum Gas Storage and Use.**

1. Liquid petroleum gas (LP-Gas) storage and use must comply with the following:
  - a. If not prohibited by other sections of the Contract Documents, propane containers may be used in buildings under construction or undergoing major renovation as a fuel source for temporary heating for curing concrete, drying plaster and similar applications in accordance

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with the following:

- (1) Heating elements (other than integral heater-container units) must be located at least 6 feet from any LP-Gas container.
- (2) Integral heater container units specifically designed for the attachment of the heater to the container, or to a supporting standard attached to the container, may be used provided they are designed and installed so as to prevent direct or radiant heat application to the LP-Gas container.
- (3) Blower and radiant type units must not be directed toward any LP-Gas container within 20 feet.
- (4) Heat producing equipment must be installed with clearance to the combustibles in accordance with the manufacturer's installation instructions.
- (5) Cylinders must comply with DOT cylinder specifications and must be secured in an upright position.
- (6) Regulators must be approved for use with LP-Gas. Fittings must be designed for at least 250-psig service pressure.
- (7) Hoses must be designed for a working pressure of at least 350 psig (unless limited to 5 psig) and shall be a maximum of 6 feet in length.
- (8) Portable heaters must be equipped with an approved automatic device to shut off the flow of gas to the main burner and to the pilot in the event of flame extinguishment or combustion failure.
- (9) Portable heaters with an input of more than 50,000 Btu/hr must be equipped with either a pilot that must be "proved" before the main burner can be turned on, or provided with an approved electronic ignition system.
- b. In addition to the above, for LP-Gas use in buildings undergoing alteration and that are fully or partially occupied, the following shall also apply:
  - (1) Specific approval must be obtained from the Fire Marshal and Owner's Safety Officer prior to bringing LP-Gas containers onto the Project Site.
  - (2) The maximum water capacity of individual containers shall be 5-gallon water capacity and the number of containers in the building shall not exceed the number of workers assigned to using the LP-Gas.
  - (3) Containers having a water capacity greater than 2 1/2 lb. [1 quart] must not be left unattended.
  - (4) LP-Gas containers may not be stored on-site.

**O. Hot Work.**

1. The use of Hot Work equipment must be in accordance with the Owner's hot work policy, San Mateo County permitting requirements, and the following guidelines, including a pre-site inspection, fire watch and post inspection procedures.
  - a. Pre-site Inspection: An inspection of the Hot Work site must be conducted by the Contractor or his/her designee prior to Hot Work operations to ensure:
    - (1) the Hot Work site is clear of combustibles or that combustibles are protected;
    - (2) exposed construction is of noncombustible materials or that combustible materials are protected;
    - (3) openings are protected;
    - (4) there are no exposed combustibles on the opposite side of partitions, walls, ceilings, floors, etc.;
    - (5) fire extinguishers are available, fully charged and operable; and
    - (6) fire watch personnel are assigned, equipped and trained.
  - b. Fire Watch: The sole duty of fire watch personnel must be to watch for the occurrence of fire during and after Hot Work operations.
    - (1) Individuals designated to fire watch duty must have fire-extinguishing equipment readily available and must be trained in the use of such equipment.
    - (2) Personnel assigned to fire watch must be responsible for extinguishing spot fires and communicating an alarm.
    - (3) Hot Work conducted in areas with vertical and horizontal fire exposures that cannot be observed by a single individual must have additional personnel assigned to fire

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- watches to ensure that all exposed areas are monitored.
- c. Post Inspection: The fire watch must be maintained a minimum of 30 minutes after the conclusion of the Work to look out for leftover sparks, slag or smoldering combustibles.
- P. Combustion Powered Equipment.
1. Combustion powered equipment must be used in accordance with the following:
    - a. Equipment must be located so that exhausts do not discharge against combustible materials.
    - b. When possible, exhausts must be piped to the outside of the building.
    - c. Equipment must not be refueled while in operation.
    - d. Fuel for equipment must be stored in an approved area outside of the building.
- Q. Temporary Heating (LP-Gas) fueled, shall be listed and must be installed, used, and maintained Equipment
- R. Temporary heaters, such as those that are liquid petroleum gas in accordance with the manufacturer's instructions.
1. Temporary heating devices must be secured properly and kept clear from combustible materials.
  2. Refueling operations must be conducted in an approved manner.
- S. Combustible Material Storage.
1. Combustible construction materials must be stored off site.
- T. Flammable and Combustible Liquids.
1. Storage areas for flammable and combustible liquids must be kept free of weeds and extraneous combustible material. Open flames and smoking are prohibited in flammable or combustible liquid storage areas.
  2. Tanks and containers must be marked with the name of the product and "FLAMMABLE KEEP FIRE AND FLAME AWAY." Tanks (containers in excess of 60 gallons) shall also be labeled, "KEEP 50 FEET FROM BUILDINGS."
  3. Metal containers for Class I or II liquids must be in accordance with DOT requirements or must be of an approved design. Discharge devices must not cause an internal pressure on the container. Individual containers must not be interconnected and must be kept closed when not in use.
  4. Secondary containment or a means of spill control, drainage control, and dike control is required for large containers (such as 55 gallon drums) and tanks as approved by the Fire Marshal.
  5. Plans for the installation/use of any aboveground storage tank (containers greater than 60 gallons) must be submitted to the Owner and Fire Marshal for review and permit prior to procuring proposed tank.
- U. Fire Watch Procedures.
1. A fire watch shall be implemented whenever fire protection water supply, fire alarm, or fire suppression systems are temporarily out of service. The following conditions shall apply:
    - a. Persons conducting fire watch shall be dedicated to this purpose and shall have no other duties.
    - b. Adequate number of persons shall be assigned fire watch duties to be able to continually patrol and visually inspect every portion of the building(s) *at least* every 30 minutes. The Fire Marshal may require a higher level of coverage.
    - c. Fire Watch personnel cannot leave his/her Fire Watch duties until relieved by another person who meets all the qualifications herein.
    - d. Fire Watch personnel shall have access to the entire facility at all times. This includes, but is not limited to, conference rooms, offices, restrooms, janitor's closets, electrical and telecommunications rooms, mechanical rooms, penthouses, basements, and storage areas.
    - e. Primary responsibility for Fire Watch personnel is to patrol the facility continuously and immediately notify any occupants of an emergency to initiate an evacuation. This may mean setting off the fire alarm system with a pull station or alerting on-site personnel verbally.

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- f. Secondary responsibility of Fire Watch personnel is to notify the local Fire Department, and Fire Watch personnel shall have instant access to means of communicating the alarm to the Fire Department by means of a land-line (e.g. desk phone) or cell phone. If cell phones are appropriate and necessary, each cell phone shall be tested prior to the start of the fire watch to ensure adequate coverage throughout the facility. In an emergency call:
      - (1) Land Line: 911
      - (2) Cell Phone: 911
  - 2. Fire Watch personnel shall:
    - a. Be at least 18 years of age.
    - b. Be familiar with these procedures, the physical layout of the facility, the purpose of the facility, and the issues requiring the fire watch, and be trained in the use of a Fire Extinguisher.
    - c. Be able to communicate fluently in the English language.
- V. Burning on the Project Site is prohibited.

**1.08. Submittals**

- A. Contractor must submit the following items to the Owner for review and acceptance prior to mobilization:
  - 1. Three (3) paper copies and an electronic copy submitted to the Owner of a site map identifying the locations of:
    - a. Contractor's and County's field offices
    - b. Storage sheds and storage areas
    - c. Project Site access and egress points
    - d. Fabrication areas
    - e. Equipment maintenance area
    - f. Parking area for personal vehicles
    - g. Parking and maintenance area(s) for construction equipment
    - h. Temporary utility poles or electric extensions
    - i. Concrete washout area(s)
    - j. Temporary and/or Construction Fencing location(s)
  - 2. Three (3) paper copies and an electronic copy submitted to the Owner of a written description of what types of materials will be used as temporary barriers and protection and how they will be utilized. (See Document 01 5000.1.07, "Temporary Controls.")
  - 3. Three (3) paper copies and an electronic copy submitted to the Owner of a letter designating an authorized representative for the Contractor who will have the authority to represent and act for Contractor at the Project Site. Include the telephone and/or pager numbers at which the Contractor's Authorized Representative can be reached at all times.
  - 4. Three (3) paper copies and an electronic copy submitted to the Owner of all Cal-OSHA safety programs applying to all existing confined spaces identified by Owner in the Contract Documents, or defined by regulations, and any confined spaces identified or created by Contractor or Owner during the Contract Time.
- B. Contractor must submit four (4) paper copies and an electronic copy to the Owner of the following items for Owner and Fire Marshal review and acceptance:
  - 1. Plans for the installation/use of any aboveground storage tank (containers greater than 60 gallons).
  - 2. Plans for temporary Fire Department Access Roadways, if needed.

**END OF DOCUMENT 01 5000**

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**DOCUMENT 01 5150**

**SOLID WASTE MANAGEMENT AND RECYCLING PLAN**

**ARTICLE I - GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents
    - c. 1.03 - Definitions
    - d. 1.04 - Intent
    - e. 1.05 - Submittals
    - f. 1.06 - Recycling Requirements
  - 2. Article II– Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02. Related Sections**

- A. Division 0 Document 00 7301 ‘Supplemental Conditions’
- B. Division 1 Document 01 3300, “Submittals”
- C. Division 1 Document 01 5000, “Temporary Facilities and Controls”
- D. Division 1 Document 01 7400, “Cleaning”

**1.03. Definitions**

- A. Inert Fill. A permitted facility that accepts inert waste such as asphalt and concrete exclusively.
  - 1. Inert Solids/Inert Waste: Non-liquid solid waste including, but not limited to, soil and concrete, that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board and does not contain significant quantities of decomposable solid waste.
- B. Class III Landfill. A landfill that accepts non-hazardous waste such as household, commercial and industrial waste, including construction, remodeling, repair and demolition operations.
- C. Construction and Demolition Waste. Includes solid wastes, such as building materials, packaging, rubbish, debris and rubble resulting from construction, remodeling, repair and demolition operations.
  - 1. Rubbish: Includes both combustible and noncombustible wastes, such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans, and bones.
  - 2. Debris: Includes both combustible and noncombustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work.
- D. Chemical Waste. Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals and inorganic wastes.
- E. Sanitary Wastes. Includes:
  - 1. Garbage: Refuse and scraps resulting from preparation, cooking, distribution or consumption of food.
  - 2. Sewage: Domestic sanitary sewage.

**1.04. Intent**

- A. Owner is committed to promoting efforts to have the Work performed in an environmentally sensitive manner.
- B. To promote this effort the Contractor is required to:
  - 1. Make reasonable efforts to affect optimum control of solid wastes.
  - 2. Prepare and comply with a Project specific Solid Waste Management Plan.



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**1.05. Submittals**

- A. Submit the following according to the requirements of the Contract Documents:
  - 1. Solid Waste Management Plan
    - a. No later than twenty-eight (28) Days after the start date for the Work stated in the Notice to Proceed, Contractor must schedule and conduct a meeting with Owner to discuss Contractor's proposed Solid Waste Management Plan.
    - b. No later than forty-five (45) Days after the start date for the Work stated in the Notice to Proceed, prepare and submit three (3) paper copies and an electronic copy of a written and/or graphic Solid Waste Management Plan including, but not limited to, the following:
      - (1) Permit or license and the location of the solid waste disposal area(s).
      - (2) Procedures for Recycling/Re-Use Program.
    - c. Revise and resubmit Solid Waste Management Plan as required by Owner.
  - 2. Review of the Contractor's Solid Waste Management Plan will not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures.
- B. No later than 15 Days after Contractor's request for Final Inspection, Contractor must submit three (3) and an electronic copy of a summary of solid waste generated by the Contractor's operations.
  - 1. Submit on Form provided within Document 00 7301 (Supplemental Conditions).
  - 2. Include manifests, weight tickets, receipts, and invoices specifically identifying the Project and waste material from:
    - a. Recycling Centers.
    - b. Class III Landfills.
    - c. Inert Fills.

**1.06. Recycling Requirements**

- A. Recycling: Implement a recycling program that includes separate collection of waste materials of the following types:
  - 1. Concrete.
  - 2. Metal:
    - a. Ferrous.
    - b. Non-ferrous.
  - 3. Wood.
  - 4. Debris.
  - 5. Glass.
  - 6. Fluorescent light tubes
  - 7. Paper:
    - a. Bond.
    - b. Newsprint.
    - c. Cardboard and paper packaging materials.
  - 8. Others as appropriate.

**ARTICLE II - PRODUCTS** (Not Used)

**ARTICLE III - EXECUTION** (Not Used)

**ARTICLE IV – FORMS** (Not Used)

**END OF DOCUMENT 01 5150**

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**DOCUMENT 01 5250**

**FIRE PROTECTION PLAN**

**ARTICLE I - GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - 1.01 – Summary
    - 1.02 – Related Documents And Standards
    - 1.03 - Definitions
    - 1.04 - Fire Protection Plan Requirements
    - 1.05 - Implementation
    - 1.06 - Submission
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents And Standards**

- A. Division 1 Document 01 5000, "Temporary Facilities and Controls"
- B. California Fire Code - Article 87
- C. National Fire Protection Association - Standard #1

**1.03. Definitions**

- A. Hot Work. Hot work includes any operations capable of initiating fires or explosions, including cutting, welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, sparking tools, or any other similar activity.
- B. Fire Marshal. State Fire Marshal, County of San Mateo Fire Marshal and City or San Mateo Fire Marshall.

**1.04. Fire Protection Plan Requirements**

- A. Contractor must prepare and submit a written Fire Protection Plan.
- B. The written Fire Protection Plan must meet the requirements of the Contract Documents and be consistent with the fire safety precautions.
- C. At a minimum, the fire protection plan must include:
  - 1. The name and contact phone number of the person(s) responsible for compliance with the Fire Protection Plan.
  - 2. Procedures for:
    - a. Reporting emergencies to the fire department.
    - b. Emergency notification, evacuation and/or relocation of all persons in the building under construction and on the Project Site.
    - c. Hot Work operations.
    - d. Management of hazardous materials.
    - e. Removal of combustible debris.
    - f. Maintenance of emergency access roads.
  - 3. Floor plans identifying the locations of:
    - a. Exits.
    - b. Exit stairs.
    - c. Exit routes.
    - d. Portable fire extinguishers.
  - 4. Site plans identifying:
    - a. Designated exterior assembly areas for each evacuation route.
    - b. Fire apparatus access roadways.
    - c. On-site fire hydrants.

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**1.05. Implementation**

- A. Contractor is responsible for implementation of the requirements and provisions of the approved Fire Protection Plan.
- B. Contractor is responsible for communicating the requirements of the Fire Protection Plan to all Subcontractors and other personnel working at the Project Site.
- C. Contractor to supply and post all signage required by Owner's ILSM Plan and any other requirement required by the local AHJ.

**1.06. Submission**

- A. Submit to the Owner three (3) paper copies and an electronic copy on a Flash Drive of a Fire Protection Plan.
- B. Fire Marshal must approve the Fire Protection Plan prior to Contractor performing Work at the Project Site.

**ARTICLE II - PRODUCTS** (Not Used)

**ARTICLE III - EXECUTION** (Not Used)

**ARTICLE IV - FORMS** (Not Used)

**END OF DOCUMENT 01 5250**

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**DOCUMENT 01 5320**

**TREE CARE AND PROTECTION**

**ARTICLE I - GENERAL**

**1.01. Summary**

- A. Related Documents.
  - 1. Review the Contract Documents for additional requirements that apply to work under this document.
- B. Document Includes.
  - 1. Requirements for protection of existing trees to remain apply to all SECTIONS performing work in the area of existing trees.
  - 2. Tree care work to be performed by a qualified Tree Surgeon.

**1.02. References**

- A. Reference Data.
  - 1. If the year of the adoption or latest revision is omitted from the designation, it shall mean the specification, manual, or test designation in effect the date the Notice to Proceed with the Work is given.

**1.03. Submittals**

- A. Statement of Qualification for Tree Care Work.
- B. List of materials to be used by Tree Specialist for Tree Care Work.
- C. Tree Specialists Field Reports.

**1.04. Quality Assurance**

- A. Tree Specialist must have minimum supervisory experience of five (5) years, crew experience of two (2) years average in work similar to that required for this Project, and be listed by at least two (2) cities in San Mateo County as approved for tree care work.

**ARTICLE II – PRODUCTS (NOT USED)**

**ARTICLE III - EXECUTION**

**3.01. Operations**

- A. Notify Owner 48 hours before excavating within the driplines of trees scheduled to remain and to verify the Contractor has met all tree protection requirements.
- B. Provide and install temporary protective fencing at drip-lines of existing trees to remain, or as directed by the Tree Specialist and/or County Arborist.
  - 1. Where in close proximity to existing sidewalks it will be necessary to protect tree trunks from equipment.
  - 2. At sidewalk conditions, temporary fencing is to be set in as large a triangle as possible along the sidewalk with the point set away from the street.
  - 3. Fence posts shall be surface mounted in precast concrete blocks specifically made for this function.
  - 4. All trunk protection and temporary protection fencing to be reviewed and approved by the Tree Specialist and/or County Arborist prior to start of construction.
- C. Continuously supervise excavating, grading, filling and subsequent construction operations of all SECTIONS to protect trees.
- D. Trenching within tree drip-line not permitted without approval. Route pipes and utilities around drip-line areas when possible.
- E. All excavation, including trenching for utilities within drip-lines of trees shall be by hand only. Tunnel under roots 2" and larger, cleanly cut roots 3/4" diameter to 2".

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- F. Operate no machinery, including trucks, etc., which may compact soils at planting areas.
- G. Construct fills so as to prevent disturbance to root zones of existing trees.
- H. Store no materials, including topsoil, under tree canopies.
- I. Park no vehicles under trees; do not allow construction access or roads under tree canopies.
- J. Washing of equipment such as paint sprayers, concrete chutes or pumping equipment, hand tools for concrete work, paint brushes, etc. shall NOT be allowed within drip-lines of, or uphill from trees.
- K. The Contractor shall provide adequate protection for all existing trees “to remain” and is responsible for the maintenance of tree protection barriers during construction. Tree trunks’ damage will result in fines based on square inches of damaged bark to be paid by the Contractor. Any repairable damage done to a tree shall be treated by a qualified tree surgeon at no cost to owner. The death of a tree due to damage during construction shall result in the Contractor replacing the tree with another of comparable size. In the event the tree is, due to large size or unique structure, unable to be duplicated, a fair value as determined by a certified arborist or the “Guide for Establishing Value of Trees” (Council of Tree and Landscape Appraisers) will be charged to the Contractor.

**3.02. Tree Care**

- A. Arrange and pay for the following tree care work to be performed by a qualified tree specialist on all trees impacted by construction.
- B. Under Arborist’s observation, trim and remove tree limbs to ISA standards to provide for continuing health, and to maintain adequate clearance for equipment during construction operations. Guywire trees if needed.
- C. Prior to beginning of construction and weekly thereafter inspect field conditions, health of trees and note any adverse impact to trees by construction operations. Perform pesticide spraying when needed, and watering and foliar feeding as stated below. Submit report to City Arborist at each inspection.
- D. Spray water on all trees in construction area minimum once per week between start of work and onset of rainy season to remove dust from leaves.
- E. Foliar feed each protected tree in construction area as follows. If in Fall: Fertilize trees with spray of Romeo’s or equal 6-25-25 fertilizer at five pounds per 100 gallons of water. If in Spring: Romeo’s 22-14-14 at five pounds per 100 gallons.

**END OF DOCUMENT 01 5320**

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**DOCUMENT 01 5350**

**CONSTRUCTION FENCING**

**ARTICLE I - GENERAL**

**1.01 Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents
    - c. 1.03 - Definitions
    - d. 1.04 - Construction Fencing
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)
    - a. 3.01 Construction
  - 4. Article IV – Forms (Not Used)

**1.02 Related Documents**

- A. Document 01 5000.1.09.A.1.J, Site Map Submittal
- B. Document 01 5000.1.06.C, “Temporary Fencing”

**1.03 Definitions**

- A. Temporary Fencing. Temporary fencing Provided and Installed by Contractor as required by other Sections of the Contract Documents.
- B. Construction Fencing. Temporary fencing to be Provided and Installed by Contractor for the duration of construction as required by this Document.

**1.04 Construction Fencing**

- A. Prior to start of Work at the Project Site, install site enclosure fence with suitable locked entrance gates. Locks to be keyed to Owner specifications by Contractor.
- B. Locate as shown on Drawings and as Approved by Owner's Project Manager.
- C. Locate vehicular entrance gates in suitable relation to construction facilities and to avoid interference with traffic on public thoroughfares.
- D. Locate pedestrian entrance gates as required to provide controlled personnel entry, in suitable relation to construction parking facilities.
- E. Fencing Materials.
  - 1. No. 11 gauge, 2-inch mesh, 72-inch high galvanized chain link fabric with extension arms and 3b strands of galvanized wire.
  - 2. Galvanized steel posts; 1-1/2 inch O.D. line posts and 2 inch O.D. corner posts.
  - 3. Black-out screen to be supplied in all fences except at corner panels facing traffic intersections. Material used to be approved by Owner.

**ARTICLE II - PRODUCTS (Not Used)**

**ARTICLE III - EXECUTION**

**3.01 Construction**

- A. Construct open-mesh fence in accordance with industry standards.

**ARTICLE IV - FORMS (Not Used)**

**END OF DOCUMENT 01 5350**

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**SECTION 01 5400**  
**SITE SECURITY AND SAFETY**

**- GENERAL**

**1.01. Submittals**

- A. See Document 01 3300 (Submittals).
- B. Site Security
- C. Safety Program
- D. Fire Protection Plan

**1.02. Protection**

- A. Contractor shall:
  - 1. Continuously maintain protection as necessary to protect the Work, as a whole and in part, and adjacent property and improvements from accidents, injuries or damage.
  - 2. Properly protect the Work:
    - a. With lights, guard rails, temporary covers and barricades.
    - b. Enclose excavations with proper barricades.
    - c. Brace and secure all parts of the Work against storm and accident.
    - d. Provide such additional forms of protection that may be necessary under existing circumstances.
  - 3. Provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the Work and to exclude unauthorized persons from the Work. When regulated by Building Code, Cal OSHA, or other authority, such legal requirements for protection shall be considered as minimum requirements. Be responsible for the protection in excess of such minimum requirements as required.

**1.03. Control of Site**

- A. Contractor shall ensure that no alcohol, firearms, weapons, or controlled substance enters or is used at the Site. Immediately remove from the Site and terminate the employment of any employee found in violation of this provision.

**1.04. Site Security**

- A. As part of the Work included within the Contract Price, Contractor shall take and be fully responsible for all reasonably required measures to protect and maintain the security of persons, existing facilities and property at the Site, including without limitation preventing theft, loss, vandalism and improper concealment of personal property of Owner and all persons lawfully present on the Site, and including times where workers are not present on the Site. Contractor's measures shall include, at a minimum, maintaining a log of all persons entering and leaving the Site and who they represent, what they are delivering and to whom.
- B. No claim shall be made against Owner by reason of any act of an employee or trespasser, and Contractor shall repair all damage to Owner property resulting from Contractor's failure to provide adequate security measures.
- C. Contractor shall maintain a lock on the Construction access gate at all times. Contractor shall appoint one (1) person to let people through the gate and maintain the sign-in/out list, with person's name, company, reason for entering, what they are delivering, time and date. Alternatively, Contractor shall provide a full-time guard at the gate at all times to control access and maintain the sign-in/out list. The sign in/out list shall be available to Owner at any time upon request. If Owner determines that the gate has been left unlocked, Contractor shall, if requested by Owner, provide a full time guard at no additional expense to Owner.
- D. Contractor shall supply additional security fencing, barricades, lighting, and other security measures as required to protect and control the Site.

**1.05. Safety Program**

- A. Within fifteen (15) days after Notice to Proceed, Contractor shall submit three (3) paper copies and an electronic copy on a Flash Drive of the Safety Program and Site-Specific Safety Plan that has been

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reviewed by Owner. Contractor shall comply with the Safety Program and all applicable federal, state, and local regulation codes, rules, law and ordinances.

- B. Receipt and/or review of the Safety Program by Owner, Project Manager or Owner representative shall not relieve Contractor of any responsibility for complying with all applicable safety regulations.
- C. It is essential that Contractor and each Subcontractor implement an effective and vigorous Safety and Health Program to cover their respective portions of the Work. Subject to Contractor's overall responsibility for Project safety, it shall be understood that the full responsibility for providing a safe place to work with respect to their respective portions of the Work rests with each individual Contractor and Subcontractor.
- D. Safety Program components:
  - 1. Injury and Illness Prevention Program (IIPP): Conforming to the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 3203), and the California Labor Code (Section 6401.7).
  - 2. Site-Specific Safety and Health Plan (SSHP): Describing health and safety procedures that shall be implemented during the Work in order to ensure safety of the public and those performing the Work. Follow the guidelines for a SSHP listed in CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5192, Item (b)(4) f.
  - 3. Confined Space Program: The Site contains permit- and non-permit-confined spaces, including shored trenches. Owner will provide Contractor with any available information regarding existing permit space hazards, entry operations, and safety information relating to Work in the existing permit spaces as set forth in the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5157). Permit space entry is allowed only through compliance with a permit space program meeting the requirements of Section 5157 of the General Industrial Safety Orders. During entry operations, or at the conclusion of entry operations, verbally notify Owner of the permit space program followed and of any hazards confronted or created in permit spaces during entry operations.
- E. The wearing of hard hats, safety vests, safety shoes, and eye protection shall be mandatory at all times for all personnel and visitors on Site. Contractor shall provide hard hats, safety vests, safety shoes and eye protection to properly equip all employees and have a sufficient supply (excluding shoes) to loan to visitors.
- F. Whenever an exposure exists, appropriate personal protective equipment (PPE) shall be used by all affected personnel. Contractor shall supply PPE to all personnel under Contractor's direction.

**1.06. Safety Requirements**

- A. Standards: Contractor shall maintain the Project in accordance with state and local safety and insurance standards.
- B. Hazards Control. Contractor shall:
  - 1. Store volatile wastes in covered metal containers and remove from premises daily.
  - 2. Prevent accumulation and immediately remove all wastes that create hazardous conditions.
  - 3. Provide adequate ventilation during use of volatile or noxious substances.
- C. Contractor shall conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws, and:
  - 1. Not burn or bury rubbish or waste material on the Site.
  - 2. Not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  - 3. Not dispose of wastes into streams or waterways.
- D. Contractor shall provide accident information on the forms provided by Contractor. This information shall be provided on the same day as the occurrence of said incident.

**1.07. Site Safety Officer**

- A. Contractor shall designate one of Contractor's staff as "Site Safety Officer" whose duties shall include the responsibility for enforcing the environmental protection provisions of the Contract Documents including safety and health, the requirements of the Occupational Safety and Health Act, and other applicable federal, state and local standards. Contractor shall submit for review by Owner, Contractor's intended traffic flow plan, security plan, program for temporary structures, housecleaning plan, demolition program, and environmental safety and health plan. After review by Owner, the implementation and enforcement of these plans shall become the responsibility of the Site Safety



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Officer. Any changes in the plans shall be requested by Contractor through the Site Safety Officer for written concurrence by Owner.

- B. Owner risk management representative(s) shall be allowed access to accident/injury and illness reports, inspection reports, scheduling and construction meetings, and safety meetings.

**1.08. Fire Protection Plan**

- A. Within fifteen (15) days after Notice to Proceed submit to the Owner three (3) paper copies and an electronic copy on a Flash Drive of a fire protection plan that has been reviewed and approved by all fire departments or agencies with territorial jurisdiction over the Site. It is recommended that the plan include, but not be limited to, a discussion of the following items:

1. Equipment spark arresters
2. Fire-extinguishing equipment on hand
3. Method of operation in case of fire
4. Notification to authorities of any fire
5. Access available during performance of Work
6. Educating workers of fire protection plan
7. Storage protection for flammable materials
8. Ventilation and illumination equipment

**ARTICLE II – PRODUCTS - NOT USED**

**ARTICLE III – EXECUTION - NOT USED**

**END OF SECTION 01 5400**

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**DOCUMENT 01 5700**

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP)**

**ARTICLE I - GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents and Sections
    - c. 1.03 - Definitions
    - d. 1.04 - SWPPP Requirements
    - e. 1.05 - Submittals
  - 2. Article II– Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents and Sections (Not Used)**

**1.03. Definitions**

- A. **NOI** - Notice of Intent
- B. **SWPPP** - Storm Water Pollution Prevention Plan
- C. **NOT** - Notice of Termination

**1.04. SWPPP Requirements**

- A. The project will comply with the NPDES General Construction Activity Storm Water Permit administered by the Regional Water Quality Control Board.
- B. Prior to construction grading for the proposed land uses, the Owner will file a “Notice of Intent” (NOI) to comply with the General Permit.
- C. The Contractor must prepare and maintain for the entire construction period a Storm Water Pollution Prevention Plan (SWPPP) which addresses measures Contractor will implement to minimize and control construction and post-construction storm water runoff.
- D. At a minimum, the following measures must be included in the SWPPP:
  - 1. Burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains.
  - 2. Earthmoving or other dust-producing activities will be suspended during periods of high winds.
  - 3. All exposed or disturbed soil surfaces will be watered at least twice daily to control dust.
  - 4. Stockpiles of soil or other materials that can be blown by the wind will be watered or covered.
  - 5. All trucks hauling soil, sand, and other loose materials will be covered and maintain at least two feet of freeboard.
  - 6. Debris and recycling containers must remain covered when not in use.
  - 7. All paved access roads, parking areas, staging areas and residential streets adjacent to the construction sites will be swept daily (with water sweepers).
- E. Contractor must submit the SWPPP for approval as required for permitting prior to construction.
- F. The certified SWPPP must be available at the Project Site and must be updated to reflect current site conditions.
- G. When the construction phase is complete, Contractor must file a Notice of Termination (NOT) for the General Permit for Construction with the Regional Water Quality Control Board and applicable Governmental Agency. The NOT must document that all elements of the SWPPP have been executed, construction materials and waste have been properly disposed of, and a post-construction storm water management plan is in place as described in the SWPPP for the site. Submit the NOT to the Owner.

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**1.05. Submittals**

- A. Submit the Storm Water Pollution Prevention Plan (SWPPP) in accordance with Section 01 3300, (Submittals).
- B. Submit required copies of the Notice of Termination (NOT) to the Owner.

**ARTICLE II - PRODUCTS (NOT USED)**

**ARTICLE III - EXECUTION (NOT USED)**

**ARTICLE IV - FORMS (NOT USED)**

**END OF DOCUMENT 01 5700**

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**DOCUMENT 01 5800  
PROJECT IDENTIFICATION AND SIGNS**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. Document Includes:
  - 1. Project identification sign.
  - 2. Project informational signs.
  - 3. Maintenance.
  - 4. Removal.
- B. Related Documents:
  - 1. Document 01 1000: Summary

**1.02. Quality Assurance**

- A. Design sign and structure to withstand fifty (50) miles/hr wind.
- B. Sign Painter: Experienced as a professional sign painter for a minimum of five (5) years.
- C. Finishes, Painting: Adequate to withstand weathering, fading, and chipping for duration of construction.

**1.03. Submittals**

- A. Document 01 3300 Submittals, shop drawings and product data.
- B. Show content, layout, lettering, color, structure, sizes, and proposed locations for signs.

**ARTICLE II – PRODUCTS**

**2.01. Sign Materials**

- A. Structure and Framing: New, structurally adequate. No wood signage permitted indoors.
- B. Sign Surfaces: Exterior grade plywood with medium density overlay, minimum ¾ - inch thick, standard large sizes to minimize joints.
- C. Rough Hardware: Galvanized.
- D. Paint and Primers: Exterior quality, two coats; sign background of color as selected.
- E. Lettering: Exterior quality paint, contrasting colors as selected.

**ARTICLE III – EXECUTION**

**3.01. Installation**

- A. Install project identification sign within sixty (60) days after date of Notice to Proceed.
- B. Erect the Project sign at a location to be reviewed and approved by the Owner prior to installation .
- C. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.
- D. Paint exposed surfaces of sign supports and framing.

**3.02. Maintenance**

- A. Maintain sign and supports, keep clean repair deterioration and damage.

**3.03. Removal**

- A. Remove sign, framing, supports and foundations at completion of Project and restore area.

**END OF DOCUMENT 01 5800**

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**DOCUMENT 01 6000**

**PRODUCT REQUIREMENTS**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents and Sections
    - c. 1.03 - Definitions
    - d. 1.04 - Product Delivery, Storage, and Handling
    - e. 1.05 - Packaging
  - 2. Article II – Products
    - a. 2.01 - Unauthorized Products
    - b. 2.02 - Product Availability
    - c. 2.03 - Product Requirements
    - d. 2.04 - Certification by Contractor of Recycled Content
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents and Sections (Not Used)**

**1.03. Definitions**

- A. Products. Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock.
  - 1. The term “Product” includes the terms “material,” “equipment,” “system,” and terms of similar intent.
  - 2. Product means New Products including material, machinery, components, equipment, fixtures, and systems forming the Work.
    - a. Product does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
    - b. Products may also include existing materials or components required for reuse.
- B. Named Products. Products identified in the Contract Documents by Manufacturer's product name. Named Products may include Manufacturer's make or model number or other designation.
- C. New Products. Items that have not previously been incorporated into another project or facility.
- D. Manufacturer's Warranty. Warranty published by individual Manufacturer for a particular Product and specifically endorsed by Manufacturer to Owner.

**1.04. Product Delivery, Storage, And Handling**

- A. Delivery.
  - 1. Deliver Products using means and methods that will prevent damage, deterioration, and loss, including theft.
  - 2. Schedule delivery to minimize long-term storage at Project Site and to prevent overcrowding of Project or Work areas.
  - 3. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  - 4. Deliver products to Project Site in an undamaged condition in Manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  - 5. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that Products are undamaged and properly protected.
  - 6. Material Safety Data Sheets (MSDSs) shall be provided prior to delivery.
- B. Storage.
  - 1. Store Products using means and methods that will prevent damage, deterioration, and loss, including theft.

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2. Comply with Manufacturer's written instructions for storage.
  3. Store Products to allow for inspection and measurement of quantity or counting of units.
  4. Store materials in a manner that will not endanger Project premises or personnel.
  5. Store Products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, with ventilation adequate to prevent condensation.
  6. Comply with product Manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
  7. Protect stored products from damage.
  8. For exterior storage of fabricated products, place on sloped supports above ground.
    - a. Cover products subject to deterioration with impervious sheet covering and provide ventilation to avoid condensation.
    - b. Store loose granular materials on solid surfaces in well-drained area; prevent mixing with foreign matter.
- C. Handling.
1. Handle Products using means and methods that will prevent damage, deterioration, and loss, including theft.
  2. Comply with Manufacturer's written instructions for handling.
  3. Provide equipment and personnel to handle products by methods to prevent soiling or damage.

**1.05. Packaging**

- A. Provide reusable or recyclable packaging for items delivered to the Project Site such as construction materials, operations and maintenance materials, furniture, equipment and other large objects.
- B. For items over 75 pounds or larger than 120 cubic feet, polystyrene "peanuts" shall not be used with packaging.
- C. Use products with natural or recycled content.
  1. Plastic sheets or films will be allowed only if labeled with recycling symbol-indicating type of plastic.
  2. Reusable Packaging: Items such as blankets, skids and crates must be returned to the manufacturer or transportation company for future reuse as packaging materials.
  3. Recyclable Packaging: Items such as boxes, cardboard and paper that will be delivered to a recycling center after use.
  4. All packaging, including skids and crates, cannot be constructed of wood.
- D. Properly dispose of packaging materials and clean surrounding areas of packaging debris immediately after unpacking of Products. Contractor is responsible for and must provide the means for disposal of all packaging material.

**ARTICLE II – PRODUCTS**

**2.01. Unauthorized Products**

- A. Products required for Work must not contain asbestos or polychlorinated biphenyls (PCB) or other environmental toxins.
- B. If the Contract Documents name a Product, Provide the Named Product unless the Owner's Authorized Representative, through the Substitution process, accepts an equal Product. (See Section 016300, (Product Substitution Procedures).

**2.02. Product Availability**

- A. Prior to Bid, Contractor must verify that Named Products, including sole source Products can be obtained, delivered, and installed within the Time Period(s) stated in the Bid Documents.
- B. Owner does not warrant that Named Products including sole source Products are available within the Time Period(s) required by the Bid Documents. Contractor must verify availability of Named Products before submitting a Bid.
- C. By submitting a Bid, Contractor represents to the Owner that Contractor has verified the availability of Named Products, the Named Products including sole source Products are currently available, and the Work or designated portion of the Work can be completed within the Contract Time(s).

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**2.03. Product Requirements**

- A. Provide Products that:
  - 1. Comply with the requirements of the Contract Documents.
  - 2. Have been accepted by the Owner for incorporation into the Work.
  - 3. Are undamaged.
  - 4. Are new at time of installation, unless otherwise indicated in the Contract Documents.
- B. Provide products complete with:
  - 1. Accessories.
  - 2. Trim.
  - 3. Finish.
  - 4. Fasteners.
  - 5. Gauges.
  - 6. All other items needed for a complete installation.
- C. Standard Products.
  - 1. If available, and unless custom products or nonstandard options are specified, Provide standard products of types that have been produced and used successfully in similar situations on other projects.
- D. Owner has the right to reject Products with Manufacturer's Warranties that are in conflict with requirements of the Contract Documents.
- E. Products required to be supplied in quantity must be interchangeable.

**ARTICLE III – EXECUTION (Not Used)**

**ARTICLE IV – FORMS (Not Used)**

**END OF DOCUMENT 01 6000**

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**DOCUMENT 01 6300**

**PRODUCT SUBSTITUTION PROCEDURES**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents
    - c. 1.03 – Definitions (Not Used)
    - d. 1.04 – General
    - e. 1.05 – Submission Requirements
    - f. 1.06 – Owner's Action
  - 2. Article II – Products
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms
    - a. Form 016300-F1 (Substitution Request Form)

**1.02. Related Documents (Not Used)**

**1.03. Definitions (Not Used)**

**1.04. General**

- A. Owner's Authorized Representative will consider proposals for Substitution of a service, product, material, process or article at his or her discretion, only when such proposals are:
  - 1. Submitted within the time periods stated in the Contract Documents.
  - 2. Accompanied by full and complete technical data.
  - 3. All supporting information requested by Owner's Authorized Representative to substantiate or prove quality, delivery time, and cost are submitted
  - 4. Substitution request is accompanied by Substitution Request Form (Form 01 6300-F1) at the end of this Document 01 6300 (Product Substitution Procedures), properly completed by Contractor, and properly certified by the Contractor's Authorized Representative. If the Substitution request is a pass through request from a Subcontractor, both Contractor's Authorized Representative and an officer of the Subcontractor must certify the Substitution requests.
- B. The burden of proof as to the equality of any service, product, material, process or article Contractor proposes for Substitution rests with Contractor.
- C. The Contractor must not order substitute services, products, materials, or articles without prior written acceptance of the Substitution by Owner's Authorized Representative.
- D. The Owner has the right to reject proposals due to insufficient information.
- E. Contractor must certify that proposed Substitution meets or exceed all the requirements of the Contract Documents.
- F. Contractor must assume responsibility for Owner's additional costs related to the redesign and/or modifications to any parts of the Work and/or Contract Documents caused by the Substitutions.
- G. Contractor's Substitution requests that do not comply with the requirements of the Contract Documents may be returned to Contractor without review.
- H. If Contractor's Substitution request is returned without review or returned rejected, Contractor must furnish the originally specified items

**1.05. Submission Requirements**

- A. Submit three (3) paper copies and an electronic copy via flash drive of each request for Substitution including completed and signed Substitution Request Form 01 6300-F1, furnished at the end of this Document 01 6300 (Product Substitution Procedures).



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- B. Identify product or fabrication or installation method to be replaced including specification Section number and title and Drawing numbers and titles.
- C. Submit the following documentation:
  - 1. Statement indicating why specified material or product cannot be provided.
  - 2. Coordination information including:
    - a. A list of changes or modifications needed to other parts of the Work that are necessary to accommodate proposed Substitution.
    - b. A list of changes or modifications to work performed by Owner and/or separate contractors that are necessary to accommodate proposed Substitution.
  - 3. Detailed comparison including:
    - a. Comparison of significant qualities of proposed Substitution with those of the Work specified. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
  - 4. Drawings to same (or larger) scale and specifications as pertinent portions of Contract Documents, marked to show:
    - a. How differences will be accommodated.
    - b. Complete system/assembly as revised.
    - c. Difference(s) in size, configuration, connections, service, accessibility, or any other significant characteristics.
  - 5. Contractor must show complete layout of system unless it is identical to the layout shown in the Contract Documents. Show unchanged portion to indicate clearances, etc. relative to changed portion.
  - 6. Wherever applicable, include complete detail drawings of supports for all Substitute equipment and complete load calculations for adequacy of support prepared and signed by a California Registered Engineer.
  - 7. Product Data, including drawings, descriptions of Products, specifications and fabrication and installation procedures.
  - 8. Samples, where applicable or requested.
  - 9. List of similar installations for completed projects with project names and addresses and names and addresses of Architects and Owners.
  - 10. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
  - 11. Research/evaluation reports evidencing compliance with building codes in effect for Project from a model code organization acceptable to authorities having jurisdiction.
  - 12. Evidence that proposed product provides specified Warranty.
  - 13. Cost information, including a proposal of change, if any, in the Contract Sum.
- D. Submit a detailed comparison of Contractor's Progress Schedule with and without using proposed Substitution showing effect on the Contract Time(s).
- E. If specified product cannot be provided within the Contract Time(s), include letter from Manufacturer, on Manufacturer's letterhead, stating the reason(s) for the lack of availability or delays in delivery.
- F. Provide Contractor's certification that proposed Substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
- G. Provide Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed Substitution to produce indicated results.

**1.06. Owner's Action**

- A. If necessary, Owner will request additional information or documentation within fourteen (14) Days of receipt of a request for Substitution.
- B. Owner will notify Contractor of acceptance or rejection of proposed substitution within twenty-one (21) Days of receipt of request, or seven (7) Days of receipt of additional information or documentation, whichever is later.

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**ARTICLE II – PRODUCTS (NOT USED)**

**ARTICLE III – EXECUTION (NOT USED)**

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**ARTICLE IV – FORMS**

**FORM 01 6300-F1**

**“SUBSTITUTION REQUEST FORM”**

All Substitution requests must be accompanied by the following form, completed by the Contractor, and properly certified.

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PROJECT: \_\_\_\_\_  
OWNER'S PROJECT NUMBER: \_\_\_\_\_  
TO: \_\_\_\_\_  
FROM: \_\_\_\_\_ DATE: \_\_\_\_\_  
RE: \_\_\_\_\_  
SPECIFICATION TITLE: \_\_\_\_\_  
DESCRIPTION: \_\_\_\_\_  
SECTION: \_\_\_\_\_ PAGE: \_\_\_\_\_ DOCUMENT/PARAGRAPH: \_\_\_\_\_

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PROPOSED SUBSTITUTION: \_\_\_\_\_  
MANUFACTURER: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
TRADE NAME: \_\_\_\_\_ MODEL NUMBER: \_\_\_\_\_  
INSTALLER: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
PHONE: \_\_\_\_\_

HISTORY:   ☐ New Product   ☐ 2-5 Years Old   ☐ 5-10 Years Old   ☐ More Than 10 Years Old

**SIMILAR INSTALLATION:**

Project: \_\_\_\_\_ Architect: \_\_\_\_\_  
Address: \_\_\_\_\_ Owner: \_\_\_\_\_  
Date Installed: \_\_\_\_\_  
Differences between proposed substitution and specified product: \_\_\_\_\_

Required point-by-point comparative data attached.      ☐ Yes      ☐ No

The supporting data attached consists of ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other

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Proposed substitution affects other parts of Work: ☐ No ☐ If Yes, please explain: \_\_\_\_\_

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Reason for not providing specified item: \_\_\_\_\_

☐ Savings    ☐ Cost    to Owner for accepting substitution:                      \$ \_\_\_\_\_

Proposed Substitution changes Contract Time.    ☐ No    ☐ Yes    \_\_\_\_\_ Days

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**THE UNDERSIGNED CERTIFIES:**

1. Proposed Substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
2. Same Warranty will be provided for proposed Substitution as for specified product.
3. Same maintenance service and source of replacement parts, as applicable, is available.
4. Proposed Substitution will have no adverse effect on other trades and will not affect or delay progress as indicated on the current version of the Official Progress Schedule.
5. Cost and time data as stated above is complete and accurate
6. Contractor and, if applicable, Subcontractor waives right to Claim for additional costs and time related to accepted Substitution, which may subsequently become apparent.
7. Proposed Substitution does not affect dimensions and functional clearances.
8. Coordination, installation, and changes in the Work as necessary for accepted Substitution have been or will be performed in all respects.

**Contractor's Certification:**

Submitted by: \_\_\_\_\_ Signed by: \_\_\_\_\_

Firm: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

**Subcontractor's Certification:**

Submitted by: \_\_\_\_\_ Signed by: \_\_\_\_\_

Firm: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

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List Attachments:

- 1.
- 2.

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**DESIGNER OF RECORD REVIEW AND ACTION**

Substitution Recommended - Make Submittals in accordance with Section 01 3300, "Submittals".

Substitution Recommended as Noted - Make submittals in accordance with Section 01 3300, (Submittals).

Substitution Rejected - Use specified Products.

Substitution Request Received too late - Use specified Products.

Signed by: \_\_\_\_\_ Date: \_\_\_\_\_

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ Architect \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

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**OWNER ACCEPTANCE**

Substitution Accepted - Make submittals in accordance with Section 01 3300, "Submittals".

Substitution Accepted as Noted - Make submittals in accordance with Section 01 3300, "Submittals".

Substitution Rejected - Use specified Products.

Substitution Request Received too late - Use specified Products.

Signed by: \_\_\_\_\_ Date: \_\_\_\_\_

Owner's Authorized Representative

**END OF DOCUMENT 01 6300**

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**DOCUMENT 01 6400**

**OWNER FURNISHED OWNER INSTALLED/CONTRACTOR INSTALLED (OFOI/OFCI) ITEMS**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents and Sections
    - c. 1.03 - Definitions
    - d. 1.04 – OFOI/OFCI Manager
    - e. 1.05 - Purchase Orders
    - f. 1.06 – OFOI/OFCI Delivery Schedule
    - g. 1.07 - Shipment Delivery
    - h. 1.08 - Equipment Receiving Log
    - i. 1.09 - Storage
    - j. 1.10 - Inspection of Records
    - k. 1.11 - Damaged Merchandise
  - 2. Article II – Products
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms
    - a. SAMPLE FORM 016400-F1, “OFCI DELIVERY SCHEDULE”

**1.02. Related Documents and Sections (Not Used)**

**1.03. Definitions**

- A. **OFOI** – Owner Furnished Owner Installed
- B. **OFCI** – Owner Furnished Contractor Installed
- C. **OFOI/OFCI Coordination** – Contractor is responsible to assign staff to support coordination with the Owner for managing all OFOI/OFCI items.
- D. **OFOI/OFCI Delivery Schedule** – The OFOI/OFCI Delivery Schedule prepared by the Contractor and submitted to the Owner in the format indicated in SAMPLE FORM 016400-F1 at the end of Section 01 6400.

**1.04. OFOI/OFCI Coordination**

- A. Prior to starting Work, OFOI/OFCI Coordination responsibility includes the following:
  - 1. Furnishing information to the Owner's Project Manager on desired delivery dates.
  - 2. Proper receipt and reporting of all shipments received.
  - 3. Proper storage and handling of OFOI/OFCI items at all times.

**1.05. Purchase Orders**

- A. The Owner will furnish copies of purchase orders covering OFOI/OFCI items.
  - 1. The nature of the procurement actions involved prevents the furnishing of a complete set of purchase orders immediately after the start of construction.
  - 2. Purchase Orders will be forwarded to Contractor at the time of issuance to the suppliers.
  - 3. Contractor must retain copies of Owner's Purchase Order(s) for the Contractor's control records.
  - 4. Purchase Orders for items subject to “phased” delivery will be accompanied by appropriate delivery lists.

**1.06. OFOI/OFCI Delivery Schedule**

- A. Contractor shall develop an OFOI/ OFCI Delivery Schedule including description and required delivery dates (see sample Schedule at the end of this Section) for OFOI/OFCI items and reference all related Activity Numbers from the Contractor's CPM Progress Schedule, and

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submit to Owner no later than thirty (30) Days after the start date for the Work identified in the FF&E Notice To Proceed (NTP). Submit three (3) paper copies and corresponding electronic data files to the owner.

- B. This OFOI/OFCI Delivery Schedule must include each piece of OFOI/OFCI equipment.
  - 1. For each item, complete the two dates required from the Contractor:
    - a. "Delivery No Earlier Than" date
    - b. "Delivery No Later Than" date.
- C. Contractor must add PO #, date ordered information, and Activity Numbers from the CPM Progress Schedule as the information is provided or becomes available.
- D. This OFOI/OFCI Delivery Schedule must be coordinated with the Owner accepted Official Progress Schedule
- E. Each month, coordinate the OFOI/OFCI Delivery Schedule with the Updated CPM Progress Schedule.
  - 1. Review the equipment delivery schedule not less than once each month to determine whether the construction progress dictates any revisions.
    - a. Notify Owner in writing of any changes found necessary.
    - b. If, at any time, a delivery date for and OFOI/OFCI item is missed, notify Owner immediately.

**1.07. Shipment Delivery**

- A. Upon receipt of a shipment of OFOI/OFCI item(s), the Contractor shall coordinate the following:
  - 1. Count the number of cartons to verify the quantity received corresponds with the freight bill.
    - a. Clearly note any discrepancies on the original freight bill or delivery ticket.
  - 2. Prior to signing for anything, carefully examine the merchandise for obvious damage
    - a. If such damage is observed, refuse the shipment.
    - b. Upon refusal, notify the Owner, and give complete details.
  - 3. Open cartons or uncrate equipment to permit examination prior to departure of the carrier.
    - a. If the size of the shipment makes this impossible, release the driver and inspect the shipment for concealed damage not later than 24 hours after receipt.
    - b. If it is determined concealed damage does exist, contact Owner immediately.

**1.08. Equipment Receiving Log**

- A. Keep an "Equipment Receiving Log," updated at all times, at the Job Site.
- B. The "Equipment Receiving Log" must be in a format furnished or Approved by the Owner.

**1.09. Storage**

- A. Store all OFOI/OFCI items in a secure area either on-site or off-site.
  - 1. The area must be lockable and secure from vandalism or theft.
  - 2. It must be weatherproof and waterproof with adequate ventilation.
  - 3. Provide protection and security of OFOI/OFCI items.
- B. Provide Certificates of Insurance for all off-site storage areas in accordance with the requirements of the Contract Documents.

**1.10. Inspection Of Records**

- A. The Owner may inspect the Owner-furnished equipment records on a periodic basis during construction to assure that the data is maintained in an accurate and current condition.

**1.11. Damaged Merchandise**

- A. Exterior or Visible Damage.
  - 1. If Damage:
    - a. If container received shows no evidence of damage, but upon examination of the contents thereof "concealed damage" is discovered, notify the Owner immediately and request an inspection.
- B. F.O.B. (Freight on Board) Shipping Point.

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1. If the merchandise is damaged Contractor must:
  - a. Request an inspection by the delivery carrier's inspector. Do not destroy the original carton, box, etc.
  - b. Notify the Owner of damaged merchandise and request replacement shipment.
  - c. Submit the following to Owner, Attention: Owner's Project Manager:
    - i. Inspection Report
    - ii. Bill of Lading
    - iii. Invoice
    - iv. Freight Bill or Delivery Ticket
  - d. Hold the damaged merchandise until instructions for its disposition are received from the Owner.
- C. F.O.B. (Freight on Board) Destination.
  1. If the merchandise is damaged and the F.O.B. is "Destination," then the complete and total liability is assumed by the Vendor from the point it is placed in the hands of the common carrier to the point of delivery. It is the Vendor's responsibility to file a claim with the carrier to recover the loss of merchandise damaged.
  2. The Contractor must:
    - a. Request an inspection by the delivery carrier's inspector. Do not destroy the original carton, box, etc.
    - b. Notify the Vendor of damaged merchandise and obtain authorization from Owner and replace shipment.
    - c. Hold damaged merchandise until instructions for disposition are received from the Vendor.
    - d. Send the following original documents to the Vendor to assist in filing claim with carrier, retaining a copy for Contractor's records:
      - i. Inspection Report
      - ii. Bill of Lading
      - iii. Freight Bill or Delivery Ticket

**ARTICLE II – PRODUCTS (NOT USED)**

**ARTICLE III – EXECUTION (NOT USED)**

**ARTICLE IV – FORMS**



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**OFOI/OFCI DELIVERY SCHEDULE  
[SAMPLE FORM 016400-F1]**

<u>ORDERED</u>		<u>DESCRIPTION</u>	<u>DELIVERY</u>	
PO #	Date	<u>Include the Activity Number from Official Progress Schedule</u>	No Earlier Than	No Later Than

Note #1: Requires Field Measurements

**END OF DOCUMENT 01 6400**

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**DOCUMENT 01 7250**

**SURVEYING AND FIELD ENGINEERING**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents and Sections
    - c. 1.03 – Definitions
    - d. 1.04 – Field Layout
    - e. 1.05 – Locations and Elevations in the Contract Drawings
    - f. 1.06 – Survey and Site Work
    - g. 1.07 – Underground Infrastructure, Utilities & Other Facilities
    - h. 1.08 – Penetrations
    - i. 1.09 – Quality Assurance
    - j. 1.10 – Submittals
  - 2. Article II – Products
    - a. 2.01 - Equipment
  - 3. Article III – Execution
    - a. 3.01 - Survey
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents and Sections (Not Used)**

**1.03. Definitions**

- A. As used in this Section 01 7250, “Surveying and Field Engineering”, the following definitions apply:
  - 1. Approximate Location of Subsurface Installations – A strip of land not more than 24 inches on either side of the exterior surface of an Existing Subsurface Installation.
  - 2. Existing Subsurface Installation - Any existing underground pipeline, conduit, duct, wire, or other structure.
  - 3. Rearranged - Rearrangement includes relocation, removal, alteration or installation.

**1.04. Field Layout**

- A. Contractor is responsible for all investigations, coordination, techniques and determinations as may be necessary to properly fit, Install and complete the Work.
- B. Data and information shown and indicated in the Contract Documents are as accurate as could be obtained but are not guaranteed.
- C. Contractor must, before beginning any Work, compare actual Project Site conditions with the requirements of the Contract Documents, and verify all existing conditions and dimensions.
- D. Verifications.
  - 1. As a minimum, Contractor must perform the following verifications:
    - a. Field & Site Conditions
      - i. Contractor must carefully examine and compare all the Contract Documents relating to the Work with actual field conditions, so that all Work will be accommodated in the spaces provided. The general arrangement and location of the elements of the various systems are shown on the Drawings or specified. Final locations, levels, etc., are governed by actual material sizes used, by conditions encountered, and by the sequence in which the Work is performed.
      - ii. Space conflicts and interferences must be resolved before any Work is installed.
  - 2. Dimensions.
    - a. Contractor, prior to performing any Work and as a part of the construction layout procedures, must check and verify all dimensions for accuracy, closing and clarity, and must immediately report any discrepancies to Owner for resolution before proceeding.

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- b. No measurements shall be scaled from Drawings. Only dimensions appearing on Drawings will be used.
  - c. Where manufacturer's diagrams, Shop Drawings, etc. give specific measurements of rough-in dimensions for materials or equipment and these dimensions are in conflict with dimensions indicated on Drawings, Contractor must immediately request clarifications from Owner.
  - d. In case of apparent error, discrepancy, omission, conflict, or obscurity in the Contract Documents, or discrepant conditions encountered at the Project Site or between Submittals, Contractor must immediately refer the matter to Owner for interpretation and/or clarification.
- E. Contractor must Provide necessary lines, levels, locations, measurements and markers for all on the Work and be responsible for their accuracy.
- F. On building structures, Contractor must lay out on forms, walls, floors, and columns, the exact location of partitions as a guide to all trades.

**1.05. Locations and Elevations in the Contract Drawings**

- A. Property lines, location lines, and elevations of components of the Work are shown on the Contract Drawings.
- B. Grade elevations shown for various parts of the Work are taken from a bench mark shown on the Contract Drawings, or if not shown, will be designated by the Owner in writing before starting Work.

**1.06. Survey and Site Work**

- A. Contractor must perform all survey and site Work necessary to locate and layout the construction in plan and elevation.
- B. Contractor must set all stakes and marks necessary to establish the lines and grades required for the Project, and perform all survey work to layout all Work including batter boards, roads, parking lots, site utilities, and control lines.
- C. Contractor must protect and maintain marks, lines, benchmarks, monuments, etc. which have previously been installed and/or are required for construction and inspection purposes. Monuments or stakes that are disturbed or destroyed due to Contractor's negligence or failure to pursue the Work diligently must be re-established at Contractor's expense.

**1.07. Underground Infrastructure, Utilities & Other Facilities**

- A. Attention is directed to California Government Code § 4215 and § 4216 concerning protection of underground infrastructure in public contracts.
- B. Contractor must ascertain the exact location of all underground and concealed facilities in the Project area prior to doing any work that may damage such facilities or interfere with their service. As a minimum, at least forty-eight (48) hours before any such work is planned, Contractor must have a locating service survey the area. When shown on the Drawings, the locations of Existing Subsurface Installations are the Approximate Location of Subsurface Installations, and the accuracy or completeness of this information is not guaranteed. There may be Existing Subsurface Installations not known to Owner or located differently than indicated in the Contract Documents.
- C. Contractor shall perform any pot-holing, scanning or other investigational equipment necessary to confirm the exact location of known utility runs.
- D. Contractor must protect from damage, utilities and any other Existing Subsurface Installations that are to remain in place, be relocated, or otherwise Rearranged. As used herein, rearrangement includes relocation, removal, alteration or installation.
- E. If Contractor discovers underground facilities not indicated in the Contract Documents, Contractor must immediately notify Owner in writing. Contractor must not disturb, disconnect or damage any existing facilities, unless specifically indicated in the Contract Documents to be relocated, removed, or otherwise revised. Should Contractor disturb, disconnect, or damage any existing facilities or utilities, Contractor will bear all expenses of whatever nature arising from such disturbance or the replacement or repair thereof.

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- F. The right is reserved to the owners of facilities or their authorized agents, to enter the Project with Owner's approval to make such changes as are necessary to rearrange their facilities or to make necessary corrections or repairs to their properties. Contractor must cooperate with forces engaged in such work and must conduct operations in such a manner as to avoid any unnecessary delay or hindrance to the work being performed by such other forces.
- G. Contractor must obtain authorization from the utility involved and notify Owner at least 72 hours in advance, when it is necessary to interrupt any existing utility service to make connections. Interruption in utility service must be of the shortest possible duration for the Work at hand and must be Approved in advance by Owner.
- H. Where rearrangement of facilities is necessary, Contractor must coordinate its Work with such rearrangement, and Contractor must make all arrangements with the owner of such facilities for such coordination.
- I. When ordered by Owner in writing, Contractor will rearrange any facility necessary to accomplish the Project and such work will be paid for as extra Work if it is not indicated in, or cannot reasonably be inferred from, the Contract Documents.
- J. If Contractor desires to rearrange any utility or facility for its convenience in order to facilitate its construction operations, and if such rearrangement is in addition to, or different from any rearrangements indicated in the Contract Documents, Contractor must make all necessary arrangements with Owner and the owners of such utility or facility for such rearrangement and bear all expenses in connection therewith.
- K. Where Owner determines that rearrangement of a utility or facility, the existence of which is not shown in the Contract Documents, is essential to accommodate the Project, Owner may rearrange such utility or facility by other forces.
- L. Per Government Code § 4215, Contractor will not be assessed Liquidated Damages for any delay in completing the Project when such delay is caused by the failure of a utility owner or the County to remove or relocate existing utilities that were the responsibility of the utility owner or County to remove or relocate.

**1.08. Penetrations**

- A. Contractor is responsible for all penetrations through walls, floors, beams, joists and other structural and non-structural elements of the Work for passage of pipes, conduits, ducts or other devices.
- B. Contractor is responsible for coordinating all penetrations and securing Owner's approval for locations of all penetrations through structural floors, walls and supporting members.
- C. Owner will provide results of special inspection to locate reinforcing bars or imbedded items within concrete or masonry walls, floors, columns or beams.

**1.09. Quality Assurance**

- A. Surveys must be performed under the direction and with the review of a land surveyor licensed in the State of California.
- B. All survey documentation must be signed and stamped by the licensed Land Surveyor in responsible charge of the work.
- C. The Contractor must review all information to ensure it is technically accurate and complies with the requirements of this Document 01 7250 (Surveying and Field Engineering), before providing to the Owner.

**1.10. Submittals**

- A. Prior to performing any survey Work, submit three (3) paper copies and an electronic copy to the Owner of the qualifications of the California Licensed land surveyor.
- B. Contractor must submit three (3) paper copies and an electronic copy to the Owner of Contractor's survey records to the Owner as part of the Record Set at the Substantial Completion of each Project Component.

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**ARTICLE II – PRODUCTS**

**2.01. Equipment**

- A. The Contractor must provide necessary survey equipment and materials to obtain the required locations and elevations to the precision specified.

**ARTICLE III – EXECUTION**

**3.01. Survey**

- A. Elevation surveys must be referenced to the County of San Mateo datum, and must be performed to within one one-hundredth (0.01) of a foot (ft.), unless otherwise specified.
- B. Location surveys must be referenced to the baseline and survey control points shown on the Contract Drawings. Locations must be provided to within one one-hundredth (0.01) of a foot (ft.), unless otherwise specified.
- C. The Contractor's survey records must be made available and/or submitted to the Owner when requested by Owner.

**ARTICLE IV – FORMS (NOT USED)**

**END OF DOCUMENT 01 7250**

**DOCUMENT 01 7310**

**CUTTING AND PATCHING**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents And Sections
    - c. 1.03 - Definitions
    - d. 1.04 - General
    - e. 1.05 - Interface with work of Others
    - f. 1.06 - Submittals
    - g. 1.07 - Quality Control
  - 2. Article II – Products
    - a. 2.01 - Materials
  - 3. Article III – Execution
    - a. 3.01 - Examination
    - b. 3.02 - Preparation
    - c. 3.03 - Cutting
    - d. 3.04 - Patching
    - e. 3.05 - Performance
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents And Sections (Not Used)**

**1.03. Definitions**

- A. Cutting-and-patching. Includes, but is not necessarily limited to, demolition and repair of nominally completed and previously existing work in order to accommodate coordination of Work, installation of Work, uncovering Work for access or inspection, and to obtain samples for testing or similar purposes. It also includes integral cutting and patching during manufacturing, fabricating, erecting, and installing processes for individual items of the Work.
- B. Hot Work. Hot work includes any operations capable of initiating fires or explosions, including cutting, welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, sparking tools, or any other similar activity.

**1.04. General**

- A. Contractor is responsible for all cutting, fitting, or patching required to complete the Work and to make its parts fit together properly.
- B. Contractor must rework and patch to match existing surfaces at removed or demolished items.
- C. Patching must achieve security, strength, and weather protection, and must preserve continuity of existing fire ratings.
- D. Patching must successfully duplicate undisturbed adjacent finishes, colors, textures, and profiles. Where there is disagreement as to whether duplication is successful or has been achieved to a reasonable degree, the Owner's judgment shall be final.

**1.05. Interface With Work Of Others**

- A. The Contractor is responsible for any and all cutting, fitting and patching required to join its Work with the work of others, except as otherwise specifically stated for in the Contract Documents.
- B. Contractor must not cut or otherwise alter the work of Owner or any separate contractor except with the written consent of Owner and such separate contractor.

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- C. Contractor must include interface flags in their Progress Schedule indicating points of interface of its Work with the work of others.

**1.06. Submittals**

- A. Comply with requirements of Document 01 3300.
- B. Submit written request to Owner in advance of cutting or alteration that affects:
1. Structural integrity of any element of Project.
  2. Integrity of weather exposed or moisture resistant element.
  3. Efficiency, maintenance, or safety of any operational element.
  4. Visual qualities of sight exposed elements.
  5. Work of Owner or separate contractor.
  6. Include in request:
    - a. Identification of Project.
    - b. Location and description of affected work.
    - c. Necessity for cutting or alteration.
    - d. Description of proposed Work and Products to be used.
    - e. Method for keeping existing utilities in service.
    - f. Alternatives to cutting and patching.
    - g. Date and time the Work will be executed.
    - h. Anticipated results in terms of variations from originally completed Work.
    - i. Where applicable include a description of circumstances which led to need for cutting and patching.
- A. Review by Owner or Design Professional prior to proceeding with proposed cutting-and-patching does not negate Owner's right to later require complete removal and replacement of Work found to be cut and patched in an unsatisfactory manner.
- B. Where cutting and patching involves addition of reinforcement to structural elements, obtain details and engineering calculations prepared by California Registered Structural Engineer indicating how reinforcement is to be integrated with the original structure.
- C. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out of service. Indicate how long utility service will be disrupted.

**1.07. Quality Control**

- A. Requirements for Structural Work.
1. Do not cut and patch structural Work in manner resulting in reduction of load-carrying capacity or load/deflection ratio.
  2. Obtain Owner's written acceptance of Submittal before proceeding with cutting and patching of structural steel, structural concrete, foundation construction, basement or retaining walls, curtain walls, pressurized piping, vessels, and equipment.
- B. Operational and Safety Limitations.
1. Do not cut and patch operational elements or safety-related components in manner resulting in reduction of capacities to perform as intended or resulting in decreased operational life, increased maintenance, or decreased safety.
  2. Obtain Owner's acceptance of Submittal before proceeding with cutting and patching primary operational systems and equipment; water, moisture, vapor, air, or smoke barriers; membranes and flashings; noise and vibration control elements and systems; control, communication, conveying, and electrical wiring systems; and similar categories.

**ARTICLE II – PRODUCTS**

**2.01. Materials**

- A. For replacement of Work removed, use only materials that comply with the pertinent requirements of the Contract Documents. (Those required and accepted for original installation.)
- B. For any proposed change in materials, Submit request for Substitution as described in Section 01 6300, (Product Substitution Procedures).

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**ARTICLE III – EXECUTION**

**3.01. Examination**

- A. Examine existing conditions prior to commencing Work, including elements subject to damage or movement during fitting, cutting and patching.
- B. After uncovering existing Work, assess conditions affecting performance of work.

**3.02. Preparation**

- A. Provide temporary supports to ensure structural integrity of the Work.
- B. If Hot Work is involved, comply with the requirements of Document 01 5000.1.08.O, (Hot Work).
- C. Provide devices and methods to protect other portions of Project from damage.
- D. Provide protection from elements for areas that may be exposed by uncovering work.
- E. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- F. Except as otherwise indicated, proceed with cutting and patching at earliest feasible time in each instance, and perform work promptly.
- G. Post required permits.

**3.03. Cutting**

- A. Cut by methods least likely to damage retained and adjoining Work.
- B. Review proposed procedure with original installer where possible, and comply with installer's recommendations.
- C. Uncover work to install improperly sequenced work.
- D. Remove and replace defective or non-conforming work.
- E. Remove samples of installed work for testing when requested.
- F. Provide openings in the Work for penetration of mechanical and electrical work.
- G. Employ original installer or fabricator where possible to perform cutting for:
  - 1. Weather exposed and moisture resistant elements; or
  - 2. Visually exposed surfaces.
- H. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- I. Comply with requirements of The Civil Drawings, where cutting and patching requires excavating and backfilling.

**3.04. Patching**

- A. Execute patching to complement adjacent Work.
- B. Fit Products together to integrate with other Work.
- C. Avoid damage to other Work and provide appropriate surfaces to receive patching and finishing.
- D. Employ original installer where possible to perform patching for weather exposed and moisture resistant elements, and visually exposed surfaces.
- E. Restore patched areas with new Products in accordance with requirements of Contract Documents.
- F. Fit patches tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

**3.05. Performance**

- A. Performing cutting or patching operations means acceptance of existing conditions by Contractor.
- B. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
- C. By-pass utility services such as pipe or conduit, before cutting, where services are required to be removed, relocated or abandoned.
  - 1. Remove pipe or conduit in walls to be relocated, abandoned or removed.
  - 2. Cap, valve or plug, and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and removing.
- D. Where feasible, inspect and test patched areas to demonstrate integrity of installation.
- E. Remove and replace Work judged by Designer of Record to be visually unsatisfactory.



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- F. Perform cutting, fitting and patching in a manner to prevent damage to Contractor's Work and work by others and to provide proper surfaces for the installation of materials, equipment, and repairs.
- G. Do not cut nor alter structural members without prior written acceptance of Owner.
- H. Adjust and fit Products to provide a neat installation.
- I. Refinish cut and patched surfaces to match adjacent finish.
  - 1. For continuous surfaces, refinish to nearest intersection or natural break.
  - 2. For an assembly, refinish entire assembly.
- J. Over patched wall or ceiling surfaces, refinish to nearest cut-off line for entire surface, such as intersection with adjacent wall or ceiling, beam, pilasters, or to nearest opening frame, unless otherwise indicated.
- K. Refinished surfaces must not present a spotty, touched-up appearance.

**ARTICLE IV – FORMS (NOT USED)**

**END OF DOCUMENT 01 7310**

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**SECTION 01 7400  
CLEANING**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Section includes:
  - 1. Article I – General
    - a. 1.01 – Summary
    - b. 1.02 – Related Documents and Sections
    - c. 1.03 – Definitions
    - d. 1.04 - General Cleanup Responsibility
    - e. 1.05 - Immediate Cleanup Activities
    - f. 1.06 - Daily Cleanup Activities
    - g. 1.07 - Weekly Cleanup Activities
    - h. 1.08 - Owner's Right to Cleanup
    - i. 1.09 - Storage and Disposal
    - j. 1.10 - Sand Blasting
    - k. 1.11 - Final Cleaning
  - 2. Article II – Products (Not Used)
  - 3. Article III – Execution (Not Used)
  - 4. Article IV – Forms (Not Used)

**1.02. Related Documents and Sections (Not Used)**

**1.03. Definitions (Not Used)**

**1.04. General Cleanup Responsibility**

- A. Contractor must keep the Work areas, Project Site, and surrounding areas free from waste materials, debris, and/or trash and rubbish caused by its operations on a daily basis.
- B. In addition to trash and rubbish generated by Contractor's operations, Contractor must keep the Work areas, Project Site, and surrounding areas free from trash and rubbish from any source that accumulates within the Work areas or Project Site or any other area designated by the Owner for use by Contractor on a daily basis.
- C. The Contractor must keep all surface areas (i.e., inside buildings, site roads, off-site streets, and parking areas) clear of dirt, mud, and debris and must clean such surfaces as required, as needed, or as Directed by the Owner's Project Manager.
- D. Contractor's and Subcontractors' tools, scaffolding and surplus materials must be neatly stored in designated storage areas when not in use.
- E. Contractor must maintain the Project Site in a neat and orderly condition at all times.
- F. Comply with Owner's policy regarding infection control at all times.

**1.05. Immediate Cleanup Activities**

- A. Properly dispose of packaging materials and clean surrounding areas of packing debris immediately after unpacking of Products, materials, equipment, or other packaged items.
- B. Dispose of waste materials and clean surrounding areas used for worker breaks and lunch immediately after worker break or lunch. Contractor must provide trash receptacles in break and lunch areas.
- C. Contractor must immediately remove any spillage, dirt and mud, and/or debris resulting from Contractor's hauling or other operations along or across any public traveled way or public area.
- D. Remove debris and rubbish from pipe chases, plenums, down spouts, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- E. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust on a continuous basis.

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**1.06. Daily Cleanup Activities**

- A. Cardboard, packing material, and similar combustible debris must not be accumulated within buildings and such debris, rubbish and waste material must be removed from buildings on a daily basis.
- B. Contractor must leave Work areas “broom clean”, or its equivalent, on a daily basis.
- C. Contractor must remove (pick up and place in trash receptacles) rubbish from and about areas of Work and the Project Site on a daily basis.
- D. Contractor must clean the Project Site entrance area(s) of mud, dirt, displaced gravel, and rubbish each day and on a continuous basis.

**1.07. Weekly Cleanup Activities**

- A. Remove rubbish (pick up and place in trash receptacles) from and about the Project Construction Fencing line. This includes areas both inside and outside of the Project Site along the Temporary and Construction Fencing and/or permanent perimeter fence line.
- B. Place concrete debris in designated areas or remove from Project Site.
- C. Stack unused shipping pallets in designated areas or remove from Project Site. Wood pallets are not permitted.
- D. Repair, replace, or remove damaged and/or torn plastic sheeting used to protect stored materials, Products or Work.
- E. Empty all trash receptacles
- F. Remove accumulated waste from the Project Site and dispose of in a proper and lawful manner.
- G. Organize and clean storage areas

**1.08. Owner’s Right to Clean Up**

- A. Deficient cleaning or disposal operations, as determined by the Owner’s Project Manager, must be immediately corrected by Contractor.
- B. After proper written notice, in cases where Contractor does not correct deficient cleaning or disposal operations, Owner may remove or cause to have removed waste materials, debris, and/or trash and rubbish, etc., and reduce the Contract Sum by the cost thereof.
- C. If a disagreement arises between the Contractor and other separate contractors performing work at or adjacent to the Project Site, as to the responsibility pursuant to their respective contracts for maintaining the Project Site and surrounding areas free from waste materials, debris, and/or trash and rubbish, Owner may clean up or cause to be cleaned up the waste materials, debris, and/or trash and rubbish and allocate the costs among those responsible, and reduce the Contract Sum by Contractor’s proportionate share of the cost thereof.

**1.09. Storage and Disposal**

- A. Storage.
  - 1. Waste materials, trash, and rubbish must be removed in covered containers and cannot be stored.
  - 2. Storage containers must not be allowed to overflow due to excessive waste materials, trash, and rubbish being placed in the storage container.
  - 3. Storage container lids must be unobstructed by waste materials, trash, and rubbish when they are in the closed position.
  - 4. Storage container lids must be closed at all times except when waste materials, trash, and rubbish are being placed into or removed from the storage container.
  - 5. Recyclable materials must be segregated before storage and stored in separate containers or areas.
- B. Disposal.
  - 1. Under no circumstances shall rubbish or waste material be disposed of in fills or backfills on the Project Site.
  - 2. Contractor is responsible for making all arrangements and paying all costs for disposal of waste materials, debris, and/or trash and rubbish.
  - 3. Waste materials, debris, and/or trash and rubbish, must be removed from the work area on a daily basis.

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4. When any material is to be disposed of outside the Project area, at other than a public disposal or recycling facility, Contractor must first obtain a written permit from the property owner of the proposed disposal site, and furnish Owner said permit or a certified copy thereof together with a written release from the property owner absolving Owner from any and all responsibility in connection with the disposal of said material on said site.
5. Before any material is disposed of on said site, Contractor must obtain written permission from the Owner to dispose of the material at the location designated in said permit.
6. Disposal of Hazardous Materials must comply with all legal requirements, including but not limited to containerization, labeling, manifesting, transportation, disposal site, and use of properly trained personnel.
7. Contractor must submit two (2) copies of all Hazardous Waste Manifests signed by Toxic Substances Disposal Facilities ("TSDF's") and certificates of disposal at Substantial Completion of each Project Component to prove that Contractor has legally disposed of such materials.
8. Contractor must separate and recycle the following waste material types in accordance with Contractors Solid Waste Management Plan (see Document 015150, "Solid Waste Management and Recycling Plan").
  - a. Concrete
  - b. Metal
    - i. Ferrous
    - ii. Non-ferrous
  - c. Wood
  - d. Debris
  - e. Glass
  - f. Paper
    - i. Bond
    - ii. Newsprint
    - iii. Cardboard and paper packaging materials
  - g. Others as appropriate

**1.10. Sand Blasting**

- A. Sand blasting shall be only used upon receipt of written permission of the Project Manager.
- B. Perform sand blasting by experienced mechanics using sound modulated power machinery designed for this use.
  1. Comply with all applicable regulatory agencies.
  2. Use blasting aggregate uniformly graded, free from all animal or vegetable material, and not larger than No. 30 grit.
  3. Air compressor must be capable of providing air at a pressure of 100-110 pounds at 210-300 cfm. Use blast nozzle of 5/16-inch orifice.
- C. Operation.
  1. Sand blast by the "flash" method.
  2. Pass continuously over the surface, to provide a uniform cutting of the surface, without pitting or excessive erosion of the base material.
  3. Exercise care to prevent corners or sharp edges from being broken or unduly rounded.
  4. Used aggregate must not be reused.
  5. Protect installed work of others from damage by blast, rebound, or used aggregate.
  6. Cover and protect mechanical work, air intakes, and similar items, as well as finished surfaces.
- D. Replace damaged work.
- E. Secure and pay for necessary permits required by state and local authorities having jurisdiction.

**1.11. Final Cleaning**

- A. Project Component Substantial Completion Certification(s).

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1. Contractor must, before requesting a Preliminary Walk-Through Inspection for Substantial Completion of each Project Component, perform a preliminary Cleaning of all Work areas associated with the Milestone.
- B. Project Component Final Completion Certification.
  1. Contractor must, before requesting a Preliminary Walk-Through Inspection for Final Inspection of the entire Work of the Project, perform a Final Cleaning of all Work areas and the Project Site.
- C. Final Cleaning Requirements.
  1. General.
    - a. Cleaning for specific items of Work as specified
    - b. Comply with manufacturer's instructions for cleaning operations.
    - c. Clean interior and exterior surfaces exposed to view
    - d. Remove labels that are not required as permanent labels.
    - e. Dust, dirt, stains, hand marks, paint spots, and like defects must be completely removed from surfaces.
    - f. Metal surfaces must be cleaned, using only non-corrosive and non-abrasive materials.
    - g. Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
  2. Transparent Surfaces.
    - a. Clean all glass, interior and exterior, affected by Work of this Project; including removal of foreign material from glass.
    - b. Polish transparent and glossy surfaces
    - c. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances that are noticeable as vision-obscuring materials.
    - d. Replace broken glass and damaged transparent materials.
  3. Soft Surfaces.
    - a. Vacuum carpeted surfaces.
    - b. Vacuum all other soft surfaces.
  4. Hard Surfaces.
    - a. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of dust, stains, films, and similar noticeable distracting substances.
    - b. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces.
    - c. Restore reflective surfaces to original reflective condition.
    - d. Clean concrete floors in unoccupied spaces broom clean.
  5. Equipment and Fixtures.
    - a. Clean equipment and fixtures to sanitary condition
    - b. Replace filters on all mechanical and plumbing equipment.
    - c. Mechanically clean the interior of all ductwork and provide certification by a licensed duct cleaning professional.
    - d. Wipe surfaces of equipment and fixtures clean, including elevator equipment and similar equipment
    - e. Remove excess lubrication and other substances.
    - f. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.
    - g. Clean food service equipment to a condition of sanitation ready and acceptable for intended food service use (if applicable).
  6. Roofs, gutters, downspouts and drainage systems.
    - a. Clean roofs, gutters, downspouts and drainage systems.
  7. Exterior Grounds.
    - a. Clean Project Site (yard and grounds), including landscape development areas, of litter, surplus materials, and foreign substances.
    - b. Sweep and power wash paved areas to clean condition; remove stains, petro-chemical spills, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
  8. Lights and Lamps.

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- a. Clean all light fixtures and lamps to function with full efficiency.

**ARTICLE II – PRODUCTS (NOT USED)**

**ARTICLE III – EXECUTION (NOT USED)**

**ARTICLE IV – FORMS (NOT USED)**

**END OF DOCUMENT 01 7400**

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**DOCUMENT 01 7700  
CLOSEOUT PROCEDURES**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. Document Includes:
  - 1. Description of Contract closeout procedures including:
    - a. Removal of Temporary Construction Facilities
    - b. Substantial Completion
    - c. Final Completion
    - d. Final Cleaning
    - e. Project record documents
    - f. Material, Equipment and Finish Data
    - g. Project Guarantee
    - h. Warranties
    - i. Turn-In
    - j. Fire Inspection Coordination
    - k. Building Inspection Coordination
- B. Related Documents include:
  - a. 00 6301 Guaranty
  - b. 00 7200 General Conditions
  - c. 01 2900 Payment Procedures
  - d. 01 3200 Construction Progress Documentation
  - e. 01 3250 Record Documents (As-Built)
  - f. 01 4600 Testing Laboratory Services
  - g. 01 4500 Quality Control Process
  - h. 01 5000 Temporary Facilities and Controls
  - i. 01 5150 Solid Waste Management and Recycling Plan
  - j. 01 5700 Storm Water Pollution Prevention Plan
  - k. 01 7250 Surveying and Field Engineering
  - l. 01 7400 Cleaning
  - m. 01 7800 Closeout Submittals
  - n. 01 7820 Operation and Maintenance Data
  - o. 01 8200 Demonstration and Training
  - p. 01 9100 Commissioning (To be issued)

**1.02. Removal of Temporary Construction Facilities – at Substantial Completion for each Project Component**

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore permanent facilities used during construction to original condition or better,
- D. Comply with removal requirements of Document 01 5000 (Temporary Facilities and Controls).

**1.03. Substantial Completion – for each Project Component**

- A. When Contractor considers Work or designated portion of the Work as Substantially Complete, submit written notice to Owner Representative and Architect/Engineer, with list of items remaining to be completed or corrected.
- B. Within reasonable time, Owner Representative and/or Architect/Engineer will inspect to determine status of completion.
- C. Should Owner determine that Work is not Substantially Complete, Owner will promptly notify Contractor in writing, listing all defects and omissions.

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- D. Remedy deficiencies and send a second written notice of Substantial Completion. Owner will re-inspect the Work. If deficiencies previously noted are not corrected on reinspection, then Contractor shall pay Owner cost of the reinspection.
- E. When the Owner and Architect are in agreement that Work is Substantially Complete, the Architect will issue a Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified by Owner.
- F. Manufactured units, equipment and systems that require startup must have been completely operational and successfully tested for periods prescribed by Owner before a Certificate of Substantial Completion will be issued.
- G. A punch list examination will be performed upon Substantial Completion. One follow-up review of punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, Contractor will reimburse Owner for costs associated with these visits.

**1.04. Final Completion and Acceptance**

A. Use Before Acceptance.

- 1. Owner has the right to utilize or place into service any item of equipment or other usable portion of the Work before Acceptance of the entire Project. Whenever Owner plans to exercise said right, Owner will notify Contractor in writing, identifying the specific portion or portions of the Work to be so utilized or otherwise placed into service, hereinafter referred to as "Use Before Acceptance".
- 2. Until Owner issues such written notification, Contractor is responsible for all care and maintenance of all items or portions of the Work.
- 3. Upon Owner's issuance of written notice of Use Before Acceptance, Owner accepts responsibility for the protection and maintenance of all such items or portions of the Work described in the written notice, excepting any injury or damage resulting from Contractor's actions or negligence.
- 4. If, by reason of Owner's Use Before Acceptance, the premium for the Contractor's bodily injury and property damage insurance is increased, Owner will reimburse the Contractor for the additional amount necessarily incurred, allocable to the area and the period of Owner's occupancy, up to the Date of Acceptance of the Work.
- 5. Owner's Use Before Acceptance does not constitute Acceptance of the Work, or any portion of the Work, by Owner, nor will it relieve the Contractor of responsibility for correcting defective and/or Deficient Work or materials found at any time before Acceptance of the Work or during the Guarantee period after Owner's Acceptance. However, when the Project includes separate buildings, and one or more of the buildings is entirely occupied by Owner, then upon written request by the Contractor and by written consent from Owner, the Guarantee period on the building entirely occupied by Owner will commence to run from the date of Owner occupancy of such building or buildings.
- 6. Notwithstanding any Use Before Acceptance, Contractor retains full responsibility for fulfillment of all the requirements of the Contract Documents.

B. Contractor's List Of Incomplete Work.

- 1. Near the final completion of each Project Component, but not less than thirty (30) Days prior to anticipated date of Final Inspection, Contractor must conduct a detailed inspection of the Project, and submit three (3) paper copies and an electronic copy on flash drive the list of Incomplete Work with a schedule for final completion thereof to Owner's Project Manager.
- 2. Within fourteen (14) Days after receipt of Contractor's list of Incomplete Work and schedule for final completion, Owner's Project Manager will determine appropriate dates for a Preliminary Walk-Through inspection and the Final Inspection. The Preliminary Walk-Through Inspection and Final Inspection will not be conducted until the entire Work of the Project Component is complete.
- 3. Contractor must include activities showing submission of Contractor's List of Incomplete Work, Preliminary Walk-Through Inspection, and Final Inspection in Contractor's Progress Schedule.

C. Contractor's Certification That All Work Of The Project Is Complete.



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1. When all Work is complete and after the Contractor has performed the final cleaning, Contractor must so certify to Owner's Project Manager and request a Preliminary Walk-Through Inspection.
  2. If the Contract Documents include a Milestone for the completion of the entire Work of the Project, two (2) paper copies and an electronic copy on flash drive to the Owner of the Milestone Completion certification must be submitted concurrently with the Contractor's certification that all the Work of the Project is complete as required by the Contract Documents.
- D. Preliminary Walk-Through Inspection.
1. Within seven (7) days of receipt of Contractor's certification that all Work is complete, Owner's Project Manager/Project Inspector and design team will make a Preliminary Walk-Through Inspection with Contractor to verify that the Project is complete and ready for Final Inspection.
  2. If Owner's Project Manager determines that the Work is not complete, Contractor will be notified in writing. Contractor must complete the Work and re-initiate procedures for another Preliminary Walk-Through Inspection. At Owner's discretion, any costs to Owner for additional Preliminary Walk-through Inspections may be charged to the Contractor.
- E. Final Inspection.
1. The Final Inspection will occur within fourteen (14) days of the Contractor's certification of final completion if the Owner's Project Manager agrees with the Contractor's certification.
  2. If Owner's Project Manager determines the completed Work is deficient, Contractor will be furnished with a Punchlist identifying the observed deficiencies in the completed Work. After all deficiencies have been corrected, Contractor must initiate procedures for another Final Inspection. If Contractor requests more than two (2) Final Inspections, at Owner's discretion, any costs to Owner for additional Final Inspections may be charged to the Contractor.
  3. Contractor's Progress Schedule must include activities for Final Inspection.
- F. Not Used
- G. Acceptance Of The Work.
1. Owner's Acceptance establishes conformity with the Contract except for delays in completion, latent defects, fraud, or such gross errors as amount to fraud, willful misconduct, or gross negligence, and subject to any Guarantee and Warranty, express or implied.
- H. Final Payment.
1. Provided that Owner has received all lien releases and certified payroll records as required by Document 01 2900 (Payment Procedures) and recorded a Notice of Completion, thirty-five (35) Days after the date of recording of the Notice of Completion by the County Recorder, Owner's Project Manager will forward a request for Final Payment for the Work done pursuant to the Contract to the County Controller for payment. Owner will withhold from Final Payment such amounts that are in dispute between Owner and Contractor, amounts subject to offset/setoff, and all other amounts that must be withheld by law (such as Stop Notice sums, incomplete, defective work, etc.).
  2. All estimates and payments made, including the final estimate and payment, are subject to correction and adjustment for clerical errors in the calculations involved in the determination of quantities and payments. Contractor and Owner agree to pay to the other any sum hereby due.
- I. Contractor's Duties and Responsibilities After Acceptance.
1. After Acceptance of the Work by Owner, Contractor is relieved of the duty of maintaining and protecting the entire Work, and Contractor is not required to perform any further Work thereon, except as otherwise required by law or the Contract Documents.
  2. Contractor is relieved of responsibility for injury to persons or property or damage to the Work that occurs after Owner's Acceptance, provided that such injury/damage is not in any way caused by Contractor.
  3. Owner's Acceptance does not relieve Contractor of responsibility for faulty workmanship or materials or of complying with the requirements of Warranties and Guarantees.
- J. Retention Proceeds, Withholding and Disbursement.

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1. Pursuant to California Public Contract Code § 7107, within sixty (60) days after the date of "completion" of the Work, the retention withheld by Owner shall be released, subject to all withholds required and authorized by law including Stop Notice claims and Liquidated Damages (pursuant to California Government Code § 53069.85). In the event of a Dispute between Owner and Contractor, Owner may withhold from the Final Payment an amount not to exceed one hundred fifty percent (150%) of the Disputed amount.
  2. For purposes of release of retention, "completion" means any of the following:
    - a. The occupation, beneficial use, and enjoyment of the entire Work, accompanied by cessation of labor on the work of improvement.
    - b. The Acceptance by Owner of the Work.
    - c. After the commencement of Work, a cessation of labor on the Work for a continuous period of one-hundred (100) Days or more, due to factors beyond Contractor's control.
    - d. After the commencement of Work, a cessation of labor on the Work for a continuous period of thirty (30) Days or more, if Owner records a Notice of Cessation or a Notice of Completion with the County Recorder.
- K. Warranty & Guarantees.
1. Neither the final Acceptance, nor payment, nor any provision in the Contract Documents relieves Contractor of responsibility for faulty materials or workmanship.
  2. Contractor must Guarantee all workmanship and materials for a period of one year, or as specified in the Contract Documents, from and after the Date of Substantial Completion of the Work by Owner. Contractor may also be required to furnish a written Guarantee covering all or certain items of Work for varying periods of time from the Date of Substantial Completion of the Project Component. The Work to be Guaranteed, the form, and the time limit of the Guarantee will be specified in the Contract Documents. Said Guarantee must be signed and submitted to Owner before Acceptance of the Work.
  3. The Guarantee period begins at the Date of Substantial Completion. Contractor must repair or replace all defective Work, together with any other Work affected by the repair or replacement during said Guarantee period without expense whatsoever to Owner.
  4. Approximately thirty (30) days before completion of the entire Work of the Project, Contractor must meet with Owner regarding Warranty/Guarantee requirements. Owner will establish communication procedures for notifying Contractor of Warranty defects, priorities regarding the type of defect, time required for Contractor response, and other details deemed necessary by Owner for execution of the Warranty/Guarantee.
  5. In the event of Contractor's failure to comply with the requirements of any Warranty/Guarantee required by the Contract Documents within three (3) calendar days after being notified in writing, Owner may proceed to have the defects repaired and made good at the expense of Contractor who must pay all costs and charges immediately upon demand.
  6. Contractor agrees to provide Owner with documentation of all product warranties provided by product manufacturer and/or distributor.

**ARTICLE II - PRODUCTS – NOT USED**

**ARTICLE III - EXECUTION – NOT USED**

**END OF DOCUMENT 01 7700**

**DOCUMENT 01 7800**

**CLOSEOUT SUBMITTALS**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Document specifies general, administrative and procedural requirements for Project Record Documents. Contractor shall have complete responsibility for preparation of marked-up and final Record Documents.
- B. Project Record Documents required include:
  - 1. Marked-up copies of Contract Drawings.
  - 2. Marked-up copies of Shop Drawings and Coordination Drawings, including Contractor's design documents and drawings.
  - 3. Newly prepared Drawings.
  - 4. Marked-up copies of Specifications, Addenda and Contract Modifications.
  - 5. Marked-up Project Data submittals.
  - 6. Record Samples.
  - 7. Field records for variable and concealed conditions.
  - 8. Record information on Work that is recorded only schematically.
  - 9. All undelivered photographs.
  - 10. Most up-to-date version of AutoCAD.
  - 11. Quality Control and Training Materials.
  - 12. Final, complete, edited and drafted versions of the above documents, provided in three (3) sets of hard copy and three (3) sets on flash drive.
- C. Specific Project Record Documents requirements that expand requirements of this Document are included in the individual Sections of Divisions 2 through 33.
- D. General Project closeout requirements are included in Document 01 7700 (Closeout Procedures).
- E. Maintenance of Documents and Samples.
  - 1. Store Project Record Documents and samples in the field office apart from Contract Documents used for construction.
  - 2. Not permit Project Record Documents to be used for construction purposes.
  - 3. Maintain Project Record Documents in good order, and in a clean, dry, legible condition.
  - 4. Make documents and samples available at all times for inspection by Owner.
- F. During the construction period, Contractor shall maintain one (1) full-size set of the OSHPD and or other approved construction drawings and one (1) project manual for Contractor's use for recording as-built conditions.

**1.02. Project Record Drawings**

- A. Mark-up Procedure. During the construction period, maintain a set of Contract Drawings, Coordination Drawings and Shop Drawings for Project Record Document purposes. Label each document (on first sheet or page) 'PROJECT RECORD' in two (2.35") in. high printed letters. Keep record documents current. Note: A reference by number to a Contract Modification, RFI, Supplemental Instruction or other such document is not acceptable as sufficient record information on any record document. Do not permanently conceal any Work until required information has been recorded.
  - 1. Mark these Drawings to indicate the actual installation where the installation varies from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
    - a. Dimensional changes to the Drawings.
    - b. Revisions to details shown on the Drawings.
    - c. Depths of various elements of foundation in relation to main floor level or survey datum.

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- d. Horizontal and vertical location of underground duct banks, utilities and appurtenances referenced to permanent surface improvements.
  - e. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
  - f. Establish locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub-outs, invert elevations, and similar items.
  - g. Provide actual numbering of each electrical circuit.
  - h. Field changes of dimension and detail.
  - i. Revisions to routing of piping and conduits.
  - j. Revisions to electrical circuitry.
  - k. Actual equipment locations.
  - l. Duct size and routing.
  - m. Changes made by Contract Modification.
  - n. Details not on original Contract Drawings.
- 2. Mark completely and accurately Project Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
  - 3. Mark Project Record Drawing sets with red erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
  - 4. Mark important additional information that was either shown schematically or omitted from original Drawings.
  - 5. Note Construction Change Directive numbers; alternate numbers; Contract Modification numbers and similar identification.
  - 6. Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings.
    - a. Accurately record information in an understandable and legible drawing technique.
    - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
- B. Preparation of Final Record Drawings. Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with Owner. When authorized, prepare a full set of corrected AutoCAD files and prints of Contract Drawings and Shop Drawings.
- 1. Incorporate changes and additional information previously marked on print sets. Delete, cloud, redraw, and add details and notations where applicable. Identify and date each Drawing; include the printed designation 'PROJECT RECORD DRAWINGS' in a prominent location on each Drawing. Submit AutoCAD files and three (3) sets of prints and one (1) complete set on flash drive disk for review.
  - 2. Refer instances of uncertainty to Owner for resolution.
  - 3. Distribution: Whether or not changes and additional information were recorded, organize and bind original marked-up set of prints that were maintained during the construction period into manageable sets. Bind the set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets. Submit the marked-up Project Record Drawings set to Owner.
- C. Shop Drawings and Samples. Maintain as record documents; legibly annotate Shop Drawings and Samples to record changes.
- D. Incorporate all comments applicable that have been provided after the review(s).

**1.03. Project Record Specifications**

- A. During the construction period, Contractor shall maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.

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1. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, change order work, and information on concealed installation that would be difficult to identify or measure and record later.
  - a. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
  - b. Record the name of the manufacturer, catalog number, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
  - c. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
- B. Upon completion of mark-up, submit Project Record Specifications to Owner for Owner records.

**1.04. Project Record Data**

- A. During the construction period, Contractor shall maintain one (1) copy of each Project Record Product Data submittal for Project Record Document purposes.
  1. Mark Project Record Product Data to indicate the actual product installation where the installation varies from that indicated in Project Record Product Data submitted. Include significant changes in the product delivered to the site, and changes in manufacturer's instructions and recommendations for installation.
  2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  3. Note related Contract Modifications and mark-up of Project Record Drawings, where applicable.
  4. Upon completion of mark-up, submit a complete set of Project Record Product Data to Owner for Owner records.
  5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
  6. The prime Contractor is Responsible for mark-up and submittal of record Project Record Product Data for its own Work.

**1.05. Material, Equipment and Finish Data**

- A. Provide data for primary materials, equipment and finishes as required under each specification section.
- B. Include additional information requested by Owner.
- C. Submit three (3) hard-copy sets prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers, with typewritten table of contents for each volume. Concurrently, submit one (1) set on flash drive in .PDF formatted files (one file for each separate item).
- D. Arrange by Specification division and give names, addresses, and telephone numbers of subcontractors and suppliers. List:
  1. Trade names.
  2. Model or type numbers.
  3. Assembly diagrams.
  4. Operating instructions.
  5. Cleaning instructions.
  6. Maintenance instructions.
  7. Recommended spare parts.
  8. Product data.

**1.06. Miscellaneous Closeout Submittals**

- A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to Owner for Owner records. Categories of requirements resulting in miscellaneous records include, but are not limited to the following:
1. Field records on excavations and foundations.
  2. Field records on underground construction and similar work.
  3. Survey showing locations and elevations of underground lines.
  4. Invert elevations of drainage piping.
  5. Surveys establishing building lines and levels.
  6. Authorized measurements utilizing unit prices or allowances.
  7. Records of plant treatment.
  8. Ambient and substrate condition tests.
  9. Certifications received in lieu of labels on bulk products.
  10. Batch mixing and bulk delivery records.
  11. Testing and qualification of tradespersons.
  12. Documented qualification of installation firms.
  13. Load and performance testing.
  14. Inspections and certifications by governing authorities.
  15. Leakage and water-penetration tests.
  16. Fire resistance and flame spread test results.
  17. Final inspection and correction procedures.

**ARTICLE II – PRODUCTS**

**2.01. Not applicable to this Document.**

**ARTICLE III – EXECUTION**

**3.01. Recording**

- A. Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project. Owner will periodically review Project Record Documents to assure compliance with this requirement, and withhold five percent of any monthly progress payment until Project Record Documents are current.

**3.02. Submittal**

- A. At completion of Project, deliver three (3) paper copies and one (1) complete electronic copy on flash drive of record documents to Owner.
- B. Accompany submittal with transmittal letter containing:
1. Date
  2. Project title and number
  3. Contractor's name and address
  4. Number and title of each record document
  5. Certification that each document as submitted is complete and accurate, and signature of Contractor, or Contractor's authorized representative.

**END OF DOCUMENT 01 7800**

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**DOCUMENT 01 7820**

**OPERATION AND MAINTENANCE DATA**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I – General
    - a. 1.01 –Summary
    - b. 1.02 - Related Documents And Sections
    - c. 1.03 – Definitions
    - d. 1.04 – Required O&M Documentation
    - e. 1.05 - Submittals
  - 2. Article II - Products
    - a. 2.01 – O&M Documentation Directory
    - b. 2.02 – Emergency Manuals
    - c. 2.03 – Operation Manuals
    - d. 2.04 – Required O&M Documentation
    - e. 2.05 – Systems and Equipment Maintenance Manual
    - f. 2.06 – Final Commissioning Report
  - 3. Article III – Execution
    - a. 3.01 - General
    - b. 3.02 – Manufacturers' Data
    - c. 3.03 – Drawings
  - 4. Article IV - Forms (Not Used)

**1.02. Related Documents and Sections**

- A. None

**1.03. Definitions**

- A. **O&M** - Operations and Maintenance
- B. **O&M Documentation** – O&M Documentation Directory, manuals, and Final Commissioning Report consisting of:
  - 1. O&M Documentation Directory
  - 2. Emergency Manual
  - 3. Operations Manual
  - 4. Product Maintenance Manual
  - 5. Systems and Equipment Maintenance Manual
  - 6. Final Commissioning Report
- C. **System** - An organized collection of parts, equipment, or subsystems united by regular interaction.
- D. **Subsystem** - A portion of a system with characteristics similar to a system.

**1.04. Required O&M Documentation**

- A. O&M Documentation Directory: Prepare a separately bound directory that provides an organized reference to all O&M Documentation.
- B. Emergency Manual: Assemble a complete set of emergency information including procedures for use by emergency personnel and by Owner's operating personnel for various types of emergencies.
- C. Operations Manual: Assemble information needed for daily operations and management of Systems and equipment.
- D. Product Maintenance Manual: Assemble a complete set of maintenance data indication care and maintenance of each product, material, and finish incorporated into the Work.

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- E. Systems and Equipment Maintenance Manual: Assemble information of each System, Subsystem, and piece of equipment not part of a System.
- F. Final Commissioning Report

**1.05. Submittals**

- A. **Initial Submittal:** Submit three (3) draft copies of each manual at least sixty (60) Days before achieving Substantial Completion of each Project Component of the Project.
- B. **Final Submittal:** Submit three (3) copies each manual in final form no later than fifteen (15) Days after Architect's certification that the entire Work of each Project Component,
- C. **Corrected Final Submittal:** Correct or modify each manual to comply with Owner's comments. Submit three (3) hard copies and one set of copies on flash drive of each corrected Final Submittal within fifteen (15) Days of receipt of Owner's comments on the Final Submittal.

**ARTICLE II– PRODUCTS**

**2.01. O&M Documentation Directory**

- A. Organization: Include a section in the directory for each of the following:
  - 1. List of documents.
  - 2. List of systems.
  - 3. List of equipment.
  - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with the same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

**2.02. Emergency Manuals**

- A. Include emergency information that must be immediately available during emergency situations to protect life and property and to minimize disruptions to building occupants.
- B. Content: Organize manual into a separate section for each of the following:
  - 1. Type of emergency.
  - 2. Emergency instructions.
  - 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
  - 1. Fire.
  - 2. Flood.
  - 3. Earthquake.
  - 4. Gas leak.
  - 5. Water leak.
  - 6. Power failure.
  - 7. Water outage.
  - 8. System, subsystem, or equipment failure.
  - 9. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
  - 1. Instructions on stopping.
  - 2. Shutdown instructions for each type of emergency.



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3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.
6. Material Safety Data sheets (MSDS), if applicable.

**2.03. Operations Manual**

- A. Include information needed for daily operations and management of systems and equipment.
- B. In addition to requirements in this Document, include operation data required in individual Technical Specification Sections and the following information:
  1. System, subsystem, and equipment descriptions.
  2. Performance and design criteria if Contractor is delegated design responsibility.
  3. Operating standards.
  4. Operating procedures.
  5. Operating logs.
  6. Wiring diagrams.
  7. Control diagrams.
  8. Piped system diagrams.
  9. Precautions against improper use.
  10. License requirements including inspection and renewal dates.
- C. Descriptions: Include the following:
  1. Product name and model number.
  2. Manufacturer's name.
  3. Equipment identification with serial number of each component.
  4. Equipment function.
  5. Operating characteristics.
  6. Limiting conditions.
  7. Performance curves.
  8. Engineering data and tests.
  9. Complete nomenclature and number of replacement parts.
- D. Operating Procedures: Include the following, as applicable:
  1. Startup procedures.
  2. Equipment or system break-in procedures.
  3. Routine and normal operating instructions.
  4. Regulation and control procedures.
  5. Instructions on stopping.
  6. Normal shutdown instructions.
  7. Seasonal and weekend operating instructions.
  8. Required sequences for electric or electronic systems.
  9. Special operating instructions and procedures.
- E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- F. Piped Systems: Diagram piping as installed and indicate color-coding where required for identification.

**2.04. Product Maintenance Manual**

- A. Content
  1. Organize manual into a separate section for each product, material, and finish.
  2. Include:
    - a. Source information
    - b. Product information
    - c. Maintenance procedures
    - d. Repair materials and sources
    - e. Warranties and bonds, as described below.
- B. Source Information
  1. List each product included in manual identified by product name and arranged to match manual's table of contents.

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2. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Project Manual Section number and title.
- C. Product Information: Include the following, as applicable:
  1. Product name and model number.
  2. Manufacturer's name.
  3. Color, pattern, and texture.
  4. Material and chemical composition.
  5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
  1. Inspection procedures.
  2. Types of cleaning agents to be used and methods of cleaning.
  3. List of cleaning agents and methods of cleaning detrimental to product.
  4. Schedule for routine cleaning and maintenance.
  5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds
  1. Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
  2. Include procedures to follow and required notifications for warranty claims.

**2.05. Systems and Equipment Maintenance Manual**

- A. Content
  1. For each System, Subsystem, and piece of equipment not part of a system, include:
    - a. Source information
    - b. Manufacturers' maintenance documentation
    - c. Maintenance procedures
    - d. Maintenance and service schedules
    - e. Replacement parts list and source information
    - f. Maintenance service contracts
    - g. Warranty and bond information
- B. Source Information
  1. List each system, subsystem, and piece of equipment included in the manual, identified by product name and arranged to match manual's table of contents.
  2. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Project Manual Section number and title.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
  1. Standard printed maintenance instructions and bulletins.
  2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
  3. Identification and nomenclature of parts and components.
  4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
  1. Test and inspection instructions.
  2. Troubleshooting guide.
  3. Precautions against improper maintenance.
  4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  5. Aligning, adjusting, and checking instructions.
  6. Demonstration and training videotape, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
  1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.

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2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Manufacturer's Suggested Spare Parts List: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
  1. Include procedures to follow and required notifications for warranty claims.

**2.06. Final Commissioning Report**

- A. The Contractor must prepare and submit a Final Commissioning Report summarizing all of the tasks, findings, and documenting the Commissioning process.
- B. The report must address the actual performance of the building systems in reference to the requirements of the Contract Documents.
- C. The report must include completed pre-functional inspection checklists, Functional Performance Testing records, diagnostic monitoring results, identified deficiencies, recommendations, and a summary of commissioning activities.
- D. The Final Commissioning Report must be included as part of the O&M Documentation Final Submittal

**ARTICLE III – EXECUTION**

**3.01. General**

- A. Organization
  1. Unless otherwise indicated, organize each manual into a separate section for each System and Subsystem, and a separate section for each piece of equipment not part of a system.
  2. Each manual must contain the following materials, in the order listed:
    - a. Title page.
    - b. Table of contents.
    - c. Manual contents.
- B. Title Page
  1. Enclose title page in transparent plastic sleeve.
  2. Include the following information:
    - a. Subject matter included in manual.
    - b. Name and address of Project.
    - c. Name and address of City.
    - d. Date of submittal.
    - e. Name, address, and telephone number of Contractor.
    - f. Name and address of Owner's Design Consultant.
    - g. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents
  1. List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Section number in the Project Manual.
  2. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents
  1. Organize into sets of manageable size.
  2. Arrange contents alphabetically by system, subsystem, and equipment.
  3. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Binders
  1. Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

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- a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components.
  - b. Cross-reference other binders to provide essential information for proper operation or maintenance of equipment or system.
  - c. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
- F. Dividers
- 1. Heavy-paper dividers with plastic-covered tabs for each section.
  - 2. Mark each tab to indicate contents.
  - 3. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Project Manual Section number and title.
- G. Protective Plastic Sleeves
- 1. Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
- H. Supplementary Text
- 1. Prepared on 8-1/2-by-11-inch, 20-lb/sq. ft. white bond paper.
- I. Drawings
- 1. Attach reinforced, punched binder tabs on drawings and bind with text.
  - 2. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
  - 3. Do not place loose, oversize drawings in binder pockets.
  - 4. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

**3.02. Manufacturers' Data**

- A. Manufacturers' standard printed data
  - 1. Include only sheets pertinent to product or component installed.
  - 2. Mark each sheet to identify each product or component incorporated into the Work.
  - 3. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents.
- B. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- C. Extraneous Data: Where contents of manuals include manufacturers' catalog pages, clearly indicate precise items included in this installation and delete, or otherwise clearly indicate, manufacturer's data with which this installation is not concerned.

**3.03. Drawings**

- A. Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams.
- B. Coordinate supplementary drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
- B. Do not use original Record Documents as part of operation and maintenance manuals.

**ARTICLE IV – FORMS (NOT USED)**

**END OF DOCUMENT 01 7820**

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**DOCUMENT 01 8200**

**DEMONSTRATION AND TRAINING**

**ARTICLE I – GENERAL**

**1.01. Summary**

- A. This Document includes:
  - 1. Article I - General
    - a. 1.01 - Summary
    - b. 1.02 - Related Documents And Sections
    - c. 1.03 -Definitions
    - d. 1.04 - General
    - e. 1.05 - Pre-instruction Conference
    - f. 1.06 - Coordination
    - g. 1.07 - Instruction Program
  - 2. Article II - Products (Not Used)
  - 3. Article III - Execution
    - a. 3.01- Preparation
    - b. 3.02- Instruction
    - c. 3.03- Submittals
  - 4. Article IV - Forms (Not Used)

**1.02. Related Documents and Sections**

- A. None

**1.03. Definitions**

- A. Training Facilitator. A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor. A factory-authorized service representative, experienced in operation and maintenance procedures and training.

**1.04. General**

- A. Contractor must procure and pay for the services of a qualified Training Facilitator to prepare instruction program and training modules, to coordinate Instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Contractor must procure and pay for the services of qualified Instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- C. Training requirements include:
  - 1. Demonstration of operation of systems, subsystems, and equipment.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.

**1.05. Pre-Instruction Conference**

- A. Training Facilitator must schedule conduct a Pre-instruction Conference at the Project Site with:
  - 1. Owner's Commissioning Consultant (Mandatory Attendance Required)
  - 2. Contractor's Commissioning Agent (Mandatory Attendance Required)
  - 3. Owner's Building Operations Staff (Mandatory Attendance Required)
  - 4. Contractor's QC Manager (Mandatory Attendance Required)
  - 5. Owner's Project Manager (Mandatory Attendance Required)
  - 6. Contractor's Authorized Representative (Mandatory Attendance Required)

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- B. Review methods and procedures related to demonstration and training including, but not limited to, the following:
  - 1. Inspect and discuss locations and other facilities required for instruction.
  - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
  - 3. Review required content of instruction.
  - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.
- C. Training Facilitator must take detailed minutes of the meeting and distribute to all participants.

**1.06. Coordination**

- A. Training Facilitator must coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.
- B. Training Facilitator must coordinate Instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Training Facilitator must coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Owner.

**1.07. Instruction Program**

- A. Program Structure. Training Facilitator must develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections, and as follows:
  - 1. Motorized doors, including any **overhead coiling doors, overhead coiling grilles and automatic entrance doors**.
  - 2. Equipment, including any **projection screens, loading dock equipment, waste compactors and laboratory fume hoods**.
  - 3. Fire-protection systems, including **fire alarm, fire pumps and fire-extinguishing systems**.
  - 4. Intrusion detection systems.
  - 5. Conveying systems, including **elevators, pneumatic conveying systems and wheelchair lifts**.
  - 6. Medical equipment, including medical gas equipment and piping.
  - 7. Laboratory equipment, including laboratory **air and vacuum** equipment and piping.
  - 8. Heat generation, including **boilers, feed water equipment, pumps, water distribution piping, etc**.
  - 9. Refrigeration systems.
  - 10. HVAC systems, including **air-handling equipment, air distribution systems, terminal equipment and devices**.
  - 11. HVAC instrumentation and controls.
  - 12. Electrical service and distribution, including **transformers, switchboards, panelboards, uninterruptible power supplies and motor controls**.
  - 13. Packaged engine generators, including transfer switches.
  - 14. Lighting equipment and controls.
  - 15. Communication systems, including **intercommunication, surveillance/security, clocks and programming, voice & data and television** equipment.
- B. Training Modules. Training Facilitator must develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
  - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
    - a. System, subsystem, and equipment descriptions.
    - b. Performance and design criteria.
    - c. Operating standards.
    - d. Regulatory requirements.

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- e. Equipment function.
- f. Operating characteristics.
- g. Limiting conditions.
- h. Performance curves.
- C. Documentation. Review the following items in detail:
  - 1. Emergency manuals.
  - 2. Operations manuals.
  - 3. Maintenance manuals.
  - 4. Project Record Documents.
  - 5. Identification systems.
  - 6. Warranties and bonds.
  - 7. Maintenance service agreements and similar continuing commitments.
- D. Emergencies. Include the following, as applicable:
  - 1. Instructions on meaning of warnings, trouble indications, and error messages.
  - 2. Instructions on stopping.
  - 3. Shutdown instructions for each type of emergency.
  - 4. Operating instructions for conditions outside of normal operating limits.
  - 5. Sequences for electric or electronic systems.
  - 6. Special operating instructions and procedures.
- E. Operations. Include the following, as applicable:
  - 1. Startup procedures.
  - 2. Equipment or system break-in procedures.
  - 3. Routine and normal operating instructions.
  - 4. Regulation and control procedures.
  - 5. Control sequences.
  - 6. Safety procedures.
  - 7. Instructions on stopping.
  - 8. Normal shutdown instructions.
  - 9. Operating procedures for emergencies.
  - 10. Operating procedures for system, subsystem, or equipment failure.
  - 11. Seasonal and weekend operating instructions.
  - 12. Required sequences for electric or electronic systems.
  - 13. Special operating instructions and procedures.
- F. Adjustments. Include the following:
  - 1. Alignments.
  - 2. Checking adjustments.
  - 3. Noise and vibration adjustments.
  - 4. Economy and efficiency adjustments.
- G. Troubleshooting. Include the following:
  - 1. Diagnostic instructions.
  - 2. Test and inspection procedures.
- H. Maintenance. Include the following:
  - 1. Inspection procedures.
  - 2. Types of cleaning agents to be used and methods of cleaning.
  - 3. List of cleaning agents and methods of cleaning detrimental to product.
  - 4. Procedures for routine cleaning
  - 5. Procedures for preventive maintenance.
  - 6. Procedures for routine maintenance.
  - 7. Instruction on use of special tools.
- I. Repairs. Include the following:
  - 1. Diagnosis instructions.
  - 2. Repair instructions.
  - 3. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - 4. Instructions for identifying parts and components.
  - 5. Review of spare parts needed for operation and maintenance.

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**ARTICLE II – PRODUCTS (NOT USED)**

**ARTICLE III – EXECUTION**

**3.01. Preparation**

- A. Assemble educational materials necessary for instruction, including documentation and training module.
- B. Assemble training modules into a combined training manual.
- C. Set up instructional equipment at instruction location.

**3.02. Instruction**

- A. Contractor must provide Training Facilitator and Instructors.
- B. Owner will furnish personnel to describe:
  - 1. Basis of system design.
  - 2. Operational requirements, criteria, and regulatory requirements.
  - 3. Owner's operational philosophy.
- C. Owner will furnish Contractor with names and positions of participants.
- D. Scheduling.
  - 1. Provide instruction at mutually agreed on times, consisting of four 4-hour sessions on-site at different dates and times as requested by Owner.
  - 2. For equipment that requires seasonal operation, provide similar instruction at start of each season.
  - 3. Schedule training with Owner at least 21 days in advance of the training.
- E. Evaluation.
  - 1. At conclusion of each training module, assess and document each participant's mastery of module by use of **an oral, a written or a demonstration** performance-based test.
- F. Demonstration and Training Video.
  - 1. Record each training module separately.
  - 2. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
  - 3. At beginning of each training module, record each chart containing learning objective and lesson outline. Provide Owner with six (6) electronic copies on flash drive of video of each training session conducted.
- G. Cleanup.
  - 1. Remove instructional equipment.
  - 2. Restore systems and equipment to condition existing before initial training use.

**3.03. Submittals**

- A. Instruction Program.
  - 1. At least six weeks prior to scheduled training, submit four copies of an outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module.
  - 2. Include learning objective and outline for each training module.
- B. At completion of training, submit six (6) hard copies and six (6) copies on compact disks of the complete training manual for Owner's use.
- C. Qualification Data.
  - 1. Training Facilitator.
    - a. At least six weeks prior to training, submit four copies of the qualifications of Training Facilitator.
    - b. Include lists of completed projects with project names and addresses, names and addresses of architects and Owners, and other information specified
  - 2. Instructors.
    - a. At least six weeks prior to training, submit two (2) copies of the qualifications of all Instructors.



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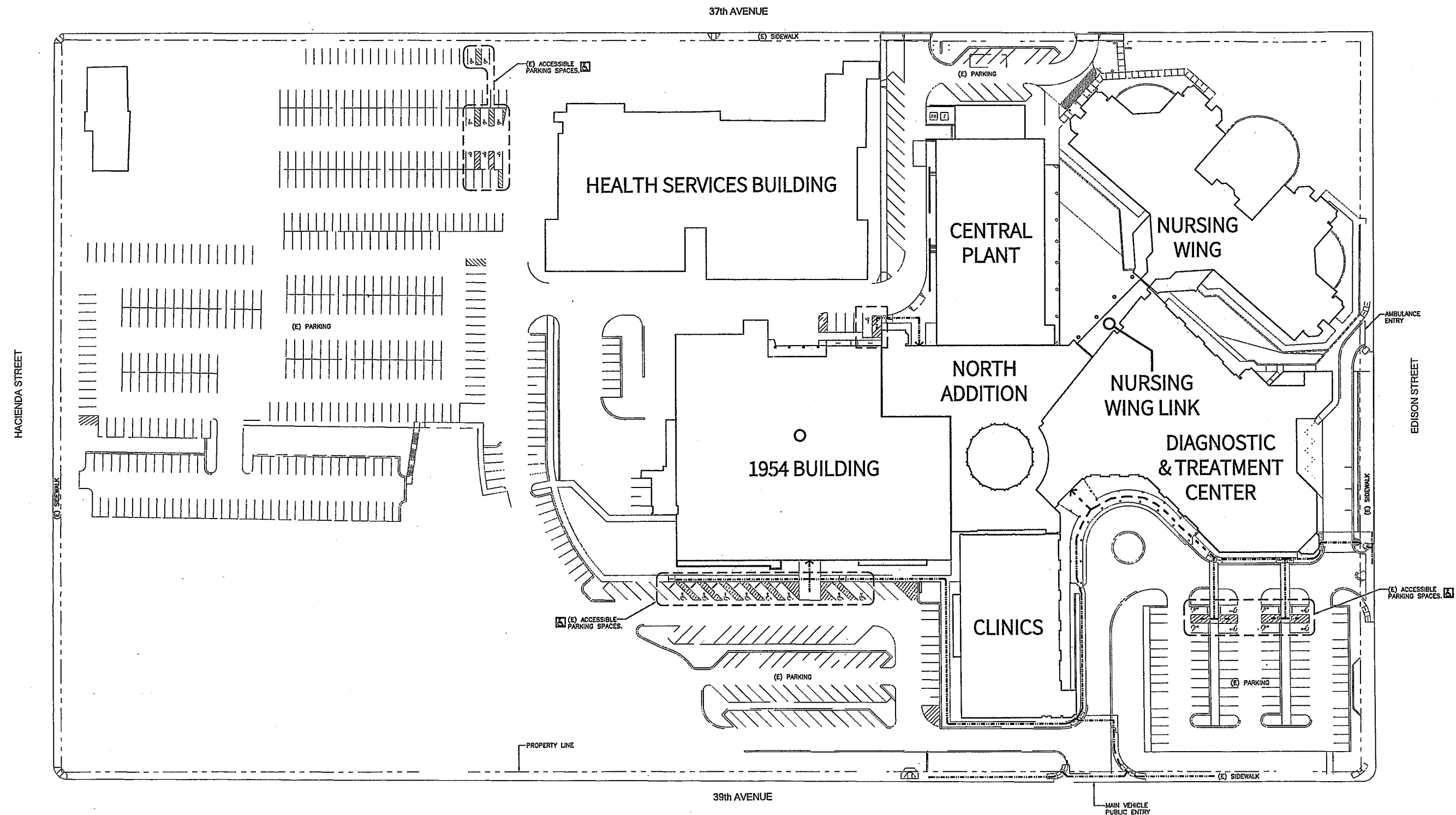
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- b. Include lists of completed projects with project names and addresses, names and addresses of architects and Owners, and other information specified.
- 3. Cameraman.
  - a. At least six weeks prior to training, submit two (2) copies of the qualifications of video cameraman.
  - b. Include lists of completed projects with project names and addresses, names and addresses of architects and Owners, and other information specified.
  - c. Include list of video equipment that will be used.
- D. Attendance Record. For each training module, submit four copies of the list of participants and length of instruction time.
- E. Evaluations. For each participant and for each training module, submit four copies of the results and documentation of performance-based test.
- F. Demonstration and Training Video. At end of each training module submit six (6) electronic copies of the Demonstration and Training Video(s) on flash drive.

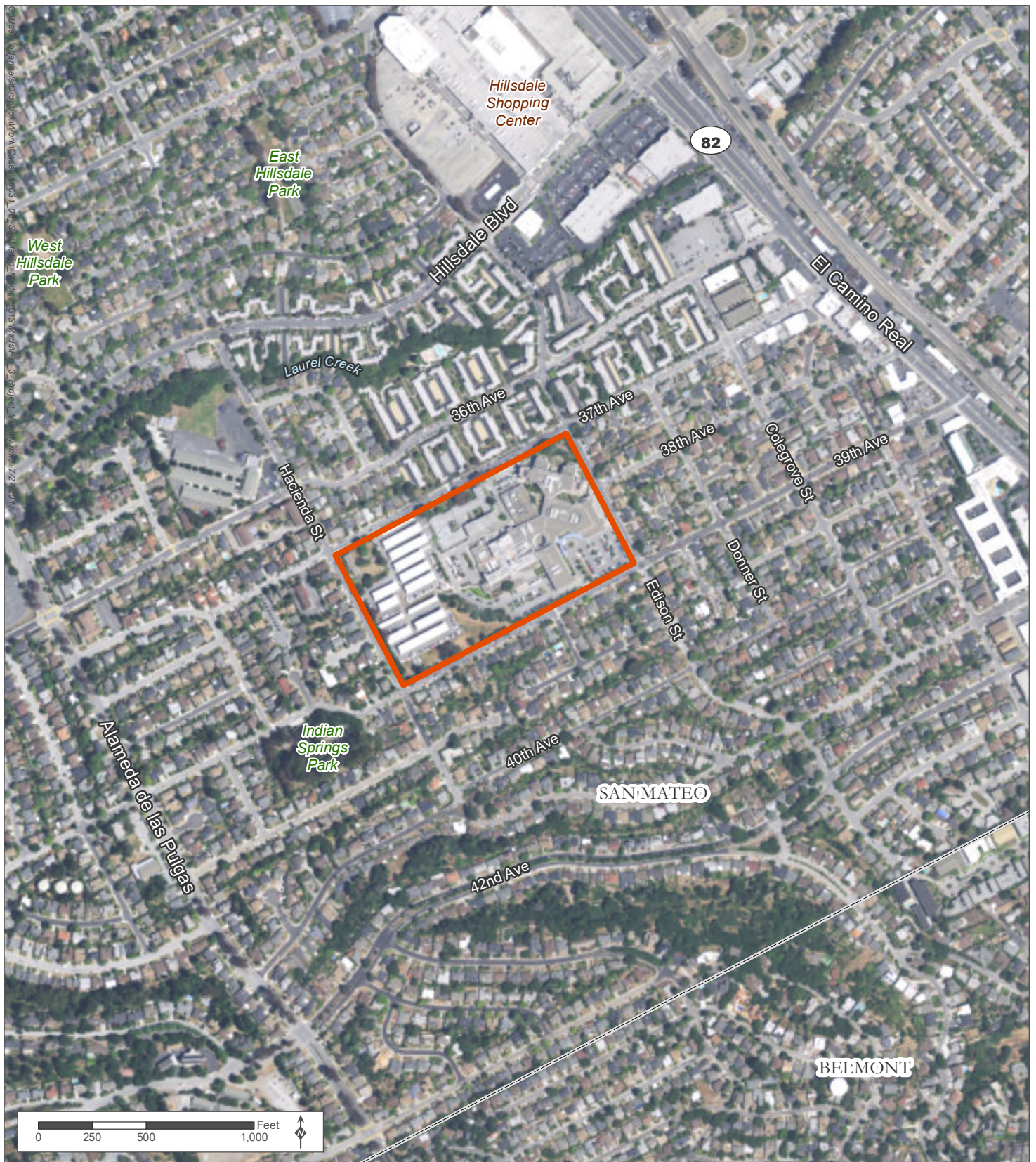
**ARTICLE IV – FORMS (NOT USED)**

**END OF DOCUMENT 01 8200**

Exhibit 01 - San Mateo Medical Health System Campus Existing Site Plan







- Project Location
- City Boundary

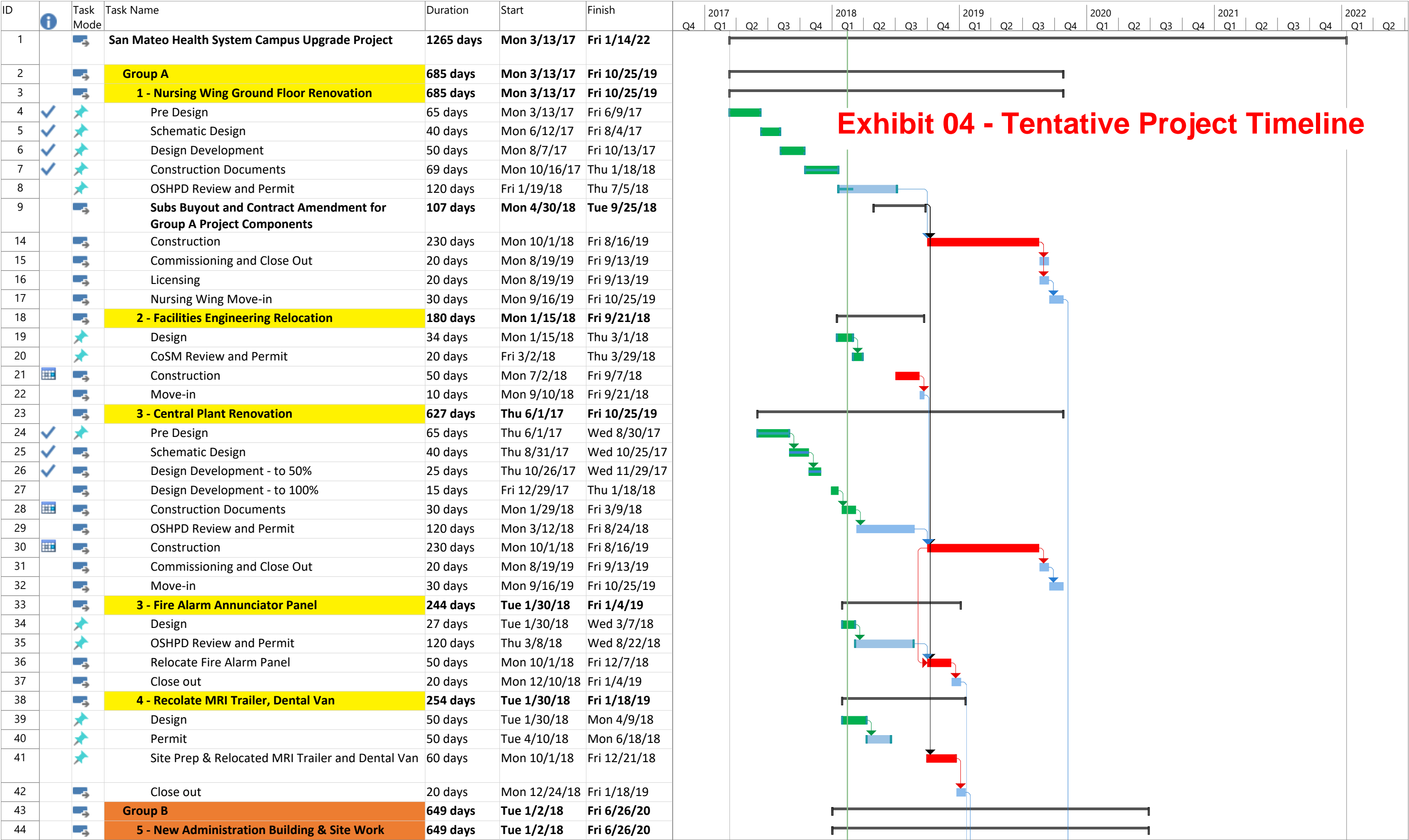
## Exhibit 02 - Project Vicinity

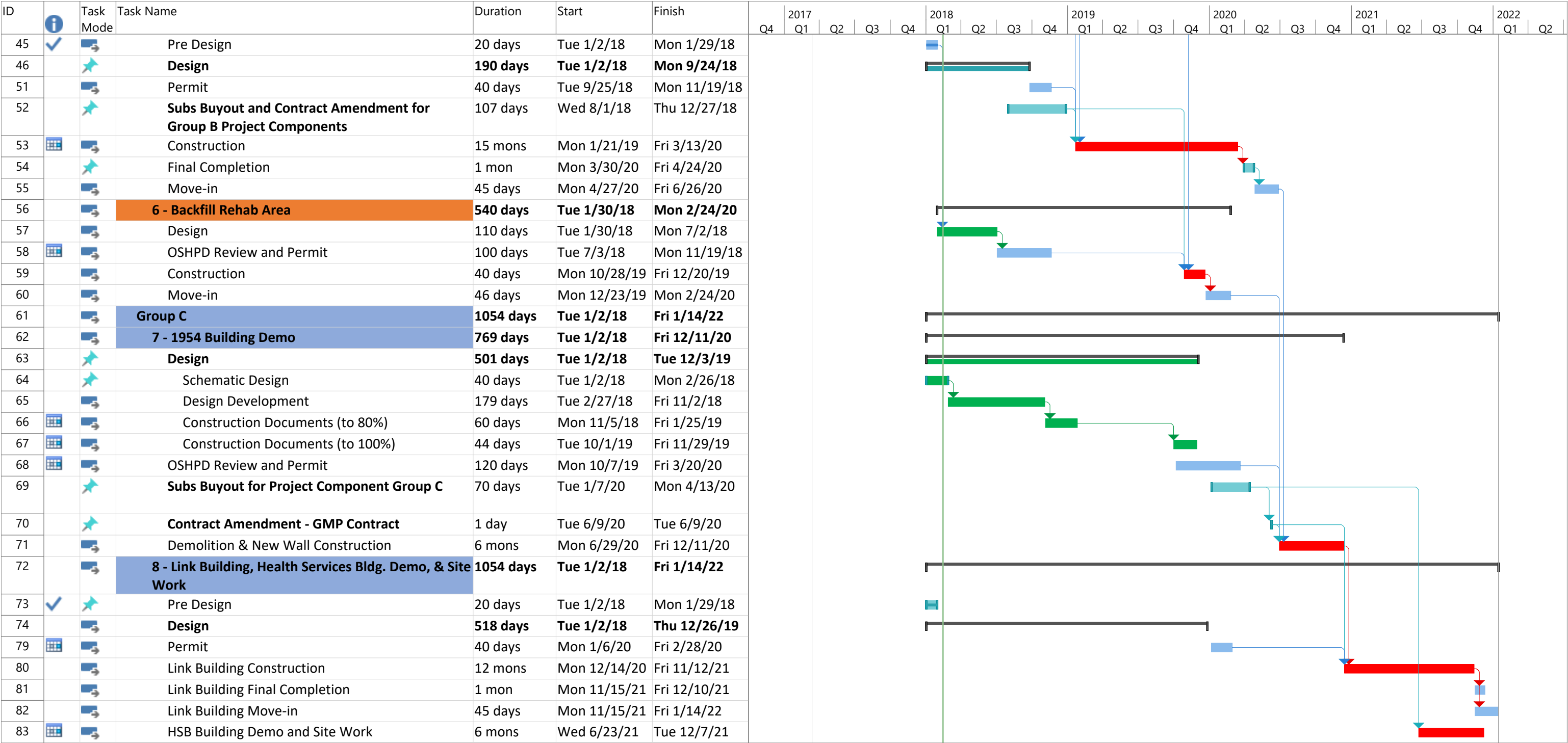
### Project Vicinity











# San Mateo Health System Campus Master Plan Update

December 19, 2017

2019

2020

2021

2022

2023

37th AVENUE

HEALTH SERVICES BUILDING

MOBILE HEALTH VAN

CENTRAL PLANT

NURSING WING

NORTH ADDITION

DIAGNOSTIC & TREATMENT CENTER

1954 BUILDING

CLINICS

MRI TRAILER

DENTAL VAN

MOBILE HEALTH VAN

HACIENDA STREET

EDISON STREET

39th AVENUE

EXISTING SITE

12/19/2017



37th AVENUE

HEALTH SERVICES BUILDING

SITE WORK

NURSING WING

CENTRAL PLANT

NORTH ADDITION

DIAGNOSTIC &  
TREATMENT CENTER

1954 BUILDING

CLINICS

LOADING  
DOCK

MOBILE  
HEALTH VAN

LOADING  
DOCK

MRI TRAILER

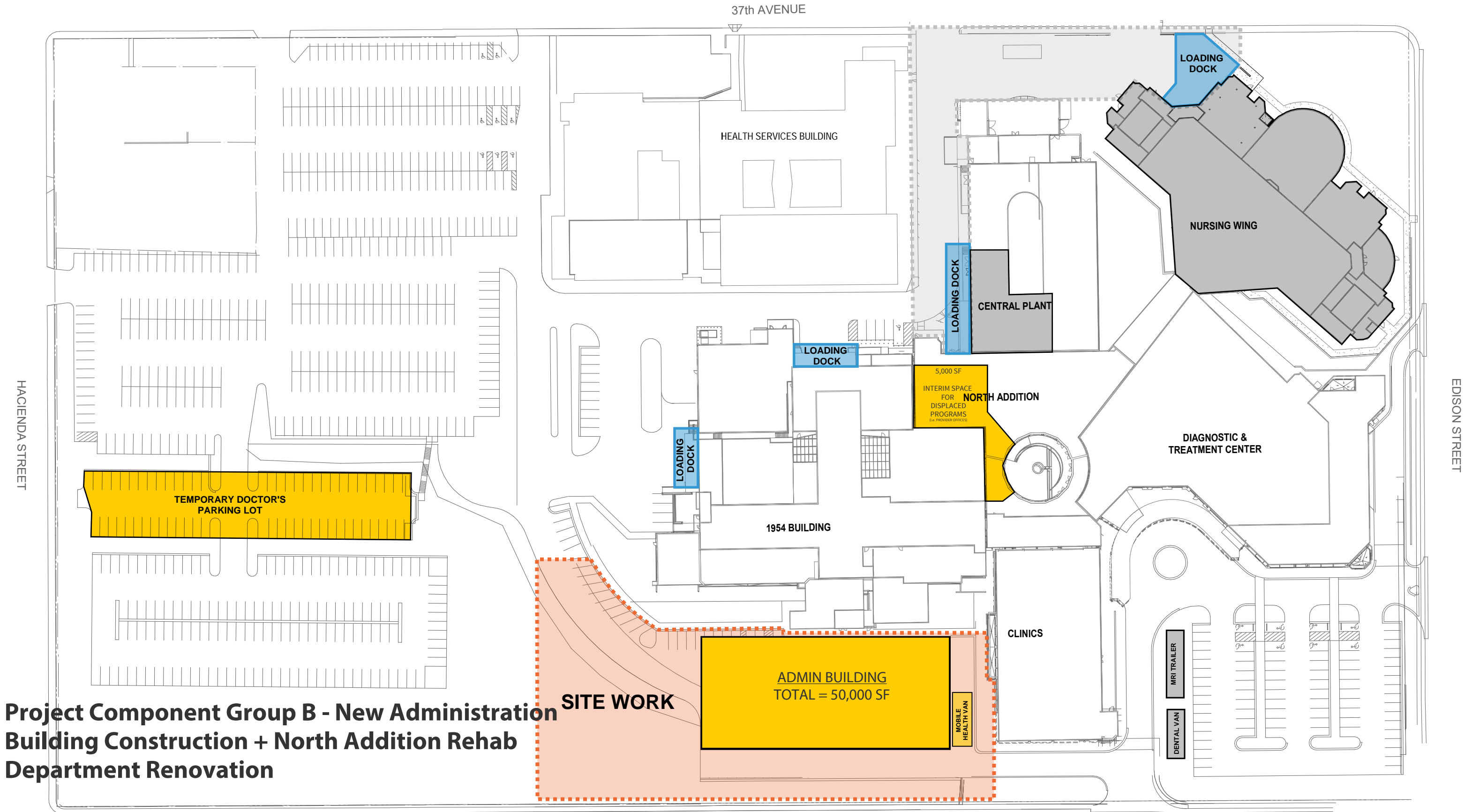
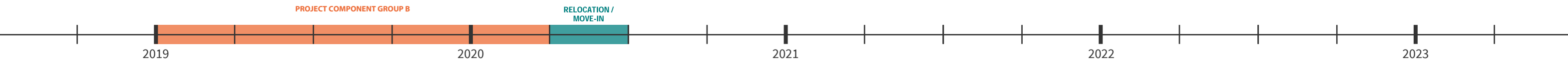
DENTAL VAN

EDISON STREET

HACIENDA STREET

**Project Component Group A: Nursing Wing + Central Plant Renovation  
+ Fire Alarm Annunciator Panel + MRI and Dental Van Relocation**

39th AVENUE



**Project Component Group B - New Administration Building Construction + North Addition Rehab Department Renovation**

2019

2020

2021

2022

2023

PROJECT COMPONENT GROUP C SITE WORK

37th AVENUE

HACIENDA STREET

EDISON STREET

TEMPORARY DOCTOR'S  
PARKING LOT

LOADING  
DOCK

NURSING WING

LOADING  
DOCK

CENTRAL PLANT

5,000 SF  
INTERIM SPACE  
FOR  
DISPLACED  
PROGRAMS  
(i.e. PROVIDER OFFICES)  
NORTH ADDITION

DIAGNOSTIC &  
TREATMENT CENTER

STAGING  
& DEMOLITION  
1954 BUILDING

CLINICS

ADMIN BUILDING  
TOTAL = 50,000 SF

MOBILE  
HEALTH VAN

MRI TRAILER

DENTAL VAN

# Project Component Group C: 1954 Building Demolition + Site Work

39th AVENUE

2019

2020

2021

2022

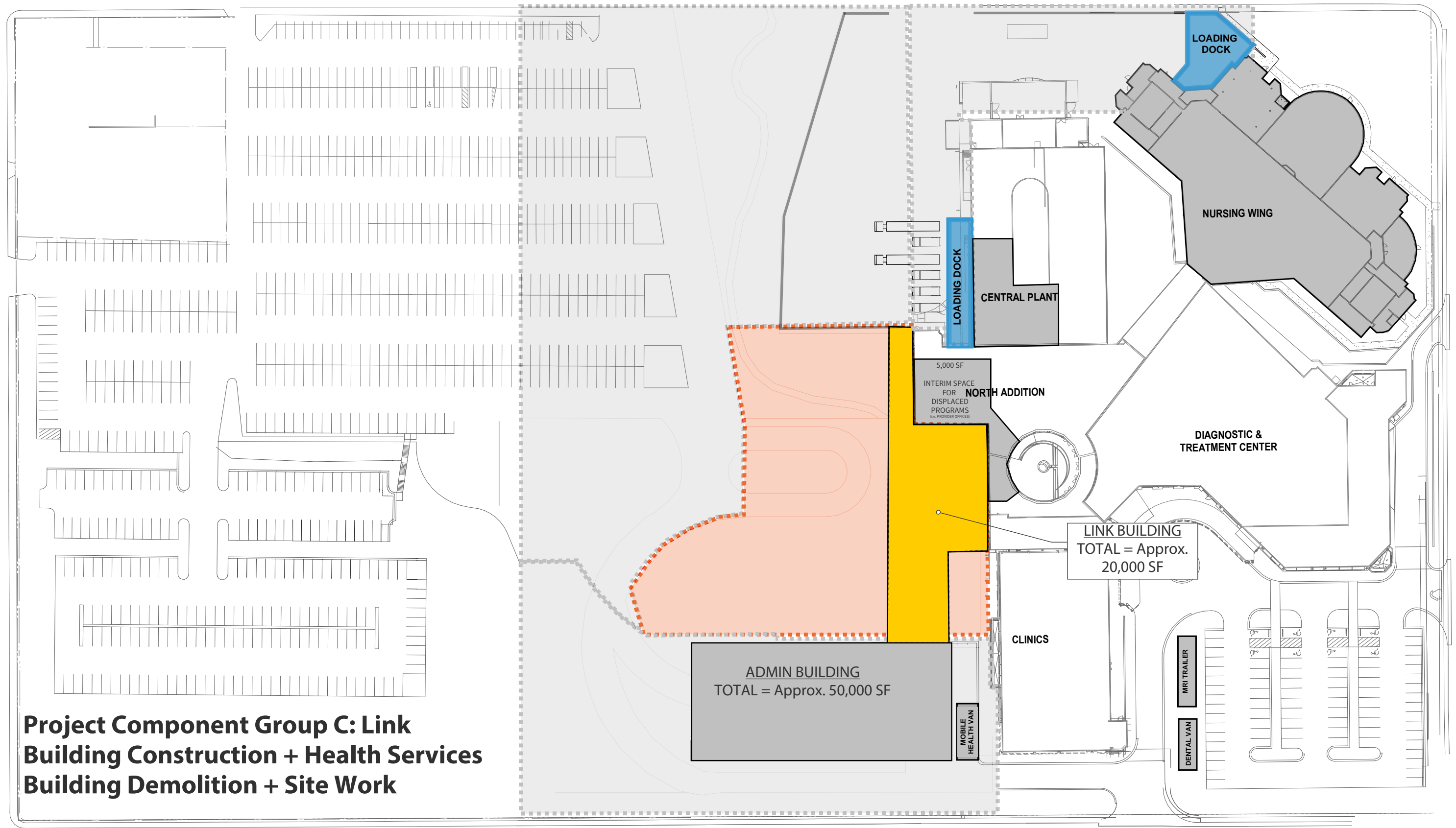
2023

37th AVENUE

HACIENDA STREET

EDISON STREET

# Project Component Group C: Link Building Construction + Health Services Building Demolition + Site Work



39th AVENUE



2019

2020

2021

2022

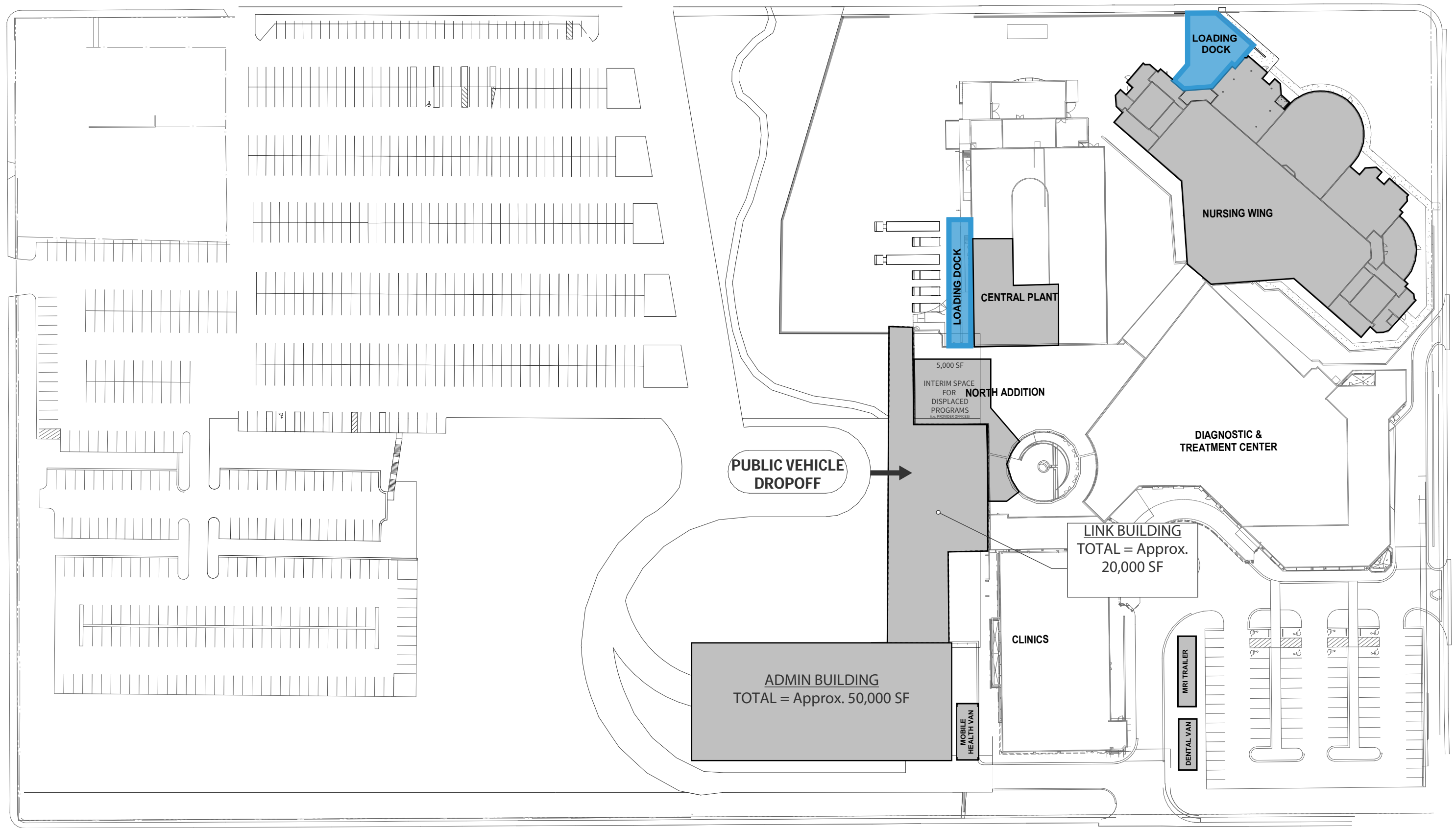
2023

RELOCATION /  
MOVE-IN

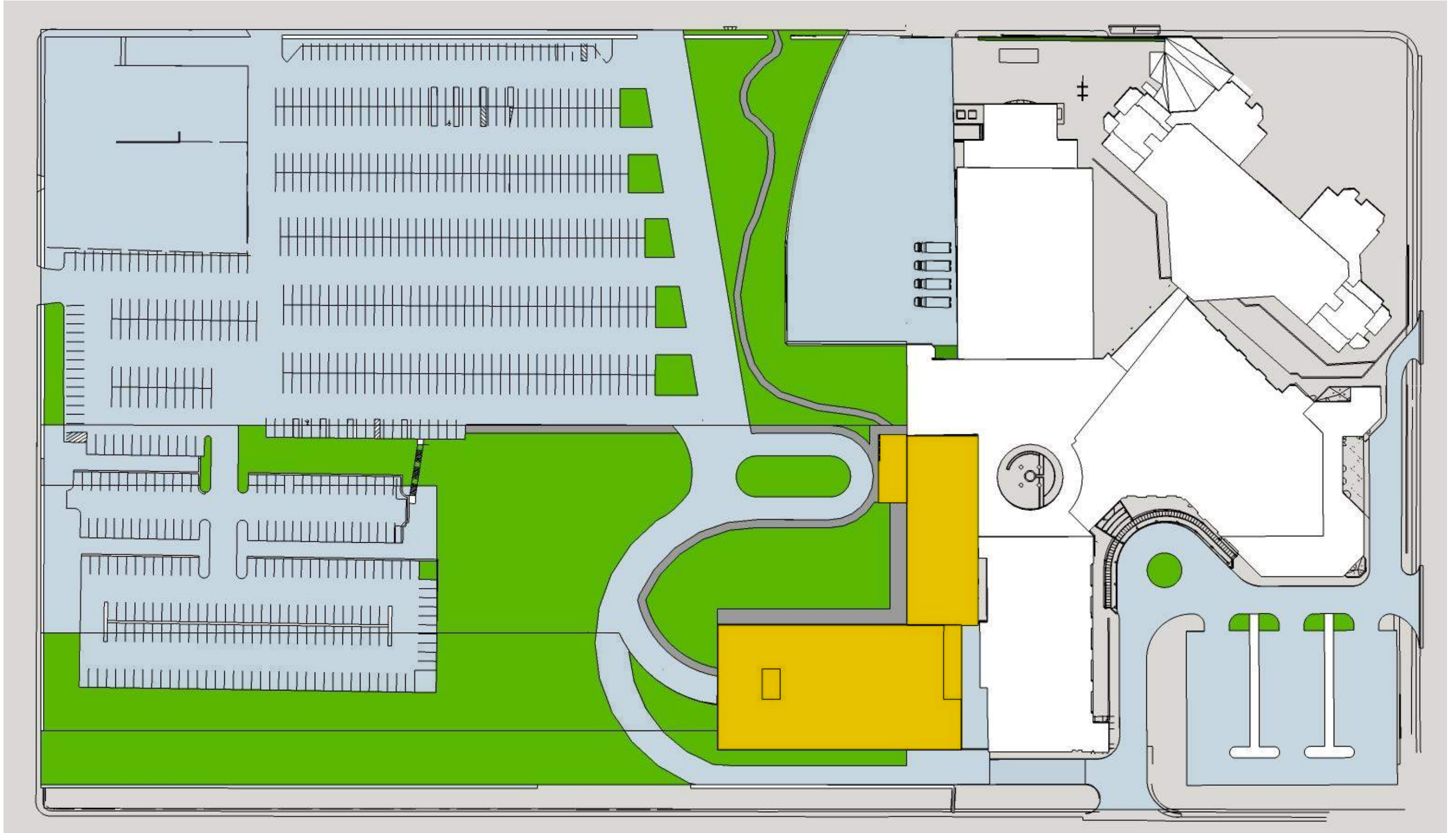
37th AVENUE

HACIENDA STREET

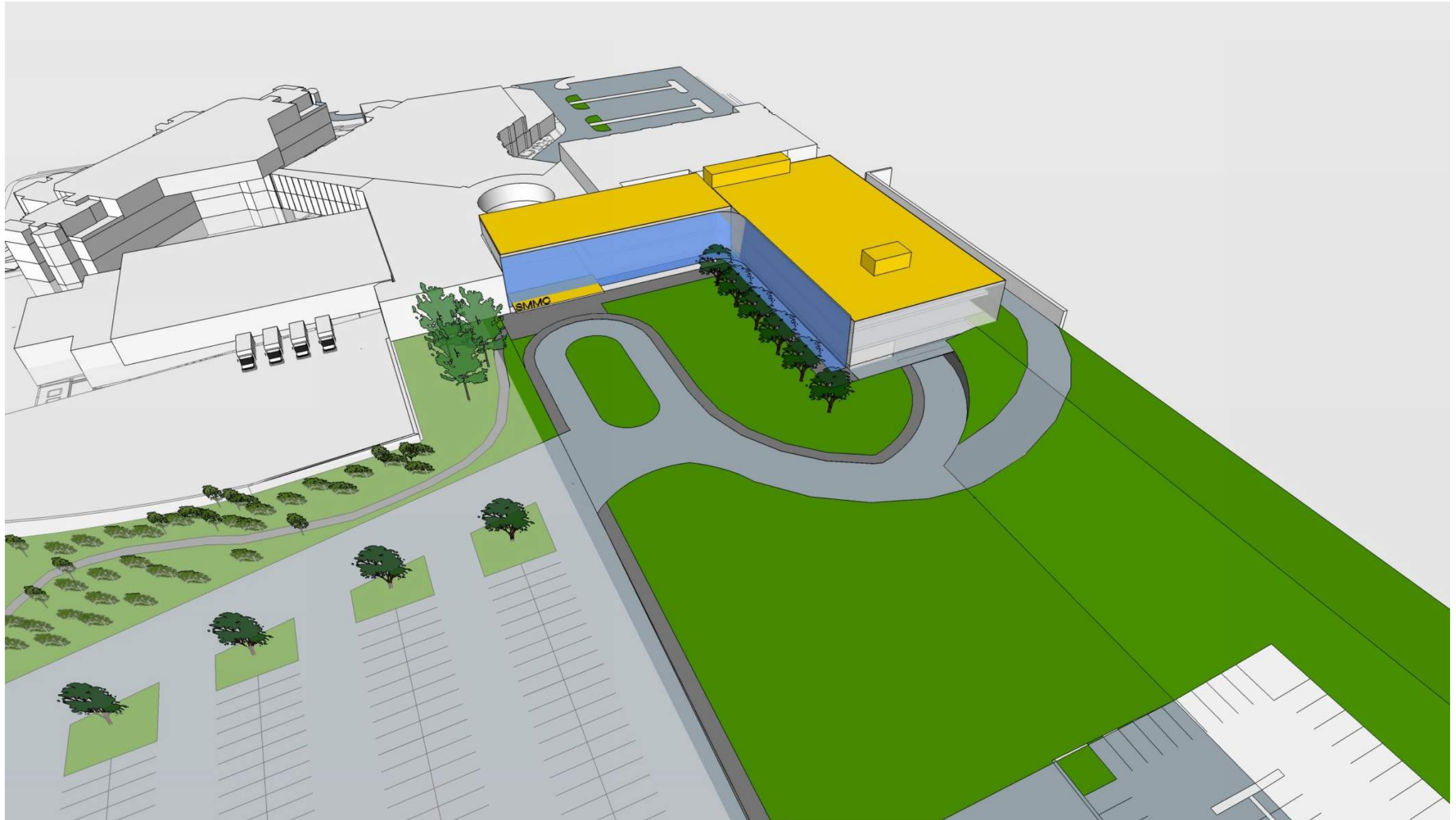
EDISON STREET

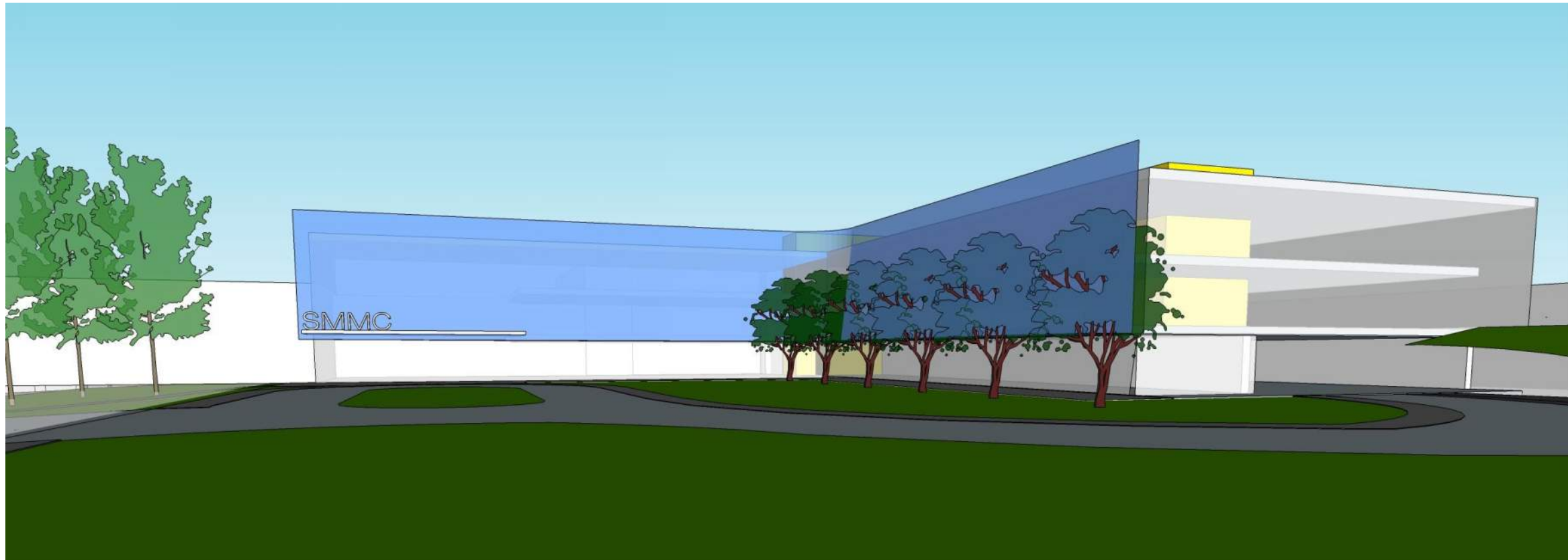


39th AVENUE

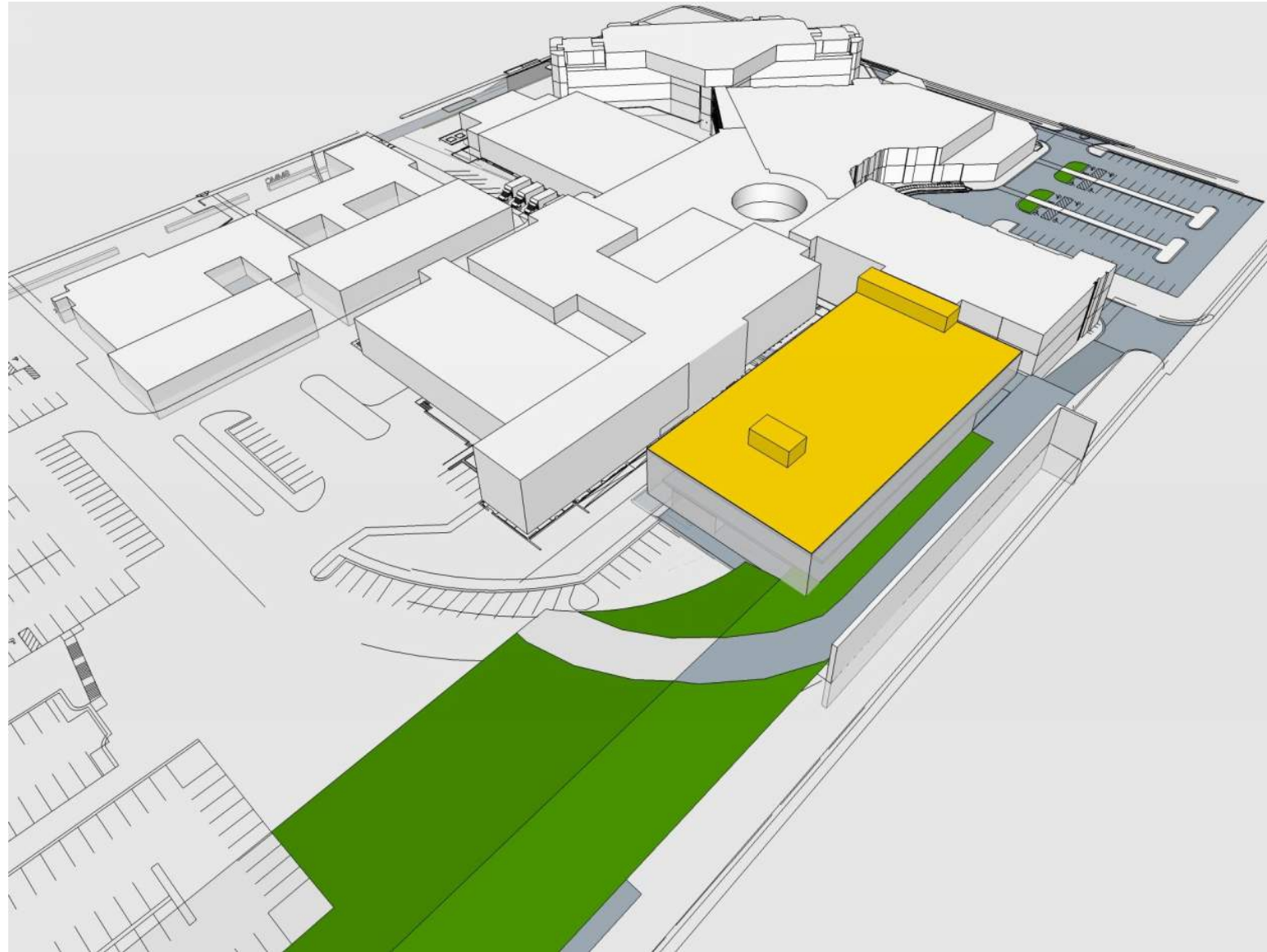




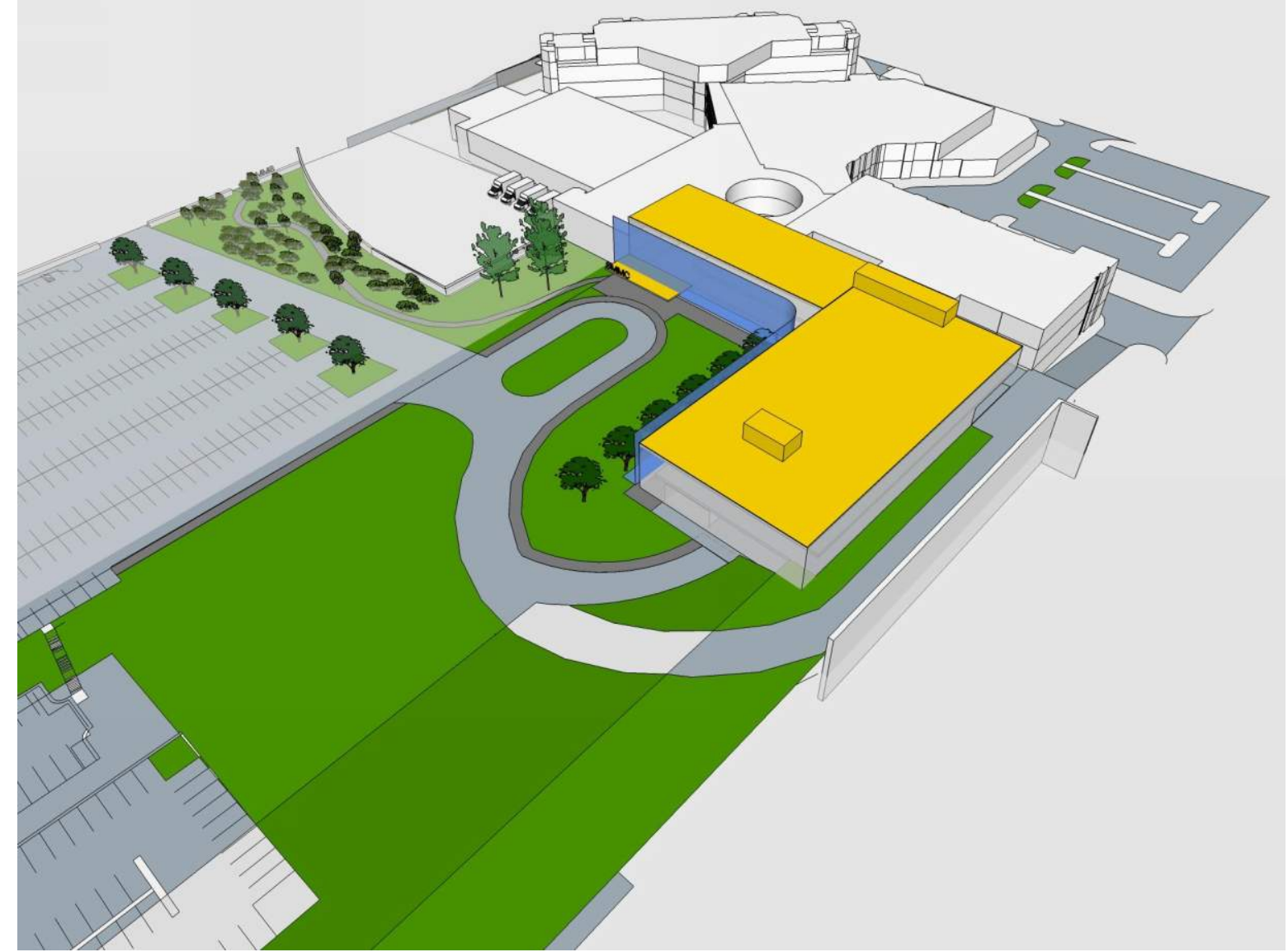








PROJECT COMPONENT GROUP B



FINAL



SMMC ARRIVAL COURT - CONCEPT SKETCH  
CARDUCCI ASSOCIATES  
2018.12.19

CURVED ROOF OVERHANG AT  
ENTRANCE

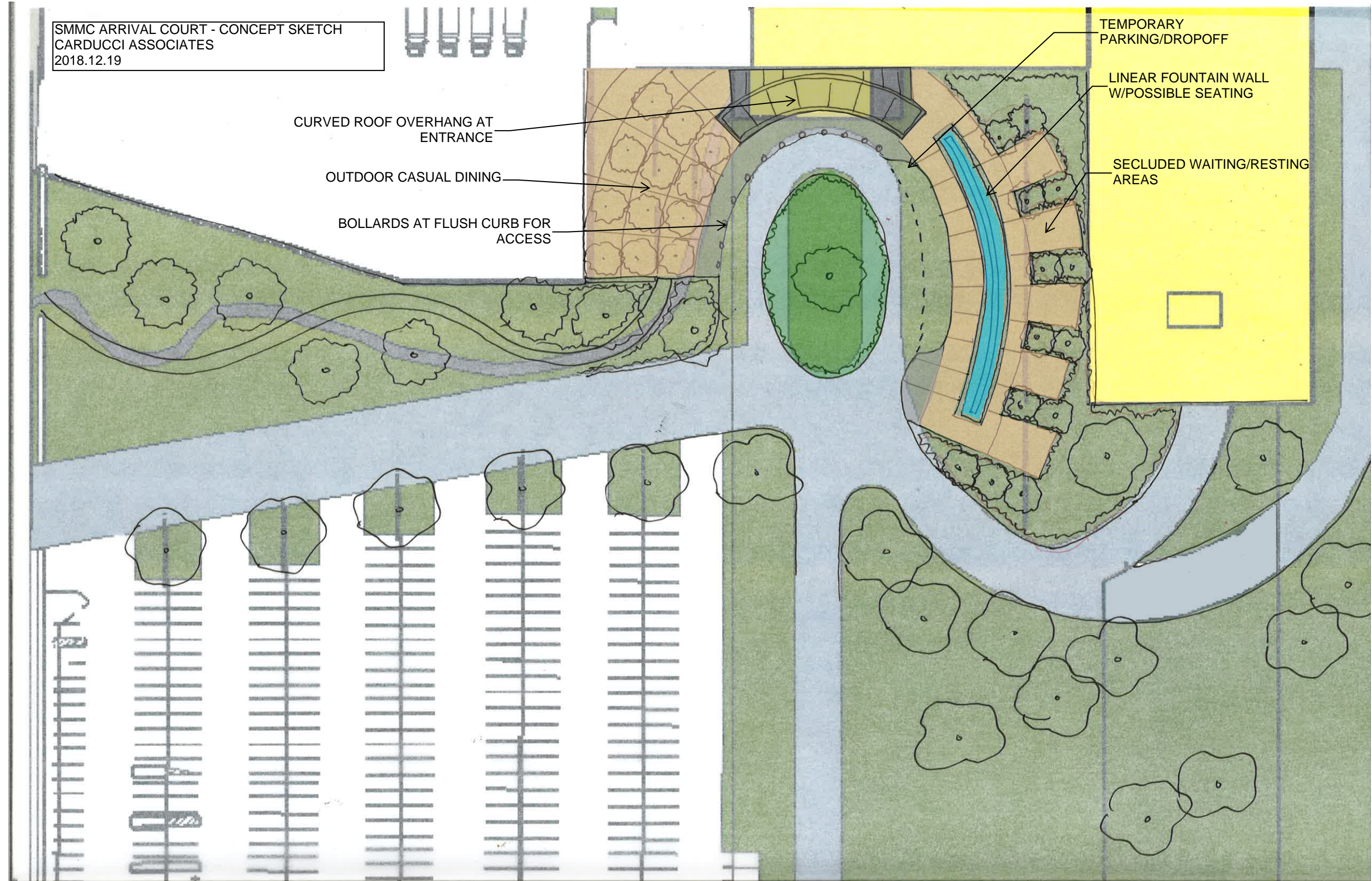
OUTDOOR CASUAL DINING

BOLLARDS AT FLUSH CURB FOR  
ACCESS

TEMPORARY  
PARKING/DROPOFF

LINEAR FOUNTAIN WALL  
W/POSSIBLE SEATING

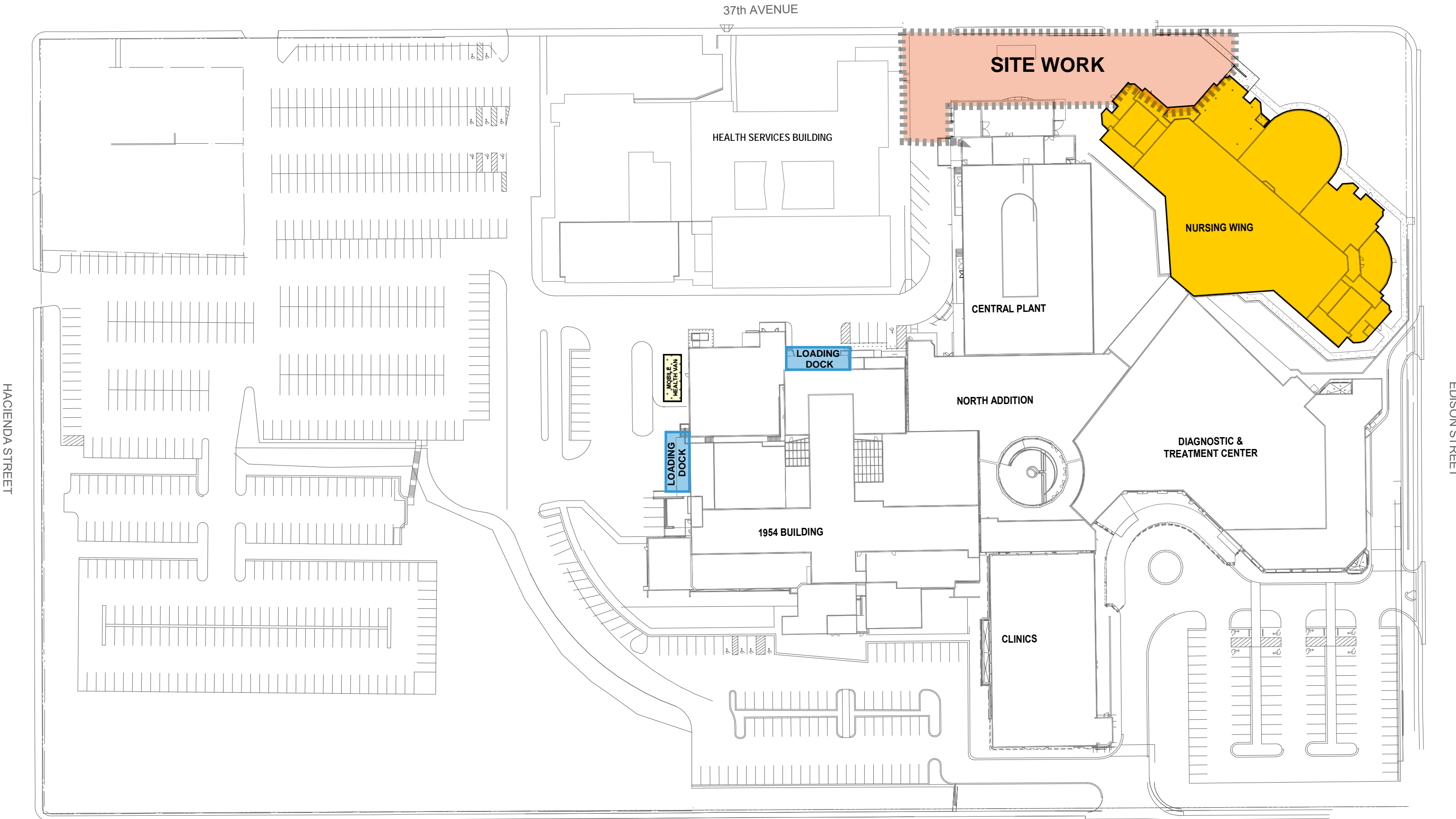
SECLUDED WAITING/RESTING  
AREAS



THANK YOU.



EXHIBIT 06 - NURSING WING RENOVATION



# NURSING WING EXISTING PLAN

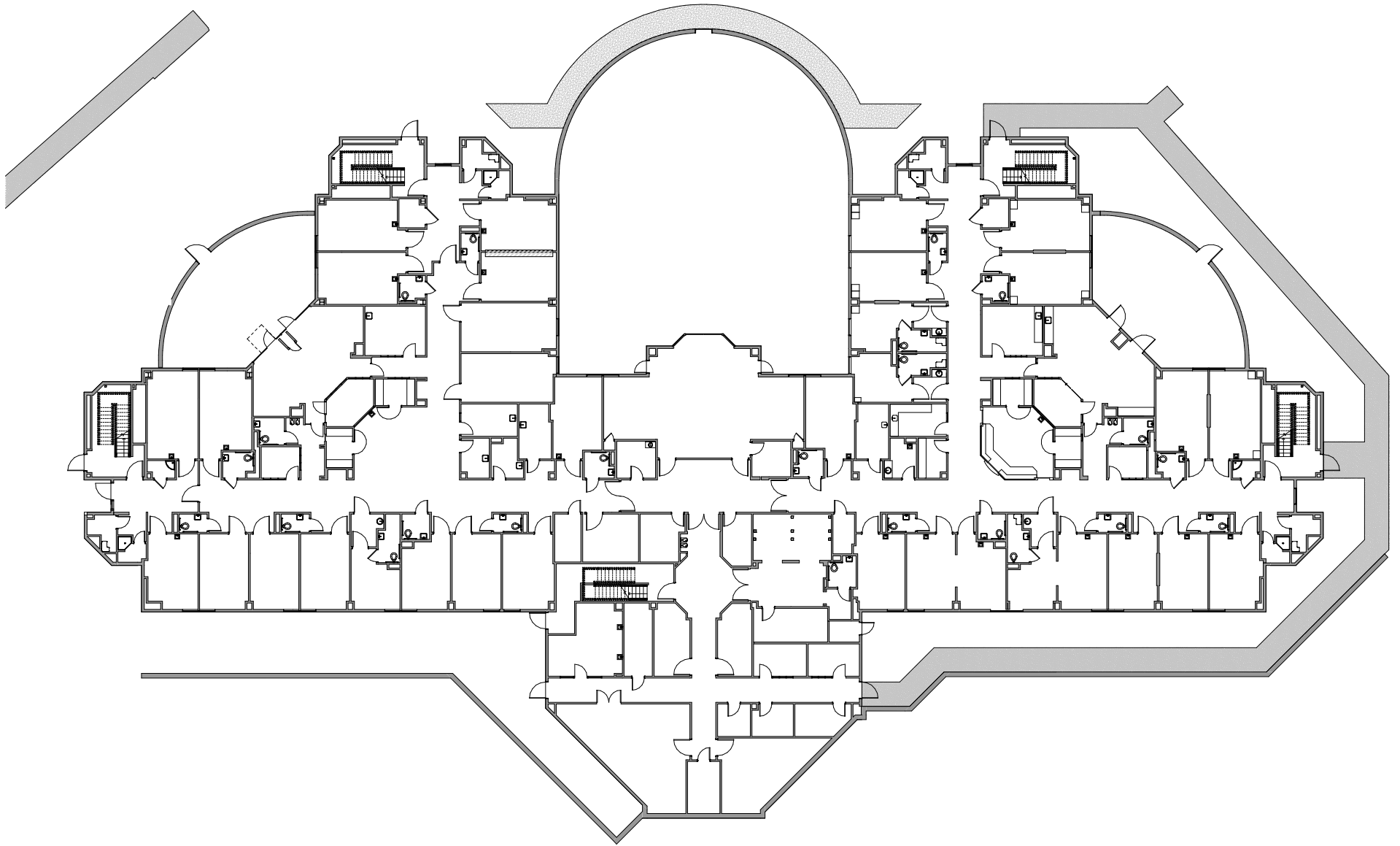
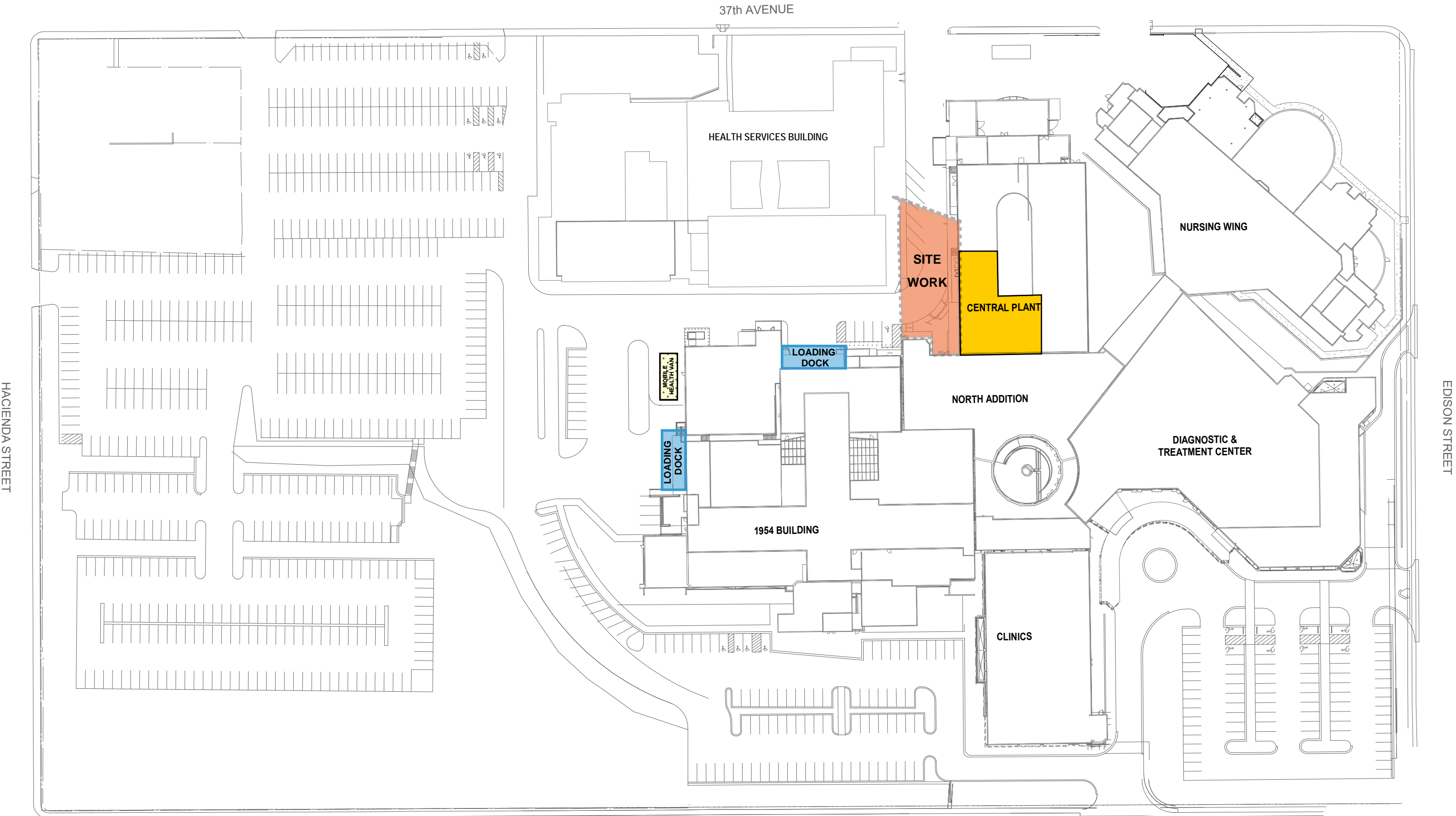
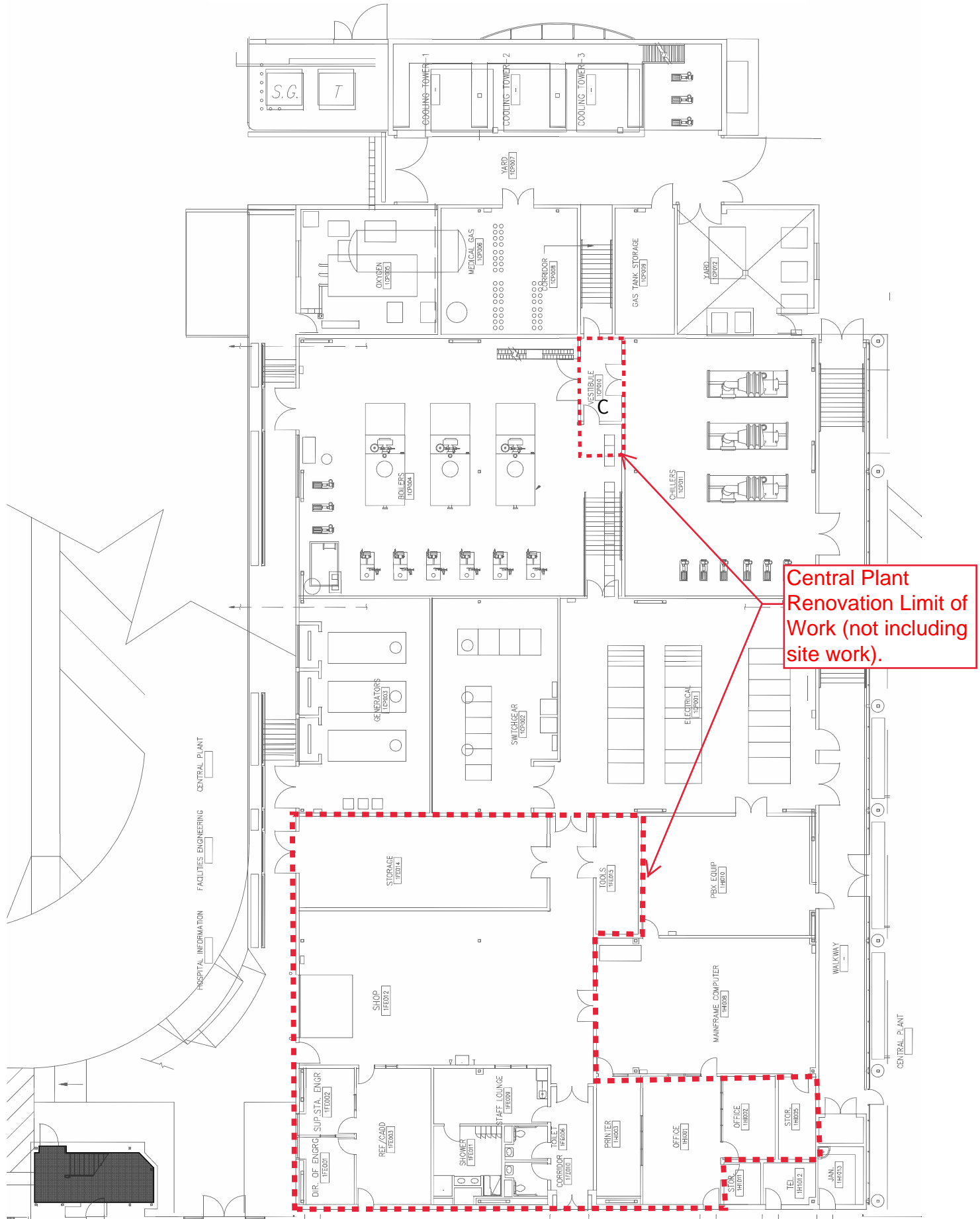




EXHIBIT 07 - CENTRAL PLANT RENOVATION



# CENTRAL PLANT EXISTING PLAN





# CENTRAL PLANT PROPOSED PLAN

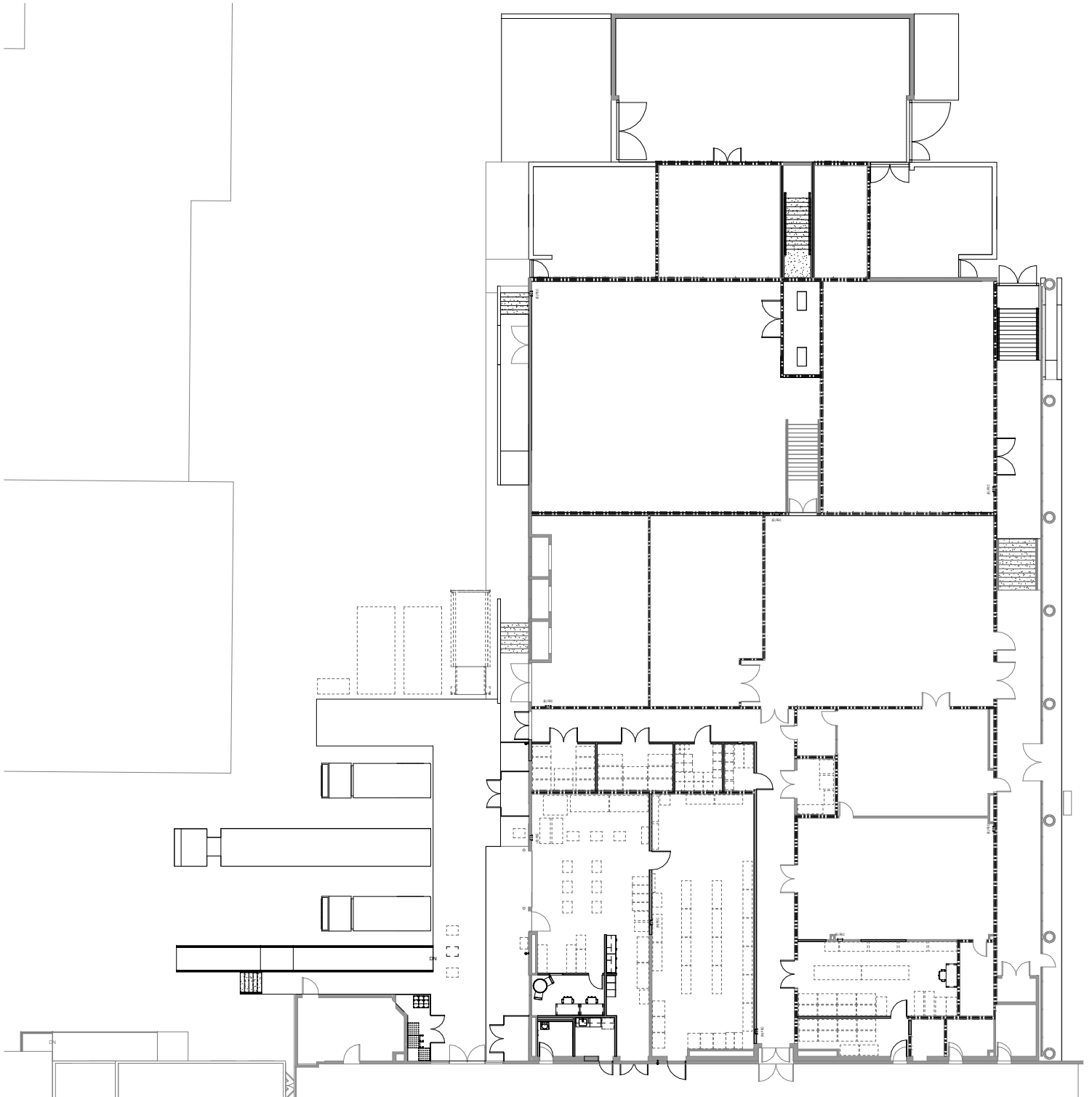


EXHIBIT 08: FIRE ALARM ANNUBIATOR PANEL

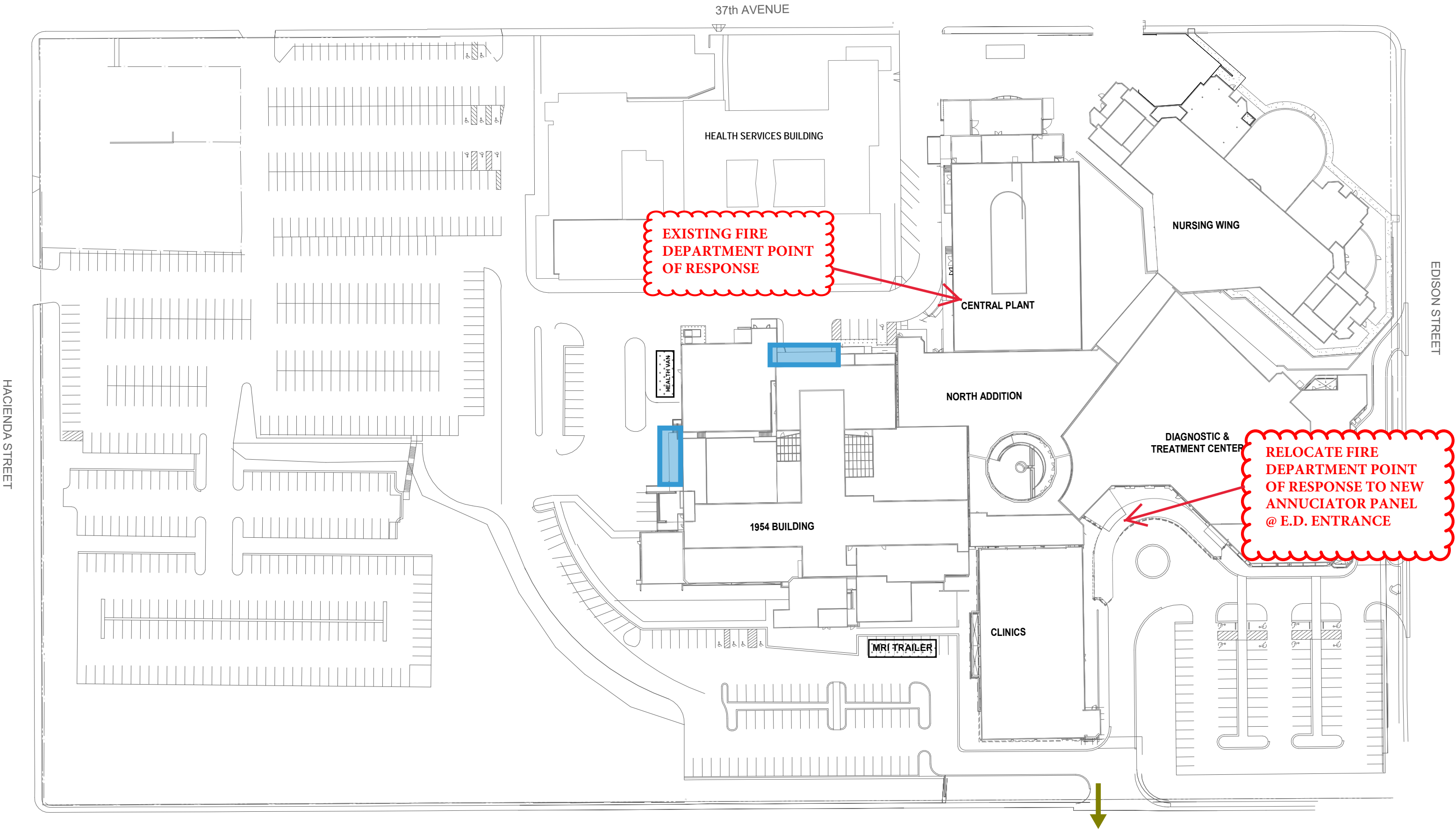


EXHIBIT 09: MRI TRAILER AND DENTAL VAN RELOCATION

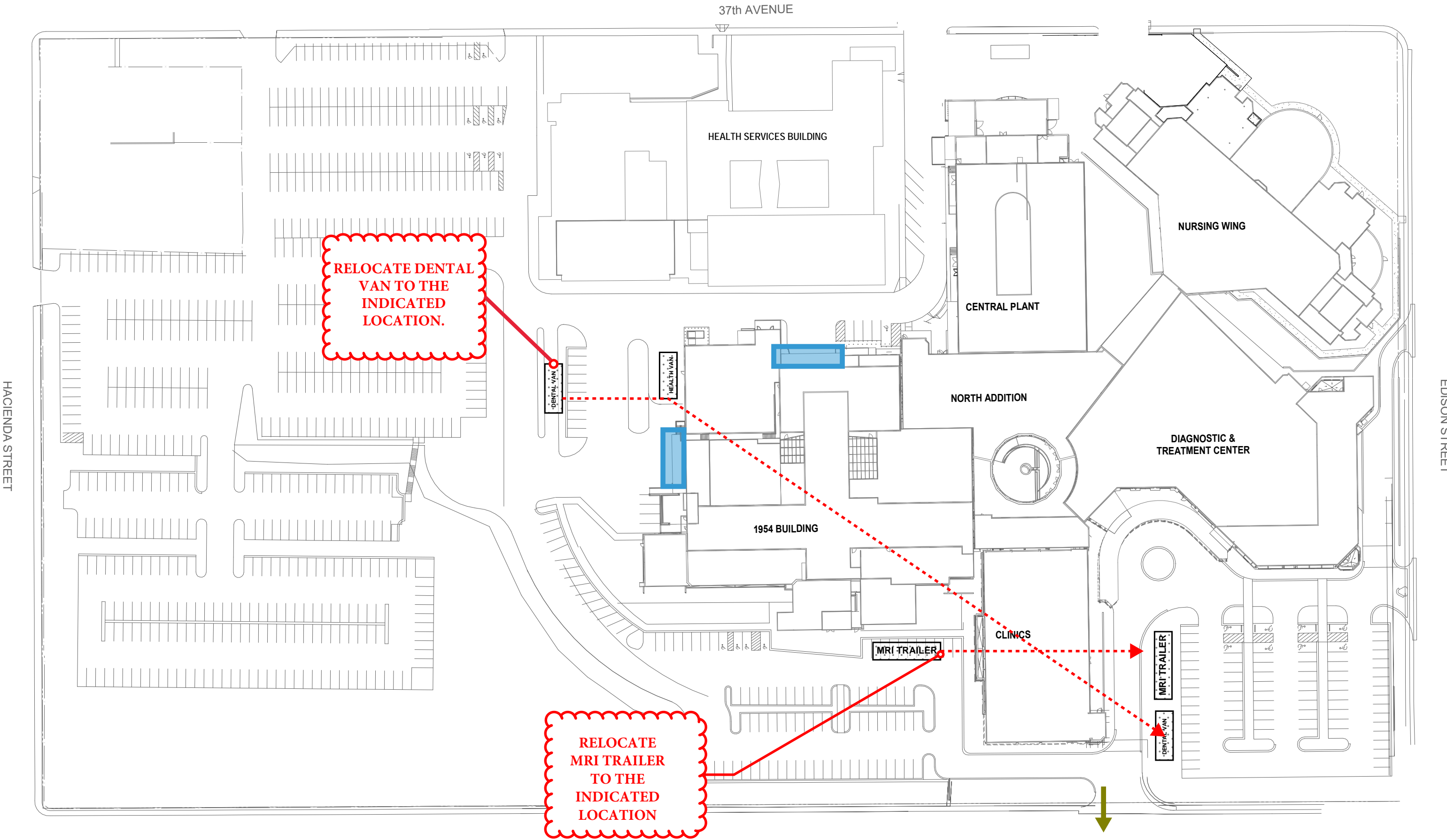
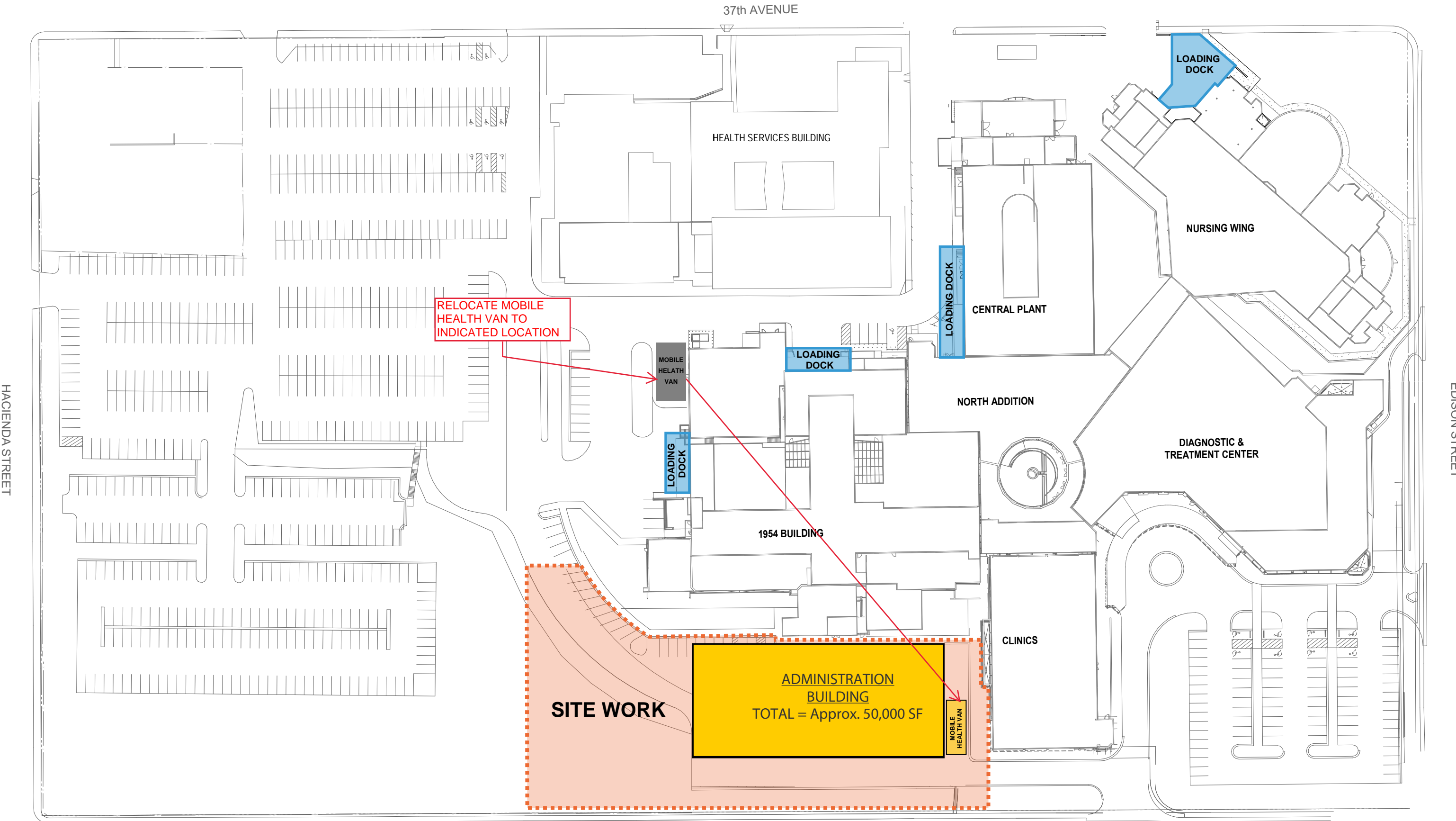


Exhibit 10 - New Administration Building



# Exhibit 11 - New Link Building

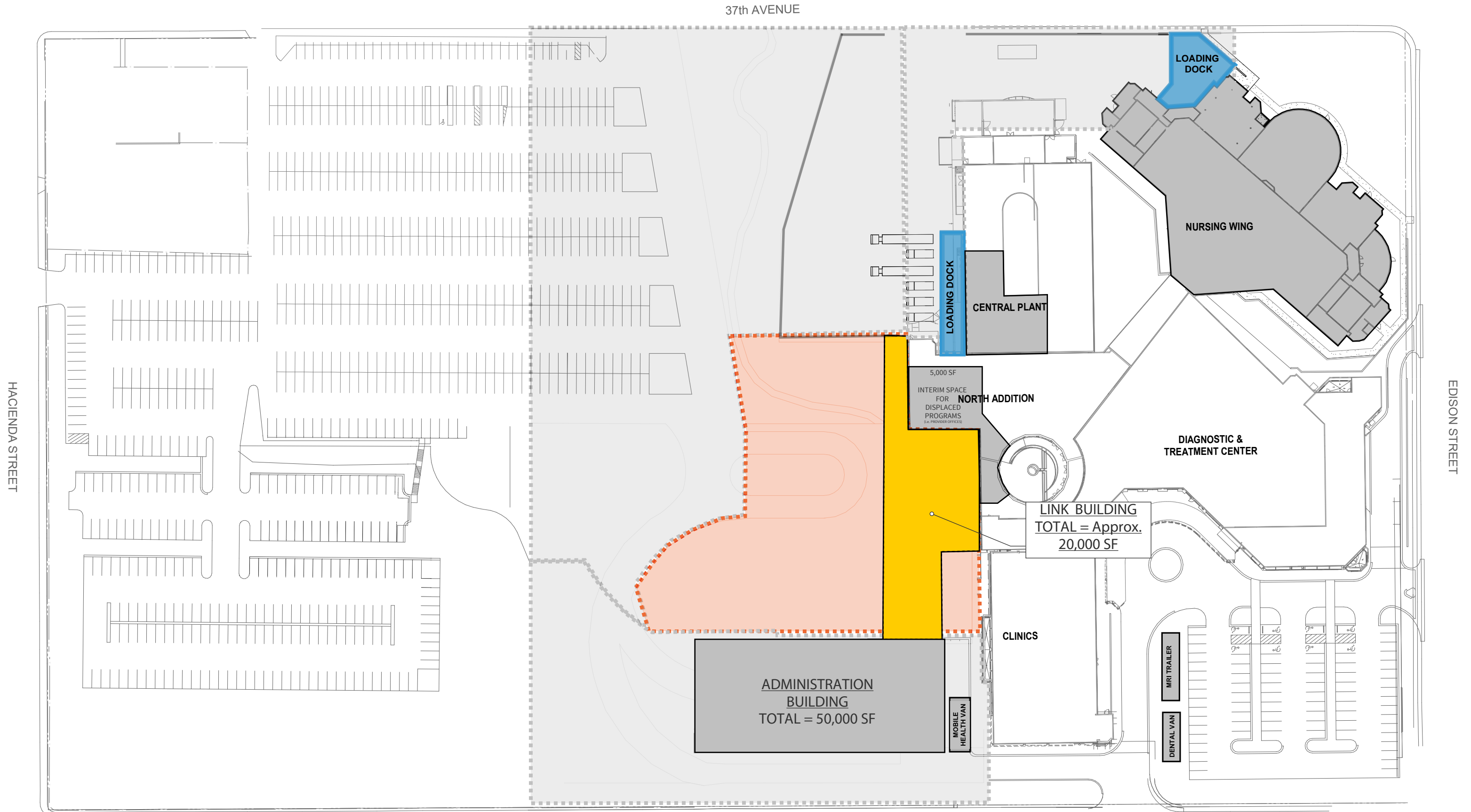
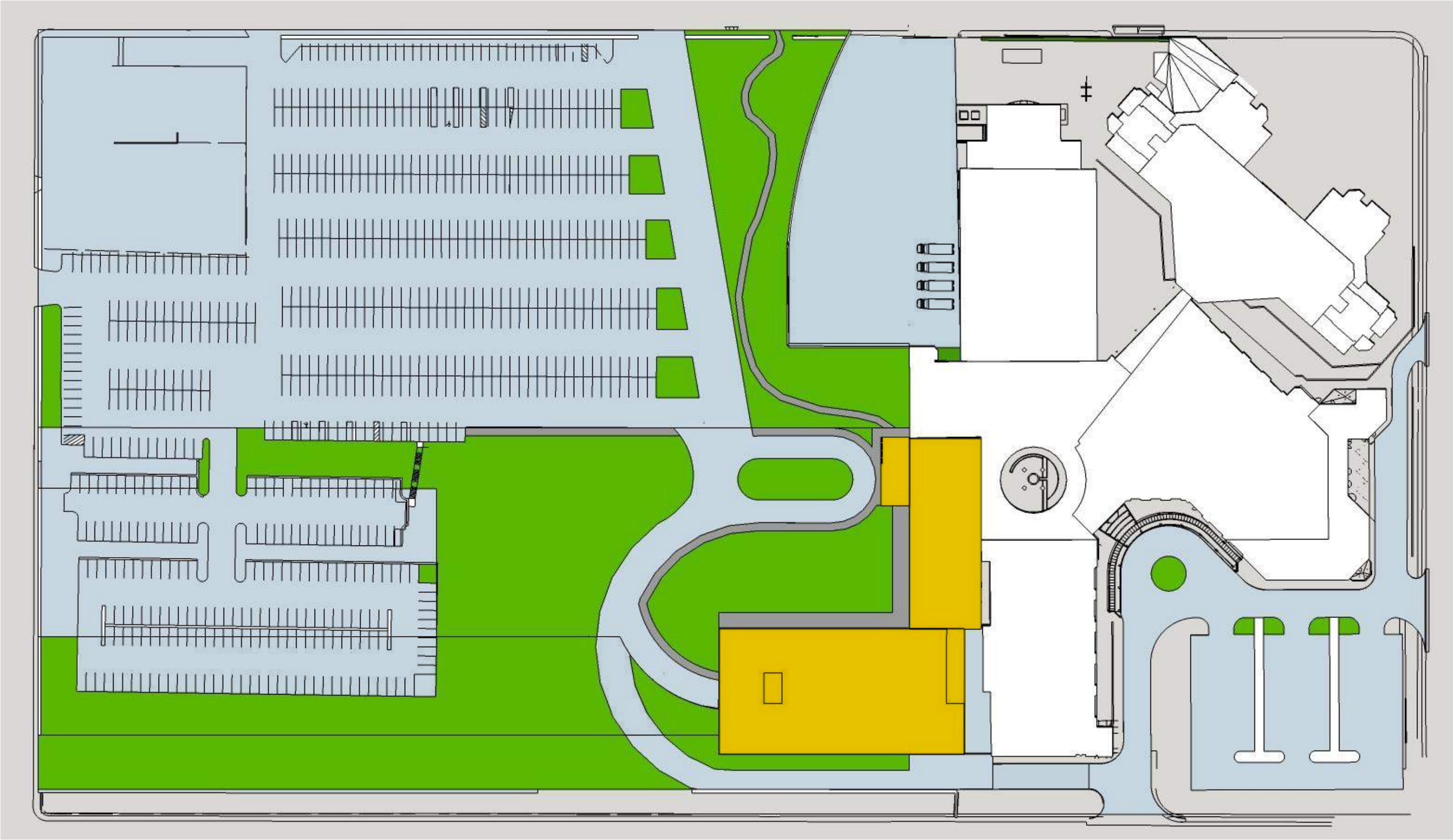




Exhibit 12 - New Site Plan



# Exhibit 13 - San Mateo Medical Center

## Interim Life Safety Measure policies

SUBJECT: INTERIM LIFE SAFETY MEASURE (ILSM) POLICY  
DEPARTMENT: FACILITIES AND ENGINEERING  
AUTHOR: DIRECTOR OF ENGINEERING

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### PURPOSE :

To define the Interim Life Safety Measures (ILSM) implemented to protect occupants during periods when the Life Safety Code is not met or during periods of construction.

### POLICY :

San Mateo Medical Center will institute and document Interim Life Safety Measures to temporarily compensate for hazards posed to buildings and grounds during construction and at any time there is a deficiency in meeting the Life Safety Code. The deficiencies are evaluated using the ILSM criteria checklist. ILSM are proactive administrative actions that are special measures to compensate for increased life safety risk. These include, but not limited to:

1. Ensuring free and unobstructed exits. Staff receives additional information/communication when alternative exits are designated. The hospital will post signage identifying the location of alternate exits to everyone affected.
2. Buildings or areas under construction must maintain escape routes for construction workers at all times, and the means of exiting construction areas are inspected daily.
3. Ensuring free and unobstructed access to emergency services and for fire, police, and other emergency forces.
4. Ensuring that fire alarm, detection, and suppression systems are in good working order. A temporary but equivalent system must be provided when any fire alarm and detection system is impaired.
5. Temporary systems must be inspected and tested monthly. The completion date of the tests will be documented.
6. Ensuring that temporary construction partitions are smoke-tight and built of noncombustible or limited combustible materials that will not contribute to the development or spread of fire.
7. Providing additional fire-fighting equipment.

Implementation: 5/95

Reviewed and Approved by:  
Director of Engineering

Date:

5/98, 5/01, 5/04, 2/06, 6/09, 6/12

(Cont'd.)

8. Providing additional training to those who work in the hospital on the use of fire-fighting equipment.
9. Prohibiting smoking throughout the organization's buildings and in and near construction areas.
10. Developing and enforcing storage, housekeeping, and debris-removal practices that reduce the building's flammable and combustible fire load to the lowest feasible level.
11. Conducting a minimum of two fire drills per shift per quarter.
12. Increasing surveillance of buildings, grounds, and equipment, with special attention to excavations, construction areas, construction storage, and field offices.
13. Training staff to compensate for impaired structural or compartmentalization features of fire safety.
14. Conducting organization wide safety education programs to promote awareness of fire-safety building deficiencies, construction hazards, and ILSMs.
15. The hospital notifies the fire department or the off-site monitoring company and initiates a fire watch when a fire alarm or sprinkler system is out of service more than 4 hours in a 24-hour period in an occupied building. Notifications and fire watch times will be documented.
16. The Interim Life Safety Measure (ILSM) policy will include criteria for evaluating when and to what extent the hospital follows special measures to compensate for increased life safety risk.

#### PROCEDURE :

Each of the above fourteen Interim Life Safety Measures will be implemented as per the following procedure:

1. If exits are compromised, alternate exits will be chosen and signs will be installed to guide visitors and staff alongside the safest route. Provide "No Exit" signs and provide new evacuation maps.
2. Special emphasis will be given in these areas to ensure free access to all.
3.
  - a). A temporary, but equivalent system shall be provided when any fire system is impaired.
  - b). Temporary system must be inspected and tested monthly.



(Cont'd.)

- c). Documentation of the contractor's temporary fire system equivalent plan and inspecting and testing reports are to be submitted to the Director of Facilities.
- 4. Inspector of record to ensure compliance and document. Notification is given to all construction personnel before starting projects.
- 5. Additional fire extinguishers to be put in the compromised area by Engineering and staff training to be done at the time of delivery and as needed.
- 6. Notification will be given to all construction personnel before starting projects. Facilities Director, Safety and Security Officer will do additional monitoring in construction and adjacent areas.
- 7. Notification to be given to all construction personnel before starting projects. Facilities Director and Safety & Security Officer will do monitoring.
- 8. All major projects will have additional surveillance and monitoring of affected areas with emphasis on excavations, pedestrian and vehicle traffic flow, equipment and supply storage areas. Excavations are to be barricaded and well lit at night. Construction areas must be cleaned up each day.
- 9. Notification given to Facilities Director on any compartmental deficiencies and staff training will be done as needed.
- 10. The staff will be kept current on any affected ILSM's and actions at the appropriate meetings, e-mails.

## INTERIM LIFE SAFETY MEASURES (ILSM) MATRIX KEY

ILSM # 1	Ensuring Egress	Provide and maintain alternative egress routes and exits, install temporary EXIT directional signage and provide training for using alternate exits. Inspect exits in affected areas on a daily basis
ILSM # 2	Emergency forces access	Ensure exterior building access points are unobstructed, maintain primary and/or alternate vehicular access and notify emergency response agencies when alternative access points are required
ILSM # 3	Emergency forces notification	Notify the fire department (or other emergency response group) and initiate a fire watch when a fire alarm or sprinkler system is out of service more than 4 hours in a 24 hour period in an occupied building
ILSM # 4	Ensuring operational life safety systems	Provide a temporary but equivalent fire alarm system when any fire system is impaired. Inspect and test temporary systems monthly
ILSM # 5	Fire Watch	See Fire Watch Policy
ILSM # 6	Temporary construction barriers	Temporary barriers must be smoke tight or made of non-combustible or limited combustible materials that will not contribute to the development or spread of fire
ILSM # 7	Additional fire fighting equipment	Provide additional firefighting equipment and training in it's use. Contractor is responsible in construction areas
ILSM # 8	Prohibiting smoking	Prohibit smoking throughout the facility including exterior construction sites
ILSM # 9	Controlling combustible loading	Monitor debris removal to maintain the lowest possible fire loading
ILSM # 10	Conducting 2 fire drills per shift in all areas	Conduct 1 additional fire drills per shift per quarter
ILSM # 11	Conducting 2 fire drills per shift in local area	Conduct 1 additional fire drills per shift per quarter
ILSM # 12	Increased hazard surveillance	Increase hazard surveillance of buildings, grounds and equipment including excavations, construction areas, staging areas, storage areas, field offices etc.
ILSM # 13	Compartmentation training of personnel	Provide training to compensate for impaired structural or compartmentalization features of fire safety
ILSM # 14	Conducting organizational training on life safety	Conduct safety education programs to promote awareness of construction hazards, building deficiencies and temporary measures
ILSM # 15	Conducting additional training of incident response plan	Conducting additional training of incident response plan

## INTERIM LIFE SAFETY MEASURES EVALUATION CRITERIA

Date of Survey
Scope of Work
Project Location
Project Name
Project Manager
Facility Manager's Signature

		YES	NO	N/A
1	Will existing exit egress routes from occupied areas remain unchanged/impaired/blocked?			
2	Will exit stairs remain unobstructed and fire separated?			
3	Will existing corridor width be reduced?			
	Will the construction site require tailored traversing of egress to provide emergency exiting?			
4	Will the construction area require additional exit routes?			
3	Will fire and smoke compartments remain intact and unchanged?			
4	Will fire alarm system remain functional and unchanged?			
5	Will fire suppression systems remain functional and unimpaired?			
	Will a hot work permit be necessary for heat-producing activities that could be sources of ignition?			
6	Will construction area be separated by noncombustible smoke tight partitions?			
7	Will there be an increase in debris, trash, and/or combustible fire load?			
8	Will additional fire-fighting equipment be available in the construction area?			
9	Will construction workers be trained in the Facilities fire plan?			
10	Will construction workers be trained in the use of fire extinguishers?			
11	Will access to the Emergency Department be unobstructed?			
12	Will emergency access for the local fire department remain unobstructed?			
	Will special training to compensate for structural, compartment, or code deficiencies be needed?			
13	Other			
	Is an Interim Life Safety Measures Plan required?			

## INTERIM LIFE SAFETY DAILY MONITORING

Date of Survey	
Inspector	
Area Surveyed	
Project Number	
Project Name	

**YES      NO      N/A**

<b>A. EXITS</b>			
1. Do exits provide free and unobstructed egress?			
2. Did personnel receive training for alternative exits?			
3. Are means of egress in construction area inspected daily?			
4. Is there free and unobstructed access to Emergency Department/Services and for emergency forces?			
<b>B. FIRE EQUIPMENT</b>			
1. Are fire alarms, detection, and suppression systems in an operational function?			
2. Are fire alarms, detection, and suppression systems impaired?			
3. Have temporary fire alarm, detection, and suppression systems been inspected and tested monthly?			
4. Have training and additional fire equipment been provided for personnel?			
<b>C. FIRE SYSTEM</b>			
1. Power properly secured at the end of each workday?			
2. Has the no smoking policy been implemented in and adjacent to the construction areas?			
3. Are construction areas free of storage and housekeeping materials, food, food waste, and debris for daily operations to reduce flammable and combustible fire load of the building?			
4. Has there been a minimum of two fire drills conducted per shift per quarter?			
5. Has hazard surveillance in construction area been inspected daily?			
6. Have safety education programs been conducted to ensure awareness of any Interim Life Measures Life Safety Code deficiencies and construction hazards.			
<b>D. GENERAL SAFETY</b>			
1. Is power properly secured at the end of each workday?			
2. Are hand and safety rails in place and in good condition?			
3. Are extension cords grounded and in good condition?			
4. Are power tools in good condition?			
5. Are hard hats used regularly?			
6. Are cutting and welding operations properly conducted?			
7. Are new employees instructed in Right-To-Know regulations?			
8. Do fire watch personnel receive appropriate training?			
9. Are all construction activities conducted in a safe manner?			
10. Does all scaffolding comply with OSHA requirements (1926.421)?			
11. Are employees trained in fall hazards in work areas near roof edge?			

<b>E. INFECTION CONTROL</b>			
1. No construction activity takes place within 25 feet of existing fresh air intakes?			
2. Materials used (i.e., fire retardants) comply with necessary safety regulations.			
3. Monitoring of impervious construction barriers to verify negative pressure.			
4. Demonstrated compliance with traffic patterns.			
5. Demonstrated compliance with appropriate use of cover garbs when outside construction area.			
6. Demonstrated use of appropriate equipment to prevent airborne particulate matter/debris; this includes HEPA filtration units, HEPA vacuum equipment, and continuous use of exhaust fans.			
7. Ducts remain sealed/capped.			
8. Doors are closed and gaskets/hardware are intact.			
9. Methods of debris transport are monitored and found to be consistent with processed designed to minimize airborne particulate matter/debris.			
10. All windows and doors remain closed to prevent circulation of dust/debris.			
11. Carpet or adhesive strips are clean and available at doorways for shoe dust collection.			
12. Areas are found to be cleaned at the end of each day.			
13. No signs of water leakage.			
11. No signs of pests.			

**Additional Comments**

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Hospital Project Manager \_\_\_\_\_ Date \_\_\_\_\_

Contractor \_\_\_\_\_ Date \_\_\_\_\_

SUBJECT: ABOVE-CEILING WORK PERMIT  
DEPARTMENT: FACILITIES AND ENGINEERING  
AUTHOR: DIRECTOR OF ENGINEERING

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#### POLICY/PURPOSE STATEMENT

San Mateo Medical Center is required by the 2000 Life Safety Code to ensure penetrations in fire and smoke partitions are sealed and to properly support wires above ceiling spaces. The penetrations and improperly supported wires are the result of utilities such as conduit, pipe, duct work, communication lines and television lines being installed without being properly supported and penetrations in walls not being properly sealed. This procedure outlines the Above Ceiling Work Permit Program.

#### PROCEDURE

1. An above ceiling Work Permit (see attached permit) is required for any work performed other than by Facilities & Engineering personnel above the ceiling level within the main building at San Mateo Medical Center, and must be secured prior to beginning any work. The permit may be secured from the Facilities & Engineering Department.
2. The permit must be completely filled out by the person requesting the permit and authorized by the Director of Engineering or his designee. The permit must be in the possession of the person performing the work at all times while the work is under way.
3. The person performing the work must notify the appropriate inspector prior to the commencement of work, before any work is concealed and after the work is completed. Work may not proceed until the inspections are complete.
4. Prior to beginning of any work, the area must be inspected by the persons desiring or performing the work and the appropriate inspector. Any pre-existing conditions should be noted on the permit.
5. All penetrations and attachments must be made in accordance with the Uniform Building Code, with California amendments, the 2000 Life Safety Code and the UL Fire Resistance Directory.
6. Supporting work from the ceiling grid is prohibited.

Implementation: 5/95

Reviewed and Approved by:  
Director of Engineering

Date:

5/98, 5/01, 5/04, 2/06,  
6/09, 06/12

7. Any damage to the ceiling or other structures shall be repaired before the work is approved.

**SAN MATEO MEDICAL CENTER  
ABOVE-CEILING WORK PERMIT**

**Name----- Date-----**

**Department/Company-----**

**Phone-----Fax-----**

**Location-----Room #-----**

**Description of Work**

**Wiring to be installed or modified:**

**Communication-----**

**Fiber Optic-----**

**Security-----**

**Other-----**

**HVAC-----**

**Door Control-----**

**Fire Alarm-----**

**Telephone-----**

**Electric low or high Voltage-----**

**Television-----**

**How work will be supported:**

**Deck-----**

**Existing piping or conduit rack-----**

**Existing Cable Tray-----**

**Wall-----**

**Existing Casework-----**

**New pipe or conduit rack-----**

**New cable tray-----**

**Other-----**

**Will any penetration modifications be made to the visible ceiling or walls:**

**Yes-----**

**No-----**

**Describe:**

**Start Date-----**

**Time-----**

**Completion Date-----**

**Time-----**

**Authorized to Proceed -----Date-----**

**Interim Inspection-----Date-----**

**Final Inspection-----Date-----**



SUBJECT:	HOT WORK PERMIT
DEPARTMENT:	FACILITIES AND ENGINEERING
AUTHOR:	DIRECTOR OF ENGINEERING

PURPOSE

To define the steps that should be taken to issue a hot work permit to lessen the possibility of accidental fires in or around the hospital.

PROCEDURE

1. The hospital Supervising Stationary Engineer shall be solely responsible for issuing “hot work” permits to outside contractors and County Crafts personnel. The permit must be issued prior to the start of the work and returned to the Supervising Stationary Engineer at the time designated on the permit.
2. Before a “hot work” permit is issued, the work area shall be surveyed by the Supervising Stationary Engineer to determine if the area is free from combustible or hazardous materials and that adjacent equipment and operations are considered safe from any effects of the work.
3. All job sites involving “hot work” shall have a portable fire extinguisher of appropriate size and type at hand in the event an accidental fire is started. If the Supervising Stationary Engineer deems it necessary, a separate fire watch shall be maintained during the course of any “hot work.”
4. The Supervising Stationary Engineer shall write on the back of the permit any special conditions that must be met before the work proceeds. The permit is to be displayed in an open and prominent location at the job site.
5. No “hot work” shall be performed on natural gas or oxygen lines unless the lines have been isolated, purged, and inspected by the Supervising Stationary Engineer and a permit has been issued for the work.
6. During the course of all maintenance and contractor work, the job site shall be kept free of combustible material when “hot work” is in progress. This includes volatile and hazardous liquids which when in the presence of heat will give off combustible or toxic vapors.

Implementation: 5/95

Reviewed and Approved by:  
Director of Engineering

Date:

5/98, 5/01, 5/04,  
2/06, 02/09, 01/12

7. No welding or flame cutting of ventilation ducts shall be permitted under any circumstances.



# HOT WORK PERMIT

The supervisor, in issuing this permit, certifies that all safety factors have been considered and cared for satisfactorily.

Return this permit upon completion of the job which it is to cover to the authorizing supervisor. The supervisor will write "complete", date and initial across the face of the permit.

AREA OF HOT WORK: \_\_\_\_\_

WORK TO BE DONE: \_\_\_\_\_

	YES	NO	N/A
1. Read the Hot Work Permit Procedure.			
2. Work area and equipment has been made free of flammable, combustible, and hazardous materials.			
3. Gas Test taken.			
4. Is a fire extinguisher on the job?			
5. Smoke alarms covered?			
6. Lines disconnected and/or blanked?			
7. Is a fire watch provided?			
8. Adjoining equipment and operations considered ok from standpoint of possible effect on the job.			
9. Other necessary precautions. SPECIFY:			

## APPROVAL

I have personally checked the conditions necessary and as specified. I authorize this "Hot" work to begin.

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

HOT WORK PERMIT IS GOOD FOR \_\_\_\_\_ HOURS ONLY.

THIS PERMIT CAN BE ISSUED FOR ONLY ONE SHIFT; IT BECOMES VOID AT THE END OF WORK SHIFT DAY.

**DEPARTMENT OF PUBLIC WORKS  
SAN MATEO MEDICAL CENTER  
FACILITIES & ENGINEERING DEPARTMENT  
PHONE : (650) 573 2529  
FAX : (650) 573 2027**

**UTILITY SYSTEM SHUTDOWN NOTICE  
MUST BE SUBMITTED AT LEAST 3DAYS (72 HOURS) PRIOR TO SHUTDOWN**

<b>System :</b>
<b>Location/Building :</b>
<b>Reason for Shutdown:</b>
<b>Date &amp; Time of Work To Be Performed :</b>
<b>Areas Affected :</b>
<b>System Shutdown Sequence :</b>
<b>Name &amp; Contact of the Person Requesting :</b>
<b>Name &amp; Contact of the Responsible Person/Contractor :</b>
<b>Name of the Engineering Staff Assigned :</b>
<b>Shutdown Approved By :</b>
<b>Director of Engineering :</b>
<b>Supervising Stationary Engineer :</b>
<b>Notifications Made to the Departments :</b>
<b>E-mail :</b>
<b>Shutdown Notice Posted :</b>

**Note: Fire Alarm System Shutdown should be coordinated with PBX and Cal-Security. Keller Center to be notified before any strobes and chimes are tested.**

SUBJECT: FIRE WATCH PROTOCOL  
DEPARTMENT: FACILITIES AND ENGINEERING  
AUTHOR: DIRECTOR OF ENGINEERING

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## POLICY

The Fire Watch Protocol will be initiated when the Fire Alarm and/or Sprinkler System malfunctions. This policy is applicable to medical all health and hospital facilities including the San Mateo Medical Center, Burlingame Long Term Care and Off-site clinics.

## PURPOSE

To initiate appropriate action to ensure the safety and well being of the patients, residents, staff and visitors in the event of the Fire Alarm and/or Sprinkler System malfunctioning. Once the fire alarm and/or sprinkler system malfunction has been detected, the Fire Marshall and Facility Engineer will be notified. The Facility Engineer will immediately begin the investigation and repair the malfunction.

## PROCEDURE

Every hour the designated person on duty will monitor the building by walking the unoccupied and occupied areas to check for the following conditions and complete the fire watch log. The designated personnel include security, engineering, and nursing supervisor staff that are knowledgeable and are trained to perform the fire watch functions.

1. Hallways, patient/resident rooms, mechanical/electrical spaces, roofs and unoccupied are free of fire hazards, combustibles or any other conditions that could develop into a fire hazard
2. Minimum clearances are maintained on hallways and exit pathways
3. Fire Extinguishers are full and dates are current
4. Malfunctioning equipment and supplies are out of service and labeled
5. Resident smoking confined to the smoking patio only and adherence to county/hospital smoking policy
6. Wall checked for hot spots
7. All areas checked for signs of smoke and/or combustion

The Fire Watch Protocol will be maintained until the Fire Marshall has given clearance.

Implementation: 5/95

Reviewed and Approved by:  
Director of Engineering

Date:

5/98, 5/01, 5/04, 2/06,  
06/09,06/12

## FIRE WATCH LOG

Date	Time	Location	Comments	Signature

Note: Check mark in location column indicates that all areas have been checked per the policy and procedure

## CONSTRUCTION RELATED TRAINING TO STAFF AND CONTRACTORS

1. Check in with Security Department/name tag
2. Exits
3. Emergency codes
4. Code Blue buttons and Nurse Call buttons
5. Fire alarm procedure
6. Location of Fire Extinguishers
7. Emergency phone number 2121
8. Paging number 3775
9. Smoking policy

Department -----

Contractor -----

Date -----

Staff Trainer-----

## **LIFE SAFETY DEFICIENCY RELATED STAFF TRAINING**

1. Unit Concept – Defend In Place/”RACE”
2. Exits/Evacuation Procedure
3. Emergency codes
4. Fire alarm procedure
5. Location of Fire Extinguishers
7. Emergency phone number 2121
8. Paging number 3775
9. Smoking policy
10. Interim Life Safety Measures (ILSM) # (s) -----
11. Fire Safety Module Annual Training:  
-Yes/No  
-Completed Date-----

Department -----

Date -----

Staff Trainer-----



## INTERIM LIFE SAFETY MEASURES (ILSM) MATRIX

[illegible]



## COUNTY OF SAN MATEO WASTE MANAGEMENT PLAN

### SUBMIT TO:

County of San Mateo  
Public Works Department – RecycleWorks  
555 County Center, 5th Floor  
Redwood City, CA 94063  
Mon. – Fri. 8:00-12:00, 1:00-4:00

INFORMATION AND SUPPORT: [www.RecycleWorks.org/con\\_dem](http://www.RecycleWorks.org/con_dem)  
1-888-442-2666

Case/Group Number(s):

BLD \_\_\_\_\_ — \_\_\_\_\_

Project Address:

Street \_\_\_\_\_

City \_\_\_\_\_

### WMP REQUIRED BECAUSE PROJECT IS A

- ☐ Demolition  $\geq$  \$5000
- ☐ Construction project  $\geq$  \$250,000
- ☐ Construction  $\geq$  2000 sq. ft.
- ☐ Remodel

## SECTION ONE: PERMIT APPLICATION

This Waste Management Plan (WMP) must be completed, submitted for review, and approved to obtain a building permit. Separate WMPs must be completed for demolition and construction at the same site unless the building department requires only one permit. A \$95 administration fee will be charged with the completion of this form pursuant to Ordinance No. 04099, Section 4.105.040.

### STEP 1: PROJECT INFORMATION – FILL OUT THE FOLLOWING INFORMATION

Applicant's Name: \_\_\_\_\_ Owner's Name: \_\_\_\_\_

Contact Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Check one: ☐ Owner ☐ Architect ☐ Builder ☐ Owner/Builder ☐ Other \_\_\_\_\_

Contractor: \_\_\_\_\_ Contact Phone Number: \_\_\_\_\_

Project Type(s): ☐ New ☐ Remodel ☐ Addition ☐ Demolition

Project Square Footage: \_\_\_\_\_

Does this project fall under the Green Building Ordinance requirements? ☐ Yes ☐ No

Project Description: \_\_\_\_\_

Estimated Completion Date: \_\_\_\_\_

## Exhibit 14 - County of San Mateo Waste Management Plan

### STEP 2: WASTE MANAGEMENT REQUIREMENTS

**REQUIREMENTS: You are required to recycle or re-use 100% of inert solids (asphalt, brick, concrete, dirt, fines, rock, sand, and stone) and 50% of all other construction and demolition debris.**

I understand that I am required by San Mateo County Ordinance No. 04099 to salvage, reuse, or recycle **100% of inert solids** (asphalt, brick, concrete, dirt, fines, rock, sand, and stone) and a **minimum of 50%** of all other construction and demolition debris (C&D). \_\_\_\_\_ (Initial)

I understand that failure to meet the requirements of Ordinance No. 04099 shall constitute a misdemeanor, and shall be punishable by imprisonment in the county jail for up to 6 months, or by a fine of up to \$1,000, or both. In addition a stop order on the job or a delay of final approval may occur. \_\_\_\_\_ (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 to the County of San Mateo and I understand that I may not be issued my final inspection unless all receipts and documentation are submitted to the County of San Mateo Public Works Department. \_\_\_\_\_ (Initial)

*Please only include construction and demolition waste weight tags; no household waste.*

**STEP 3: RECYCLING CONSTRUCTION AND DEMOLITION DEBRIS – ANSWER THE QUESTIONS AND FILL OUT THE TABLE BELOW.**

**SALVAGE AND REUSE:**

What materials will be salvaged? \_\_\_\_\_

Salvage Company (if applicable): \_\_\_\_\_

What materials will be reused on site? \_\_\_\_\_

How will this be documented? \_\_\_\_\_

**MATERIAL TRANSPORTATION:**

Will you be using a hauling company, debris box company or hauling the material yourself? (Check one.)

☐ Hauler      ☐ Debris Box      ☐ Self-haul

If using a hauling or debris box company, which company? \_\_\_\_\_

Have they been notified that the diversion of 50% mixed debris is required?    ☐ Yes    ☐ No

**WASTE MANAGEMENT PLAN:**

Check the materials you anticipate generating and fill in the facilities that you plan to use.

SECTION ONE			
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		
	Green Waste		
	Other		
DISPOSAL	Waste		

*\*One compliance option is to take all loads of mixed debris to a facility that will sort your loads of mixed debris. The sorting facilities listed in our Construction Site Recycling Guide will satisfy the County's requirement.*

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 original receipts, weight tags and documentation for salvage, recycling, and disposal must be submitted:

☐ On completion of project    ☐ Other \_\_\_\_\_

DPW Approval: \_\_\_\_\_ Date \_\_\_\_\_

Building Official Approval: \_\_\_\_\_ Date \_\_\_\_\_

# COUNTY OF SAN MATEO

## WASTE MANAGEMENT PLAN

Address \_\_\_\_\_  
Case/Group Number(s): \_\_\_\_\_  
BLD \_\_\_\_\_ — \_\_\_\_\_

### SECTION TWO: FINAL REPORT APPROVAL

Please complete this section, have it approved by the Public Works Department, and then submit to the Development Review Center for final approval no later than 30 days after completion of the demolition or construction project.

**This section must be completed and signed, and all original receipts or other supporting documentation must be attached in order to receive final project approval.**

CATEGORY	DATE	MATERIAL/ITEMS	FACILITY	WEIGHT (TONS)	VOLUME (CU. YD.)
MIXED C&D WASTE					
SALVAGE					
INERTS Asphalt, bricks, concrete, dirt, rock, sand, soil, stone					
SOURCE SEPARATED Cardboard, wood, metal, sheetrock, wire, carpet, yard trimmings, (reusable items)					
DISPOSAL					

- ☐ All original receipts or equivalent documentation for salvage, recycling, and disposal are hereby attached.
- ☐ This project has recycled all of the inert solids and at least 50% of all other debris generated.

**Applicant Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

County Approval: ☐ Approved ☐ Approved with comments ☐ Denied

\_\_\_\_\_

\_\_\_\_\_

DPW Approval: \_\_\_\_\_ Date \_\_\_\_\_

Building Official Approval: \_\_\_\_\_ Date \_\_\_\_\_

**Exhibit 15**  
**SCHEDULE OF RATES**  
**Agreement**  
**Between**  
**County of San Mateo, Owner**  
**And**

---

**For**  
**CMR Services**

**SCHEDULE OF RATES FOR PERSONNEL COSTS**

<i>Position</i>	<i>Person</i>	<i>Cost per hr.</i>
Principal in Charge		
Project Director		
Operations Manager		
Preconstruction Project Manager		
Preconstruction Project Manager		
Sr. Estimator		
dProfiler Estimator		
BIM Manager		
BIM Engineer		
Scheduler		
Sr. Project Manager		
General Superintendent		
Assistant Project Manager		
Safety Specialist		
Superintendent		
Sr. Project Engineer		
Field Engineer		
Administrative Assistant		

Rates include all taxes, insurance, cell phone, vehicle expense, living allowances (to be reconciled to actual cost).

**SECTION 02 26 00**

**EXISTING CONDITIONS – HAZARDOUS MATERIAL ASSESSMENT**

**TABLE OF CONTENTS**

PART 1 - GENERAL .....	2
1.1 SUMMARY .....	2
1.2 HAZARDOUS MATERIALS REPORT(S) .....	2
1.3 HAZARD SUMMARY .....	2
1.4 USE OF DATA .....	3
1.5 PRE-BID VISIT TO WORK SITE .....	4
1.6 ASBESTOS SAMPLE LOCATION DIAGRAMS .....	4
1.7 MATERIALS MATRIX REPORTS.....	4

**Exhibit 16 - Hazardous material abatement  
and detailed Work Plans for Project  
Component Group A**

## SECTION 02 26 00

### SCHEDULE FOR EXISTING CONDITIONS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Document discloses Reference Documents that are available to the bidders regarding the hazardous materials investigations utilized in preparation of the Contract Documents.

##### 1.2 HAZARDOUS MATERIALS REPORT(S)

The Bidder's attention is directed to the fact that a hazardous materials survey was performed for the buildings. Inspection and limited sampling was conducted by SCA Environmental, Inc. in June 2017 by Dan Leung, CIH, CSP, CAC, CDPH. The sampling and investigation included limited non-destructive testing in areas to be disturbed by the proposed project and included sampling of suspect asbestos- and lead-containing materials, as well as visual identification of mercury-containing items.

Additional information can be found in the following report:

- "Limited Hazardous Materials Testing, 222 W. 39th Avenue, San Mateo, California", prepared by SCA and dated July 18, 2017 (SCA Project Number F12437)

Obtain copies of the above-reference report from the Owner.

##### 1.3 HAZARD SUMMARY

- A. Asbestos Hazards: Certain existing building components or materials, which may be impacted by the Work of this Project, are known or presumed to contain asbestos. In addition, fill soils were found to contain ACM(>0.1%) construction debris.

For a list of asbestos-containing materials (ACM, >1%), asbestos-containing construction materials (ACCM, >0.1%), Trace asbestos materials, and non-asbestos-containing materials in the buildings and at the site, refer to the Material Matrix Report attached to this section. Additional suspect materials identified should be assumed asbestos-containing until such time as sampling can be performed to verify asbestos content.

- B. Lead Hazards: Certain existing painted or coated surfaces to be impacted by the Work of this Project are known or suspected and assumed to contain lead.

Treat all similar paints and substrates in kind. Note that most building paints contain some lead content. Assume all paints contain >1000 ppm and require demolition dust control procedures for compliance with Cal/OSHA's Construction Lead Standard under 8 CCR 1532.1.

Characterize debris from coated materials for possible disposal as hazardous waste. Intact painted elements may be disposed as non-hazardous waste complying with dust controls and personal protective procedures per Cal/OSHA regulation 8 CCR 1532.1 and California DPH regulation 17 CCR Sections 35001 through 36100.

The following materials were not all tested but, the Contractor, for the purposes of this Contract, shall assume, and manage, them as lead containing.

- a. Plumbing components, such as pipes, fittings and solders.
- b. Roof flashings.
- c. Mastic and adhesives.
- d. Coatings/paints on structural steel.

It has not been verified that any paints, coatings, dusts, or materials are "lead free" or below detection therefore all "trigger 1" construction activities, such as demolition of painted surfaces, manual scraping or sanding of painted surfaces, or any work impacting painted surfaces and primed structural steel shall be completed using dust controls and personal protective measures in compliance with the Cal/OSHA Construction Lead Standard, 8 CCR 1532.1.

C. Other Hazards:

1. Mercury-Containing Fluorescent Light Tubes/Bulbs: Fluorescent lamps on-site shall be treated as having mercury content requiring removal and recycling by this contract's demolition requirements.

1.4 USE OF DATA

- A. Environmental consultation was obtained only for the use of the Owner and its Consultants for planning and design stages of this Project. The above mentioned data are not, as a whole, part of the Contract Documents, but the sampling data contained therein can be relied upon by the Contractor to characterize general site conditions, although quantities, friability and other factors may have changed or been altered since the time of inspection.
- B. All statements, findings, and interpretations in the above mentioned reports are those of the Survey or Abatement Consultant. The Owner makes no representations, either expressed or implied, as to the completeness or adequacy of the above-mentioned reports. Bidders are advised that the limited testing of components allow for generalizations in describing the extent of hazardous materials. Specific components or materials, should be checked against the referenced sampling data and the Contract Documents, or be tested at affected locations, prior to disturbance of such components.
- C. Bidders shall visit the site and acquaint themselves with the existing conditions.



#### 1.5 PRE-BID VISIT TO WORK SITE

- A. Prior to bidding, Bidders may make their own investigations to satisfy themselves as to the Site and building conditions.

#### 1.6 ASBESTOS SAMPLE LOCATION DIAGRAMS

Drawings provided herein and listed below refer to sample locations only and are not intended to provide locations where hazardous materials are present. Sample location diagrams include samples collected by SCA in June 2017. Refer to Section 1.7 for information regarding locations of identified hazardous materials.

##### **Figures**

Figures 1 – 3: Sample Location Diagrams

#### 1.7 MATERIALS MATRIX REPORT

The Materials Matrix Report provided herein as listed below inventory the suspect materials that may be present requiring abatement and /or control procedures:

Table 1: Materials Matrix Report

END OF SECTION 02 26 00

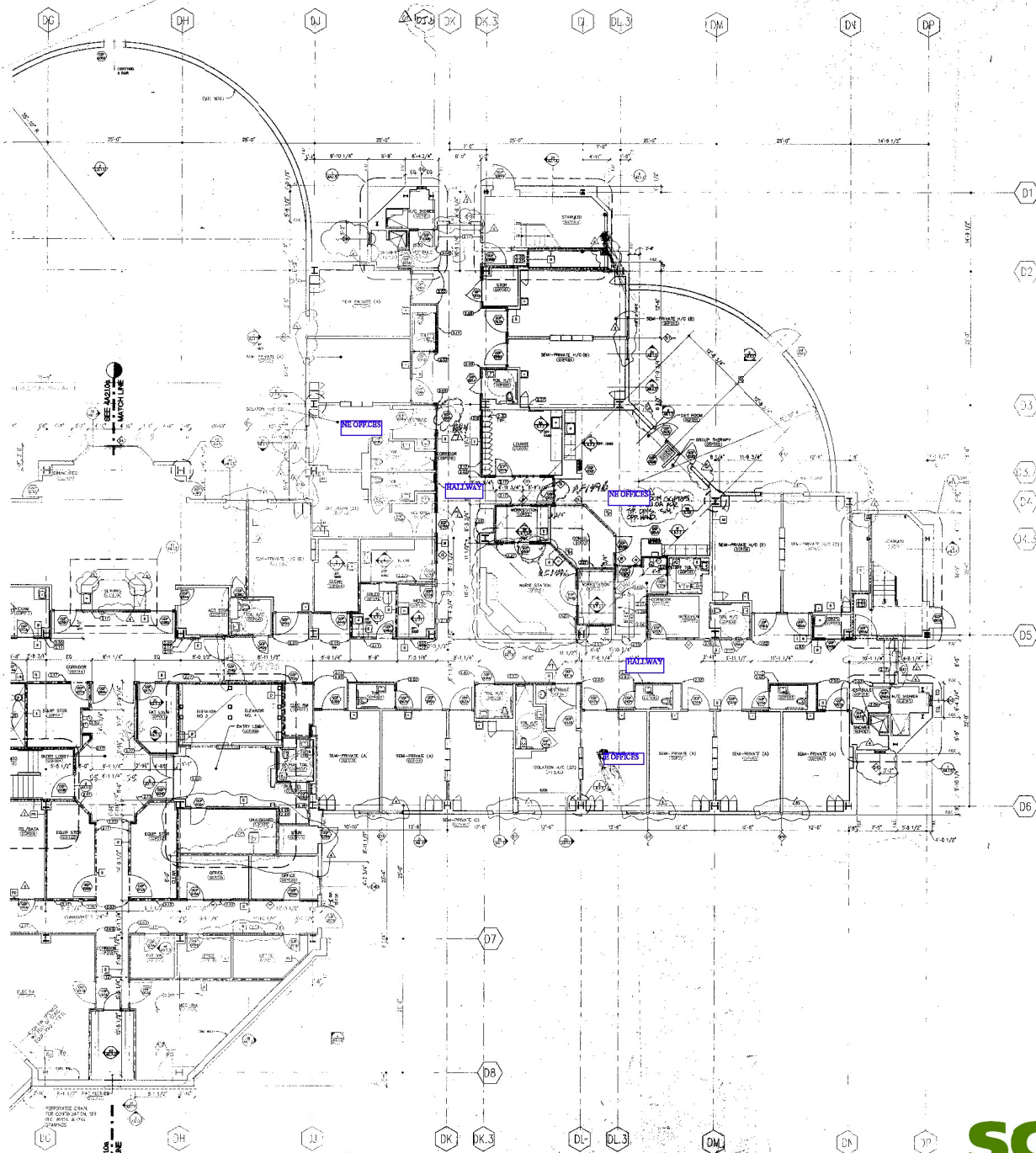




PROPOSED FLOOR  
USE ONLY

LABOR RECORD  
DATE INITIALS

COPYRIGHT



# SHEET NOTES

1. SEE FIRE PROTECTION PLANS TO COORDINATE FIRE RATED CONSTRUCTION.
2. INTERIOR PARTITIONS ARE TYPE A UNLESS OTHERWISE SHOWN.
3. SEE DWG. A-10.0 FOR PARTITION TYPES.
4. SEE DWG. A-10.0 FOR STANDARD DOOR TYPES AND MOUNTING HEIGHTS OF FIXTURES, EQUIPMENT AND ACCESSORIES.
5. SEE DETAIL A-10.0 FOR TYPICAL PURGING AROUND INTERIOR COLUMNS.
6. VERIFY REQUIRED CLEARANCE OF ALL PRE-FABRICATED ITEMS PRIOR TO INSTALLATION.
7. NOT USED

## FIRE RATED TAPES

1. HOUR AREA SEPARATION (45 MIN. DOOR)
1. HOUR OCCUPANCY SEPARATION (60 MIN. DOOR)
1. HOUR CORRIDOR (20 MIN. DOOR)
1. HOUR BUNK COMPARTMENT (20 MIN. DOOR)
2. HOUR CONSTRUCTION (1-1/2 HOUR DOOR)
2. HOUR AREA SEPARATION (1-1/2 HOUR DOOR)
2. HOUR OCCUPANCY SEPARATION (1-1/2 HOUR DOOR)
4. HOUR AREA SEPARATION (1 HOUR DOOR)

## KEY NOTES

- 2.01 FLOORING CHANGE
- 2.02 NOT USED
- 2.03 CORNER GUARD SEE DETAIL A-10.0
- 2.04 RECESS FLOOR SLAB
- 2.05 RECESSED SLAB @ HANDICAPPED SHOWER
- 2.06 EDGE OF CONCRETE SLAB
- 2.07 GUARD RAIL
- 2.08 ADJUSTABLE SHELVING - FULL HEIGHT
- 2.09 2-1/4" Ø ØNOMET @ 2'-0" O.C. - LENGTH OF COUNTER
- 2.10 SKYLIGHT
- 2.11 JACUZZI
- 2.12 COILING DOOR
- 2.13 COLUMN COVER
- 2.14 ALSO FACE OF FINISH
- 2.15 LINE OF ST-111 ABOVE
- 2.16 FIRE EXTINGUISHER CABINET, REFER TO DETAIL A-10.0 FOR HOUSING
- 2.17 BUMPER GUARD/HANDRAIL SEE WALL SEE DETAIL A-10.0
- 2.18 OPERABLE PARTITION
- 2.19 RECESSED FLOOR MAT
- 2.20 SINKING JACUZZI
- 2.21 LINE OF FLOOR ABOVE
- 2.22 FIBER GLASS ASSEMBLY
- 2.23 STANDPIPE
- 2.24 ELECTRIC WATER COOLER, REFER TO DETAIL A-10.0
- 2.25 FLOOR DRAIN - SEE PLUMBING DWGS.
- 2.26 FIRE CONTROL PANEL
- 2.27 MARKER BOARD SUPPORT RAIL
- 2.28 PUBLIC TELEPHONE, N.L.C. (REFER TO DETAIL A-10.0)
- 2.29 PUBLIC TELEPHONE W/TOO ADAPTER, N.L.C. (REFER TO DETAIL A-10.0)
- 2.30 JACOZZI
- 2.31 WARMER TUBS (JACOZZI/HEALTHCARE (P/D/A))
- 2.32 PERIMETER TUBE STATION (N.L.C.)
- 2.33 COORDINATE PROJECTIONS WITH OWNER'S VENDOR
- 2.34 CONCRETE PAD
- 2.35 SECURITY SCREEN IN STEEL WINDOW FRAME
- 2.36 MIRRORING WALL
- 2.37 FLOOR SINK - SEE PLUMBING DWG.

**SCA**  
ENVIRONMENTAL, INC.

Figure 2. Sample Location Diagram  
San Mateo Medical Center  
Nursing Wing, Ground Floor  
SCA Proj. #: F-12437  
June 28, 2017

**The Ratcliff Architects**

5856 Doyle Street  
Emeryville, CA 94608  
Main: P.O. Box 1022  
Berkeley, CA 94701

Tel: (510) 652-1972  
Fax: (510) 655-6554

Structural Engineer  
**DASSE Design Inc.**

33 New Montgomery Street, Suite 850  
San Francisco, CA 94105  
Tel: (415) 243-1400  
Fax: (415) 243-6195

Mechanical/Electrical/Plumbing  
**Ted Jacob Engineering Group, Inc.**

1753 Broadway  
Oakland, CA 94612  
Tel: (415) 885-8880  
Fax: (415) 753-5559

Civil Engineer  
**Randall Hunter Jones**

605 Cochrane Street  
Mountain View, CA 94041-2611  
Tel: (415) 965-9322  
Fax: (415) 965-0472

Landscaper Architect  
**Omi Lang Associates Inc.**

70 Loma Drive  
4th Floor, Suite 400  
San Francisco, CA 94114  
Tel: (415) 398-3128  
Fax: (415) 398-3127

Code/Permit Consultant  
**Schinner Engineering Corporation**

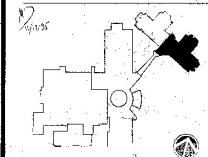
2225 California Street  
Concord, CA 94520-2700  
Tel: (925) 817-5885  
Fax: (925) 827-8387

No.	Date	Revised	By
1	07/25/03	CONCEPT NO. 1	
2	08/06/03	ADDITIONAL NO. 2	
3	09/22/03	REVISION NO. 3	
4	01/14/04	REVISION NO. 4	
5	01/14/04	REVISION NO. 5	

This Document Has Been Reviewed  
In Accordance With The  
Requirements Of Title 24 C.C.R.  
Office of Statewide Health Planning  
and Development.  
Reviewer \_\_\_\_\_ Date \_\_\_\_\_

OSHDP - NO. \_\_\_\_\_  
NURSING WING: HS930434-41

County NO. 570A-0031239  
The Ratcliff Architects Project No.: 92031



**SAN MATEO  
COUNTY  
HEALTH CENTER  
NURSING WING**

Drawing  
**GROUND FLOOR PLAN  
AREA B**

Scale: 1/8" = 1'-0" D:\SCA\MS\Doc\0031239

Drawing No.  
4A210b

# The Ratcliff Architects

5805 Doyle Street  
Emeryville, CA 94608  
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Fax: (415) 243-9165

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**Ted Jacob Engineering Group, Inc.**

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Fax: (510) 763-5091

Civil Engineer

**Sandra Hunter Jones**

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Mountain View, CA 94031-2011  
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Fax: (415) 969-6472

Landscape Architect

**Omi Lang Associates Inc.**

2556 California Street  
San Francisco, CA 94115  
Tel: (415) 922-0104  
Fax: (415) 922-1685

Code/Title Consultant

**Schmmer Engineering Corporation**

2325 Clayton Road  
Concord, CA 94520-2104  
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Fax: (510) 827-7699

No.	Date	Revision	By
1	23 DEC 98	Adendum No. 7	
2	6 JAN 99	Adendum No. 8	
3	14 MAY 99	PR 12/13/98	
4	14 JUL 99	PR 12/13/98	
5	10-15-99	PR 12/13/98	

RECORD DRAWINGS

This Document has Been Reviewed  
In Accordance With The  
Requirements of Title 24 C.C.R.  
Office of Statewide Health Planning  
and Development.  
Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

OSHPD NO. HS920974-41  
County NO. 570A-0031239  
The Ratcliff Architects Project No. 92031

Architectural/Engineering Stamp

## SAN MATEO COUNTY HEALTH CENTER

Building

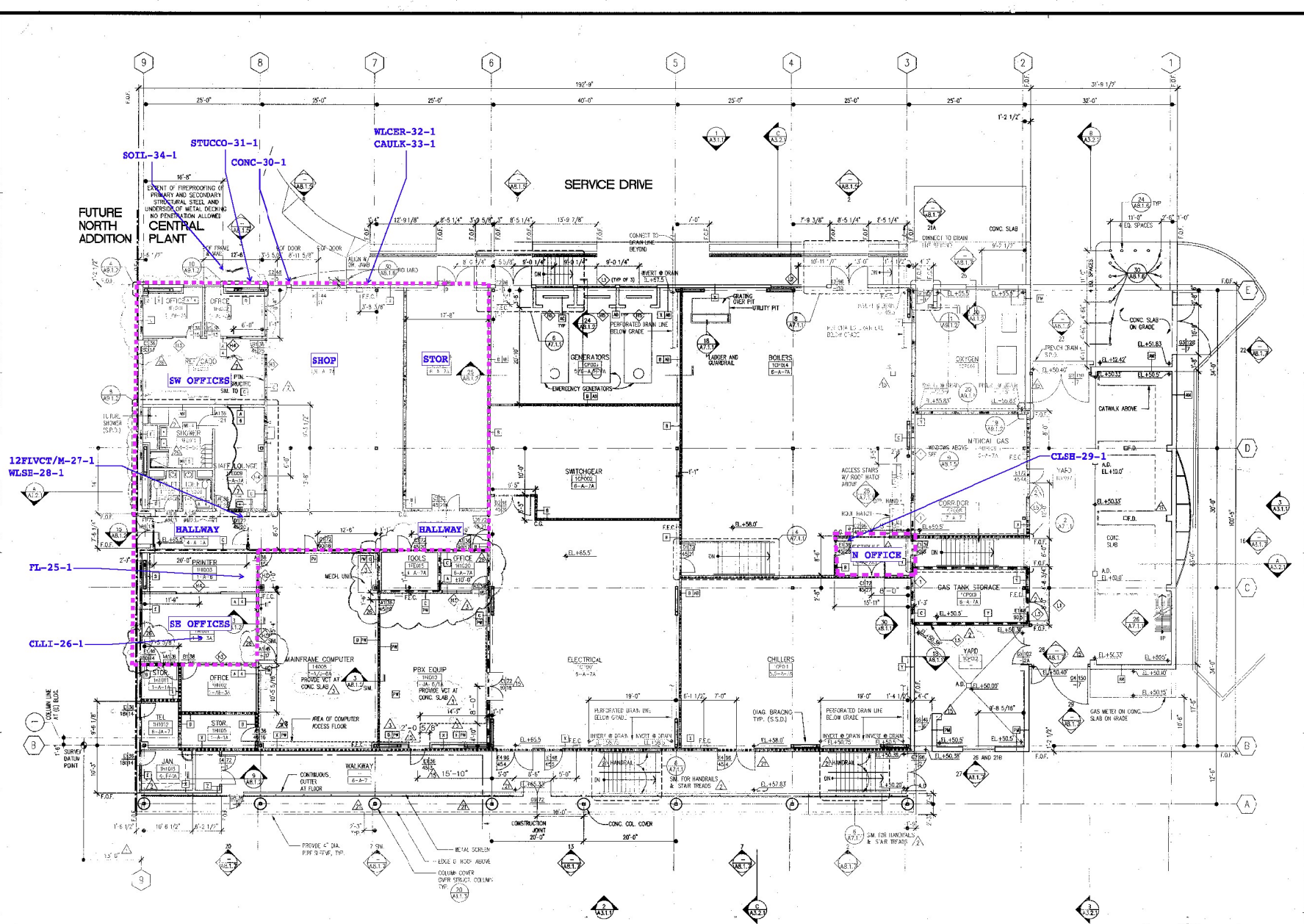
CENTRAL PLANT

Drawing

FIRST FLOOR PLAN

Scale: 1/8"=1'-0" Drawn: BEA Checked: SWS  
0 4 8 16 24  
Drawing A-21.1

Date: 1 DECEMBER 1993 A21.1



### FIRE RATED PARTITION TYPES

- 1 HOUR CONSTRUCTION (45 MIN. JOINT TO MEASURE TO FACE OF FINISH TYP.)
- 1 HOUR OCCUPANCY SEPARATION (60 MIN. DOOR)
- 1 HOUR CORRIDOR (20 MIN. DOOR)
- 1 HOUR SHOCK COMPARTMENT (20 MIN. DOOR)
- 2 HOUR CONSTRUCTION (1 1/2 HOUR DOOR)
- 4 HOUR CONSTRUCTION (2 HOUR DOOR)

### GENERAL NOTES

1. DIMENSIONS AT EXTERIOR TO MEASURE TO FACE OF FINISH TYP. DIMENSIONS AT INTERIOR TO MEASURE TO FACE OF FINISH TYP.
2. WALLS/DOORS BELOW GRADE CONCRETE, STEEL WALLS AND RETAINING WALLS WITH OUTLINES. SEE STRUCTURAL DRAWINGS FOR WALLS.
3. MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT AND ASSOCIATED CONCRETE HOUSEKEEPING OR ISOLATION PADS NOT SHOWN. SEE STRUCTURAL, MECHANICAL, AND ELECTRICAL DWGS.
4. SEE DWG. A21.6 FOR PARTITION TYPES.
5. VERIFY CLEARANCES FOR ACCESSORIES, SPECIALTIES, AND EQUIPMENT SUCH AS POWER COMPARTMENT.

### FINISH SCHEDULE

- | Ceiling              | Wall                | Floor               | Room                 |
|----------------------|---------------------|---------------------|----------------------|
| 1. Acoust. Board 2x4 | 1. V.C.T.           | 1. V.C.T.           | 1. Acoust. Board 2x4 |
| 2. Acoust. Board 2x2 | 2. Acoust. Covering | 2. Acoust. Covering | 2. Acoust. Board 2x2 |
| 3. Acoust. Tile Int. | 3. Wall Covering    | 3. Carpet           | 3. Carpet            |
| 4. Gyp. Board        | 4. Wood             | 4. Carpet Tile      | 4. Gyp. Board        |
| 5. Acoust. Panel     | 5. Concrete         | 5. Ceramic Tile     | 5. Acoust. Panel     |
| 6. Exposed           | 6. Wood             | 6. Access Floor     | 6. Exposed           |
| 7. Cement Plst.      | 7. Cement Plst.     | 7. Cement Plst.     | 7. Cement Plst.      |
|                      | 8. Acoust. Panel    | 8. Acoust. Panel    | 8. Acoust. Panel     |
|                      | 9. Ply. Wd.         | 9. Ply. Wd.         | 9. Ply. Wd.          |
|                      | 10. Cement          | 10. Cement          | 10. Cement           |

Limit of Survey Area

NOTE: SEE SHT. A21.1a FOR DETAIL OF APPENDUMS 2 AND 3 SKETCHES, ALSO FOR DETAIL OF P.R. 2/LB. 2, P.R. 10/LB. 8, P.R. 26/LB. 38, AND P.R. 16/LB. 16 SKETCHES.

**SCA**  
ENVIRONMENTAL, INC.

Figure 3. Sample Location Diagram  
San Mateo Medical Center  
Central Plant, First Floor  
SCA Proj. #: F-12437  
June 28, 2017



Table 1: Materials Matrix Report- Limited Survey @ 222 West 39th Avenue, San Mateo, Nursing Wing (1st Floor) and Central Plant (Limited to Areas Listed)								Nursing Wing-1st Floor (all other areas not included in survey)*												Central Plant (limited areas-all other areas not included in survey)*														
Material ID		Material Description				Sub-sample #				Asbestos Positive? Yes. No. Trace. Assumed	UNITS (LF, SF, EA)	Elect Rm	Mech Rm	Hallway	SE Offices	SW Offices	Dining Rm	W Offices	NW Offices	E Offices	NE Offices	SE Offices	Hallway	SW Offices	Shop	Stor	N Office	Boiler Rm	Chiller Rm	Roof	Exterior	TOTAL (+/- 15%)		
ASBESTOS																																		
SOIL-34		Soi/Gravel (ND) below concrete walkway with asbestos-containing debris (0.50'				0.5% CH				Trace		SF																				700****	700****	
SOIL-24		Soi/Gravel (ND) below concrete walkway with trace (<0.08%) asbestos-containing deb				<0.08% CH				Trace		SF																				700****	700****	
ASSUMED ASBESTOS (Destructive Testing Required to Confirm)																																		
FLEX-AAA***		Flex connectors between HVAC ducts (not observed, but assumed to be preser								Assumed		EA	2	2	10	15	15	2	10	15	10	15	5						PNQ	PNQ			101	
RFAG-AAA***		Tar and gravel roofin								Assumed		SF																					PNQ	
RFROLL-AAA***		Gray rolled roofing felts w/black tars/mastic on parapets and curbs (skylights & ver								Assumed		SF																				PNQ		
PENMAS-AAA***		Roofing penetration tars/masti								Assumed		LF																				PNQ		
CAULK-AAA***		Gray caulking around skyligh								Assumed		LF																				PNQ		
FLOORS-AAA		Bare concrete**								Assumed		SF	750	450		200	200		100		100				1500	1250	145	PNQ	PNQ			4695		
NON-ASBESTOS																																		
WLSH-1		Wall sheetrock w/tape and joint compoun				ND				No		SF	800	650	3150	3450	2000	1750	5600	7050			1900		2500								28850	
BBMAS-2		4" Tan vinyl baseboard w/off-white glt				ND				No		LF	55		315	475	200	175	435	705			190	55	150	210	150	50		PNQ	PNQ			3165
STSFP-3		Gray sprayed-on structural fireproofing on beams, columns and deck				ND				No		SF	1800	1500		1500	1200	1300	3500	x													10800	
CAULK-4		Gray caulking around seams of sheetmetal HVAC duc				ND				No		LF	15		30											180	120						345	
CAULK-5		Red/black firecaulk around conduits, piping, bean				ND				No		LF	15	15	350	350	350	50	350	350	350	350				250	200						2980	
12FLVCT/M-6		12"x12" Off-white w/gray streaks vinyl floor tile w/yellow gl				ND				No		SF			1700		360		100	325	1605	1470			125								5685	
PI-7		Fiberglass insulation w/paper jacket on chilled water/heating hot water and domestic hot/cold water pi				ND				No		LF		250	750	125	150	75	150	450	150	450	100		125	230	200	60			PNQ		3265	
HDUTP-8		Off-white duct tape around seams of HVAC duc				ND				No		LF		15	750	125	180	75	300	500	300	500	50	75	125	100			PNQ	PNQ			3095	
CARMAS-9		Gray/yellow carpet glue under various colored carpe				ND				No		SF				490	200	1300		220		500											2710	
CLLI-10		2'x4' Off-white laid-in ceiling tile w/pinholes and fissur				ND				No		SF			2110	490	560	1365	440	1900		1900			500		500						9265	
HVAC-11		Fiberglass insulation w/foil jacket on HVAC duc				ND				No		LF			750	125	180	75	300	500	300	500										2730		
FORMICA-12		Gray w/specks formica counter top w/yellow gl				ND				No		SF				40	60	15	140	15	140			40								450		
12FLVCT/M-13		12"x12" Green w/white streaks vinyl floor tile w/yellow gl				ND				No		SF				180																180		
12FLVCT/M-14		12"x12" Beige w/brown streaks vinyl floor tile w/yellow gl				ND				No		SF			1590				1605	1470		1080										5745		
SINK-15		Stainless steel sink w/black undercoat				ND				No		EA				1			4		4			1								10		
FLCER-16		2"x2" Gray w/white specks ceramic floor tile w/yellow glue and gray gr				ND				No		SF						325	80	325	80			355								1165		
WLCER-17		gray glue and off-white grout associated with 4"x4" Beige/white ceramic wall				ND				No		SF						830	390	830	390			1000								3440		
CLSH-18		Ceiling sheetrock w/tape and joint compoun				ND				No		SF				65			1635	1675	2075	1675			355							7480		
FLVCS-19		Light gray w/blue and red specks vinyl floor sheeting w/gray and yellow g				ND				No		SF						150	405	150	405										1110			
WLMAS-20		Off-white fiberglass-reinforced panels/beige foam wall panels w/yellow gl				ND				No		SF						80	760	80	760										1680			
CLGL-21		12'x12" Off-white glued-on ceiling tiles w/pinholes and yellow gl				ND				No		SF						220			220										440			
12FLVCT/M-22		12"x12" Blue w/gray streaks vinyl floor tile w/yellow gl				ND				No		SF			520					1080											1600			
CONC-23		Gray concrete walkwa				ND				No		SF																		1400		1400		
FL-25		24"x24" Raised flooring panels w/yellow glue under suppo				ND				No		SF										530									530			
CLLI-26		2'x4' Off-white laid-in ceiling tile w/pinhol				ND				No		SF										690	320	625								1635		
12FLVCT/M-27		12"x12" Gray w/black specks vinyl floor tile w/yellow gl				ND				No		SF											160								160			
WLSH-28		Wall sheetrock w/tape, joint compound and textui				ND				No		SF											1100		4550	3000	650	PNQ	PNQ			9300		
CLSH-29		Ceiling sheetrock w/tape, joint compound and textui				ND				No		SF															145					145		
CONC-30		Gray concrete walkwa				ND				No		SF																		1400		1400		
STUCCO-31		Red exterior stucc				ND				No		SF																		PNQ		PNQ		
WLCER-32		Red grout & mortar associated with 8"x8" Red ceramic wall t				ND				No		SF																		PNQ		PNQ		
CAULK-33		Red caulking along bottom of ceramic tiles, stucco and around door fran				ND				No		LF																	1500		1500			
FIREDOOR-NNN		Firedoors (20-min rated, hollow doors								Not Suspect		EA	3	1	12	9	3	5	18	35	18	35										139		
LEAD																																		
PPM																																		
OW-1		Off-white paint on walls and ceiling				4.5		SF	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ		
RD-2		Red exterior stucc				2.8		SF																						PNQ		PNQ		
Lead in paints		Lead Containing Paints / Coatings (assumed >1000ppn				Assumed, >1000		SF	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ		
Lead on steel		Lead Containing Coatings on Structural Steel (assumed >1000ppr				Assumed, >1000		SF	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ		
Other Hazardous Materials																																		
Mercury		Fluorescent Light Tube						EA	18	10	120	22	14	24	60	86	60	86	22	4	28	60	20	4	PNQ	PNQ					638			

Notes:

\*-Survey limited to areas slated for renovation as depicted on Sample Location Diagrams. All other areas were excluded from the sampling. All materials in these other areas should be assumed asbestos-containing until sampling can be performed to determine asbestos content

\*\*-.Not sampled per Client. No impacts planned for Concrete floors in Nursing Wing.

\*\*\*-.Not sampled per Client. Renovations to be scheduled for 2019. Mr. Paul Hundal from SM Co. requested no sampling to avoid leaks prior to renovation.

\*\*\*\*-.Soil quantities are typical reported in cubic yards. Sample collected at 2-3 feet below ground surface because the top 3 feet are estimated to be disturbed. The total volume for each soil area is 78 cubic yards in each area.

PNQ = Present, not quantified; CH = Chrysotile; ND = Not detected; NA = Not analyzed

**SECTION 02 80 01**

**HAZARDOUS MATERIALS ABATEMENT WORK PLAN**

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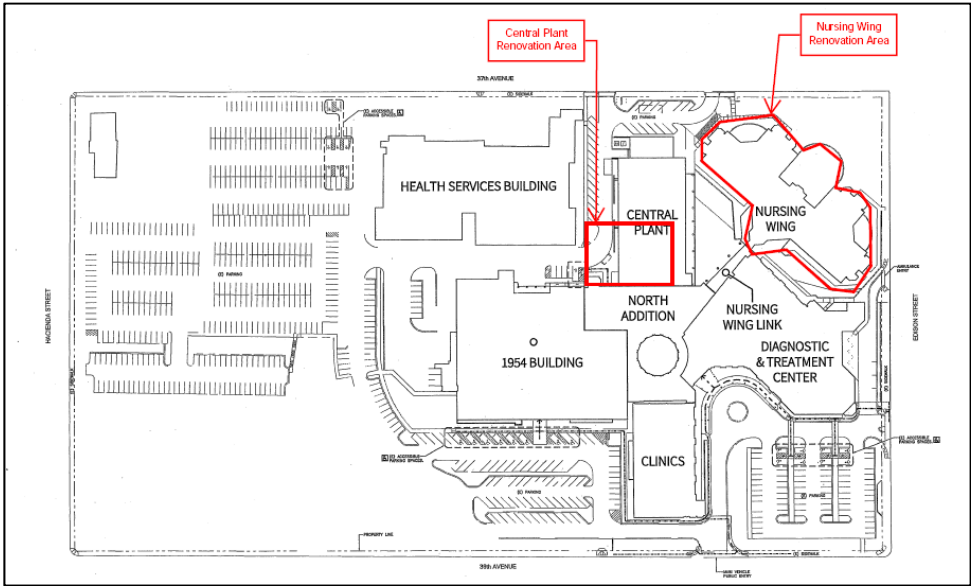
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## HAZARDOUS MATERIALS ABATEMENT WORK PLAN

<b>Project:</b> Demolition & Renovation Project County of San Mateo Central Plant & Nursing Wing 222 West 39 <sup>th</sup> Ave, San Mateo, CA	<b>Updated:</b> October 2017
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The work covered by this work plan includes the removal, handling and disposal of various hazardous materials in accordance with the Contract Documents and applicable federal, state and local regulations at the above designated site. A copy of this Abatement Work Plan is to be posted on-site during the abatement work.

### I. SUMMARY OF WORK

<u>X</u>	<p>Removal and disposal of asbestos-containing materials (ACM) and asbestos-containing building/construction materials (ACBM / ACCM) as part of demolition and renovation activities. The scope of work pertained to portions of the Central Plant and Nursing Wing, as outlined in the figure below:</p> <div style="text-align: center;"><p>The site map shows the layout of the Central Plant and Nursing Wing. The Central Plant is a rectangular building with a red box around it and a label 'Central Plant Renovation Area'. The Nursing Wing is a larger, more complex building with a red outline around it and a label 'Nursing Wing Renovation Area'. Other buildings shown include the Health Services Building, North Addition, 1954 Building, Clinics, Diagnostic &amp; Treatment Center, and Nursing Wing Link. Streets shown include Macdonald Street, 39th Avenue, and Edison Street.</p></div>
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<u>X</u>	Spot abatement and disposal of wastes for primers and lead-containing paints on structural steel elements prior to torching, cutting, etc., including dust controls and personal protective procedures in compliance with Cal/OSHA's Construction Lead Standard, 8 CCR 1532.1 and CDPH regulation 17 CCR Sections 35001 through 36100.  <b>Warning</b> - Surfaces or building materials scheduled for torch cutting or other "hot" work may have previously been coated with paints with chromium, cadmium or other heavy metals. Spot removal of paints may not be sufficient to completely control fume release. The contractor is required to: <ol style="list-style-type: none"> <li>(1) use the appropriate equipment and work practices to prevent lead releases and possible exposures to tenants, visitors and construction personnel;</li> <li>(2) protect or clean surfaces so that dislodgeable lead contamination (i.e. contamination which can be identified by wipe sampling, where lead may be used as an indicator for other heavy metals) is not left behind, and</li> <li>(3) take appropriate measures to protect their employees against exposures to lead or other heavy metals</li> </ol>
<u>X</u>	Scraping of loose and peeling paints as required for disposal of intact painted elements as non-hazardous waste, including associated dust controls and personal protective procedures in compliance with Cal/OSHA's Construction Lead Standard, 8 CCR 1532.1 and CDPH regulation 17 CCR Sections 35001 through 36100.
<u>X</u>	Demolition, removal and disposal of surfaces with lead-containing paints (LCPs) whereby airborne exposures may exceed the permissible exposure level, requiring such work to be completed by CDPH Certified Lead Workers and Supervisors in compliance with Cal/OSHA's Construction Lead Standard, 8 CCR 1532.1 and CDPH regulation 17 CCR Sections 35001 through 36100.
<u>X</u>	Excavation and disposal of soils with asbestos-containing construction debris (asbestos content up to 0.50%).
<u>X</u>	Removal and recycling of mercury-containing lamps, as designated.

## II. SUBMITTALS:

### Pre-job Submittals (as designated):

<u>X</u>	BAAQMD notification prior to abatement of 100SF/LF of Friable asbestos
<u>X</u>	Cal/OSHA Asbestos Abatement Notification per 8 CCR 1529 (twenty-four (24) hours in advance);
<u>X</u>	Cal/OSHA Lead Hazard Notification per 8 CCR 1532.1 (twenty-four (24) hours in advance);
<u>X</u>	copy of current Contractors' State Licensing Board (CSLB) License, including C-22 License for Asbestos Abatement;
<u>X</u>	copy of Cal/OSHA Asbestos Registration Certificate;
<u>X</u>	proof of all required permits or variances;
<u>X</u>	abatement work schedule;
<u>X</u>	abatement work plan(s);
<u>X</u>	copies of workers' asbestos training certificates, including the Competent Person;
<u>X</u>	copies of workers' lead awareness training certificates;
<u>X</u>	copies of workers' annual medical exam and respirator approval;
<u>X</u>	copies of workers' 12-month respirator fit testing records;



<u>X</u>	copies of workers' blood lead test within past 90 days;
<u>X</u>	Safety Data Sheets (SDSs) for all products and materials proposed for use at the site;
<u>X</u>	emergency phone and pager listing;
<u>X</u>	Independent on-site third-party DOP testing of HEPA-filtered negative pressure units and vacuum cleaners;
<u>X</u>	proposed location of locked dumpster; and
<u>X</u>	rotameter calibrations within past 6 months.
<u>X</u>	Completed sample manifest for County of San Mateo to review that lists correct EPA #, Generator information, and disposal facility information

**Periodic Submittals** (as designated):

<u>X</u>	personal air monitoring (daily);
<u>X</u>	updated worker documentation (as needed);
<u>X</u>	boundary access logs (daily);
<u>X</u>	negative pressure records (daily); and
<u>X</u>	copies of updated notification to regulatory agencies (as needed).

**Project Close-out Submittals** (as designated within 2 weeks of completion):

<u>X</u>	Certificate of Completion;
<u>X</u>	receipt and weight tickets from landfill operator or recycler (as applicable);
<u>X</u>	copies of completed uniform waste manifests, including hazardous and non-hazardous waste;
<u>X</u>	waste profiling data (TCLP, WET and SW846, as applicable);
<u>X</u>	filter change logs for all filtration units, water filtration units (as applicable) and respirators;
<u>X</u>	foreman's daily job reports;
<u>X</u>	employee and visitor entry/exit logs for all containments;
<u>X</u>	manometer printouts for all applicable containments;
<u>X</u>	air sample results for all personnel, work areas and air filtration units; and
<u>X</u>	A detailed list describing the presence, locations and quantity of ACM and PACM remaining in the work area, per 1529 CCR Section (K)(3)(c)

**III. SCHEDULE**

<b>Start Date:</b>	Refer to Contract Documents.
<b>End Date:</b>	Refer to Contract Documents.
<b>Maximum Abatement Shifts:</b>	Work shall be completed within the timeframe identified in the Contract Documents.
<b>Time frame:</b>	Monday-Friday, weekend work or double shifts may be permitted with Owner approval, unless otherwise indicated in the Contract Documents.

TBD=to be determined

**IV. CONTACTS:**

<b>Contact</b>	<b>Individual</b>	<b>Phone #</b>	<b>Cell #</b>	<b>Email</b>
<b>County of San Mateo Project Manager</b>	Paul Hundal	650.400.8359	650.400.8359	ahundal@smcgov.org
<b>Environmental Consultant's Project Manager</b>	Christina Codemo	415-867-9540	415-867-9540	ccodemo@sca-enviro.com
<b>Abatement Contractor</b>	TBD	TBD	TBD	TBD

TBD=to be determined

Note: Contact the Owner's Project Manager only in an emergency.

**V. SECURITY**

Arrange site security with the Owner at the beginning of the job. Please note the following:

1. Abatement contractor employees and equipment will be required to enter the buildings at entrance ways designated by the Owner. No employee may enter the buildings at any other point than the designated entryway(s).
2. Abatement contractor's equipment will be stored and secured in an area agreed upon by the Owner and the Contractor.
3. The Abatement contractor will be responsible for providing temporary security at building penetrations created by the demolition and abatement.
4. Refer to the Contract documents for additional site security requirements for the project.

**VI. SPECIAL CONDITIONS**

Design:

1. The minimum negative pressure level for this project is  $-0.02''$  w.g. at all locations. The Abatement contractor is responsible for maintaining this level during all work activities, including bagout and until satisfactory clearance air results have been received and notice of clearance is provided by the Environmental Consultant.
2. Negative pressure recording: the Abatement contractor is responsible for recording negative pressure as follows:
  - a. Negative pressure will be recorded throughout the entire project, including inspections, clearance testing, and at all times until the Consultant provides a final clearance notice.
  - b. At least one spare manometer must be kept on site at all times.
  - a. A printout of recordings must be transmitted to the Environmental Consultant by the Abatement Contractor each day.

3. Waste will be removed from the buildings each night and disposed of in approved waste receptacles in the designated loading areas. Waste receptacles will be properly labeled and locked each night.
4. The Contractor shall be aware that removal of the concrete walkways will result in disturbance of underlying debris with asbestos content >0.1%. The contractor shall be aware that fill material was identified with construction debris and manufactured asbestos-containing construction materials with asbestos concentration up to 0.50%. All removal activities shall be performed by a DOSH-registered contractor with AHERA-accredited Workers following CalOSHA Class II procedures, minimum.
5. For all work involving coring or demolition of concrete or cementitious material, the contractor shall comply with all CalOSHA requirements as specified in 8 CCR 1532.3.

Asbestos Sampling:

1. PCM Analysis: Analysis of PCM samples shall follow the procedures outlined in NIOSH method 7400 and within these Contract Documents.
2. TEM Analysis: The U. S. Environmental Protection Agency passed regulations for schools under the Asbestos Hazard Emergency Response Act (AHERA), which are found in 40 CFR Part 763 "Asbestos Containing Materials in Schools". This regulation states that all abatement work shall be evaluated upon completion by collecting air samples using aggressive sampling techniques and that such samples shall be analyzed using Transmission Electron Microscopy (TEM). TEM analysis turnaround times shall be 24 hours, unless otherwise indicated.
3. The sampling and analytical criteria in the AHERA regulation for schools shall be viewed as the preferred method for determining that any asbestos abatement project in any building has achieved a satisfactory level of cleanliness. SFIA's Environmental Consultant shall collect air samples from all work areas using aggressive sampling and TEM analysis, unless otherwise noted. The SFIA reserves the right to determine the quantity of clearance air samples to be collected for each subzone. Sample results in excess of 70 asbestos structures per square millimeter of filter area (equivalent to 0.018 s/cc, corrected for a 1,500 [1,200 - 1,800] liter sample volume as appropriate) will require cleaning, inspection, and resampling of the affected area at the Contractor's expense. Z-testing shall NOT be used as a means for comparing the interior levels against those of the exterior for the purpose of clearing the Work Area.
4. The Owner shall pay the Environmental Consultant's costs of the final round of visual inspections, air sampling, and PCM and/or TEM analyses that will meet the asbestos abatement specification. All rounds of visual inspections, air sampling, and PCM and/or TEM analyses that fail to meet the contract criteria shall be borne by the Contractor. For the purpose of this paragraph, visual inspection includes the area isolation inspection, pre-encapsulation inspection, and final area clean-up inspection.
5. During all asbestos-related work, perimeter sample results will be collected by the



designated Environmental Consultant (Industrial Hygienist). These samples will be analyzed by Phase Contrast Microscopy (PCM). Sample results that are in excess of the background level or 0.01 fibers per cubic centimeter (f/cc) Project Action Level may be forwarded for analysis by Transmission Electron Microscopy (TEM) with a 12-hour turnaround specified. Handling, shipping, and analysis charges (including the Environmental Consultants time and expenses) will be paid for by the Contractor. Any sample results in excess of 0.018 structures/cc will require cleaning, inspection, and resampling of the affected area at the Contractor's expense.

Lead Sampling:

1. During all lead hazard-related work, such as demolition, torching and welding activities, etc., as applicable, perimeter air sample and/or lead wipe sample results may be collected by the SFIA Environmental Consultant (Industrial Hygienist). These samples will be analyzed by flame atomic absorption or ICP/MS. Wipe sample results which are in excess of the of 40 micrograms per square foot for adjoining zones on two consecutive samplings (or two consecutive days) or for adjoining floor areas on any occasion will require isolation and clean-up of the affected areas. Air sampling results in excess of of 1.5 micrograms per cubic meter will require isolation of the work area and amendment of work procedures and/or clean-up of the affected areas. Resampling of the affected areas and handling, shipping, and analysis charges (including the Environmental Consultant's time and expenses) for additional sampling required to show background levels below these construction lead standards shall be borne by the Contractor.

Submittals:

1. All pre-construction submittals shall be forwarded to the Owner and the Owner's designated Environmental Consultant prior to the start of abatement as designated in the Contract Documents and herein. Documents shall be provided at least **10 business days prior to** commencement of work activities.
2. Failure by the Contractor to fulfill the submittal requirements as specified in the Contract Documents and herein shall be the basis for withholding final payment until such submittal requirements are satisfied.

Waste Manifests:

1. The Contractor shall coordinate the inspection and signing of all waste manifests with the Owner and its Environmental Consultant, while on-site. Failure to complete the manifests or callbacks after completion of the project will be backcharged to the Contractor.
- 2.

Waste Manifests shall contain the following information:

Generator's Name	TBD
Generator Address	TBD
Generator ID#	TBD

Additional Liquidated Damages:

1. The Contractor shall pay for all Environmental Consultant costs for delays in completion of work beyond the authorized schedule established as stated in the contract documents. Such charges shall include Consultant's observations and inspections, daily air monitoring, equipment, transportation and analysis charges. Such charges shall include Consultant's observations and inspections, daily air monitoring, equipment, transportation and PCM analysis charges, estimated at \$1500 per 8-hour shift, excluding TEM analyses. Such costs are in addition to liquidated damages for failure to complete the tasks in accordance with the schedules established in the Contract Documents. See the Liquidated Damages Section in the contract documents for further requirements.

**VII. SUMMARY OF SURVEY RESULT AND CONDITIONS**

**Asbestos:**

For a list of ACM and ACBM / ACCM, refer to the Materials Matrix Report attached to Section 02 26 00: Hazardous Materials Existing Conditions. Additional suspect materials identified should be assumed asbestos-containing until such time as sampling can be performed to verify asbestos content.

**Lead:**

All paints and are assumed to contain lead and shall be treated as such. Various paints were identified with elevated concentrations and may require specialized handling and disposal. Contractors shall comply with the Cal/OSHA lead in construction regulation (8 CCR 1532.1) for all work activities, and all coated surfaces shall be considered to contain some lead.

Treat all similar paints and substrates in kind. Note that most building paints contain some lead content, and require demolition dust control procedures for compliance with Cal/OSHA's Construction Lead Standard under 8 CCR 1532.1, as well as the Welding, Cutting, and Heating of Coated Metals under 8 CCR 1537.

Characterize debris from coated materials, vinyl flooring, etc. for possible disposal as hazardous waste. Intact painted elements may be disposed as non-hazardous waste complying with dust controls and personal protective procedures per Cal/OSHA regulation 8 CCR 1532.1 and CDPH regulation 17 CCR Sections 35001 through 36100, if both the total and leachable lead contents of the waste streams are below 1000 mg/kg and 5 mg/liter (WET and TCLP tests).

**VIII. SCOPE OF WORK: PRE-RENOVATION/PRE-DEMOLITION ABATEMENT**

**Contractor will be responsible for quantifying all hazardous materials requiring abatement for bidding purposes. Materials listed below include all identified hazardous materials that may be impacted within the area.**

**Asbestos Abatement:**



**Task 1**

Abatement Materials		Roofing Materials			
<b>Method:</b>	X	Cordon Area		Glovebag	Glovebag-Cutout
<b>Material</b>	<b>Activity Class</b>	<b>Material I.D.</b>	<b>% Asbestos</b>		<b>Est. Quantity requiring abatement (Field verify)</b>
Tar and gravel roofing	2	RFAG-AAA	Varies, refer to Section VII & Existing Conditions		Varies, refer to Section VII & Existing Conditions
Rolled roofing with felts and mastics	2	RFROLL-AAA			
Roof Penetration Mastics	2	PENMAS-AAA			
Caulking around skylights	2	CAULK-AAA			
<b>Decon System:</b>	X	Shower if >2,500 SF		Central	X Hudson sprayer or bucket decon if <2,500 SF
<b>Floors:</b>		# of Polyethylene Layers	X	Drop Cloths	
<b>Walls:</b>		# of Polyethylene Layers		Splash Guards	
<b>Criticals:</b>	1	# of Polyethylene Layers		Plywood Barriers	
<p><b>For Roofing Abatement:</b> Set-up drop cloths on the ground under roofing removal area and abate the roofing felts, tars, mastics, penetration compounds, caulking and rolled roofing as applicable, using wet methods. Seal rooftop vents, windows, etc. with one layer of 6-mil polyethylene sheeting as a critical barrier. Bag or wrap waste in 2 layers of 6-mil polyethylene sheeting and lower to ground. Debris chutes must be sealed and negatively pressurized, if used.</p> <p><b>For Disposal &amp; Cleanup:</b> HEPA vacuum the surrounding area following the abatement for final clearance. Dispose of all roofing debris as Category 1 non-friable asbestos waste.</p> <p>Allow for a 20 ft. minimum buffer zone between the roof removal activities and other demolition or renovation work.</p>					

**Task 2**

<b>Abatement Materials</b>	<b>Cementitious floor</b>					
<b>Method:</b>	X	Full Isolation or Mini-Containments		Glovebag	X	Glovebag-Cutout
<b>Material</b>	<b>Activity Class</b>	<b>Material I.D.</b>	<b>% Asbestos</b>		<b>Est. Quantity requiring abatement (Field verify)</b>	
Cementitious floor	2	CONC-AAA	Varies, refer to Section VII & Existing Conditions		Varies, refer to Section VII & Existing Conditions	
<b>Decon System:</b>	X	Shower	—	Central	—	Hudson sprayer
<b>Floor:</b>	1	# Layers Poly		Drop Cloths		Scaffold
<b>Walls:</b>	1	# of Polyethylene Layers			Splash Guards	
<b>Criticals:</b>	2	# of Polyethylene Layers			Plywood Barriers	
<p><b>Other Comments:</b> All personnel involved with removal will have appropriate training in accordance with Cal/OSHA's Work Class 2 procedures per 8 CCR 1529. Localized coring and saw cutting activities shall be completed by a DOSH-registered contractor with equipment fitted with localized exhaust ventilation.</p> <p>Use wet methods for dust controls. Dispose of materials as friable asbestos waste. Remove substrates as required to access materials, as required.</p>						

**Task 3**

<b>Abatement Materials</b>	<b>Miscellaneous Items</b>					
<b>Method:</b>	X	Cordon Area		Glovebag		Glovebag-Cutout
<b>Material</b>	<b>Activity Class</b>	<b>Material I.D.</b>	<b>% Asbestos</b>		<b>Est. Quantity requiring abatement (Field verify)</b>	
Flex connectors between HVAC ducts	2	FLEX-AAA	Varies, refer to Section VII & Existing Conditions		Varies, refer to Section VII & Existing Conditions	
<b>Decon System:</b>		Shower		Central	X	Bucket
<b>Floor:</b>		# Layers Poly	X	Drop Cloths		Scaffold
<b>Walls:</b>		# of Polyethylene Layers			Splash Guards	
<b>Criticals:</b>	1	# of Polyethylene Layers			Plywood Barriers	
<p><b>For flex connectors:</b> Remove items intact without disturbance. Double wrap and dispose of as asbestos waste. HEPA-vacuum surrounding area and drop cloths before final visual clearances.</p> <p>Where removal will result in RACM, complete abatement within a full isolation containment per Cal/OSHA 8 CCR 1529 Work Class 2 procedures, minimum, with negative pressurization of the zone(s).</p>						

**Task 4**

<b>Abatement Materials</b>	<b>Fill with ACCM debris</b>					
<b>Method:</b>	X	Cordon Area		Glovebag		Glovebag-Cutout
<b>Material</b>	<b>Activity Class</b>	<b>Material I.D.</b>	<b>% Asbestos</b>		<b>Est. Quantity requiring abatement (Field verify)</b>	
Fill with ACM Debris below concrete walkway slated for removal	II	SOIL-24 SOIL-34	0.5% CH <0.08% CH		Varies, refer to Section VII & Existing Conditions	
<b>Decon System:</b>		Shower		Central	X	Hudson / bucket decon
<b>Floor:</b>		# Layers Poly	X	Drop Cloths		Scaffold
<b>Walls:</b>		# of Polyethylene Layers			Splash Guards	
<b>Criticals:</b>		# of Polyethylene Layers			Plywood Barriers	



**Other Comments:** Use wet methods for dust controls. Establish a regulated area of at least 20 feet between the excavation area and surrounding paths of travel. Disclose asbestos content to receiving facility during waste profiling process.

Given the presence of asbestos detected in the soils (0.50% CH), workers involved with removal or renovation of the materials are required to adhere to all CalOSHA requirements (e.g., training, notifications to CalOSHA prior to work, personal monitoring, etc.). All work should be performed using wet methods and other requirements.

Contractor is required to comply with all requirements for silica per 8 CCR 1532.3.

### Lead Hazards Construction Work:

#### Task 5

<b>Abatement Material:</b>	Removal of loose and peeling lead-containing paints; torch cutting or welding of coated metals; as needed					
<b>Sample I.D.</b>	<b>Color</b>	<b>Area</b>		<b>Lead Content</b>	<b>Activity Class</b>	
N/A	All	All		Assumed >1000 ppm	1	
<b>Decon System:</b>		Shower		Central	X	Bucket
<b>Required Methods:</b>		Full Containment	X	Manual Methods w/Drop Cloths	X	Loose & Peeling Paints Only

**Other Comments: For Stabilization of Loose & Peeling Paints:** Manually scrape and stabilize loose and peeling paints prior to demolition of painted substrates using drop cloths, wet methods, and HEPA vacuums for dust control in compliance with Cal/OSHA regulation 8 CCR 1532.1. Avoid dry sweeping.

**For Mechanical Sanding:** Work areas requiring mechanical sanding or stripping of painted surfaces with any lead content shall be fully contained with polyethylene dust barriers, establishing negative pressure of the zone, and using HEPA-filtered tools and other dust control procedures as outlined under 8 CCR 1532.1.

**For Demolition of Painted Substrates:** Demolition of painted substrates required for renovation work shall be completed using wet methods. Loose paints, HEPA vacuum canister wastes, and fine dust shall be characterized and disposed as potential hazardous waste. Respiratory protection shall be upgraded per 8 CCR 1532.1 requirements for mechanical sanding or mechanical equipment without HEPA vacuum or water misting attachments.

**For spot abatement of painted steel prior to torching cutting or welding:** Spot abate any painted steel that would be torched, with at least 12-inch clearance from any paint.

**Warning** - Surfaces or building materials scheduled for torch cutting or other "hot" work may have previously been coated with paints with chromium, cadmium or other heavy metals. Spot removal of paints may not be sufficient to completely control fume release. The contractor is required to:

- (1) use the appropriate equipment and work practices to prevent lead releases and possible exposures to tenants, visitors, and construction personnel;
- (2) protect or clean surfaces so that dislodgeable lead contamination (i.e. contamination which can be identified by wipe sampling, where lead may be used as an indicator for other heavy metals) is not left behind, and
- (3) take appropriate measures to protect their employees against exposures to lead or other heavy metals

**For Disposal & Cleanup:** Intact painted substrates may be disposed of as non-hazardous waste as confirmed by the Contractor's waste characterization testing. Characterize and dispose of loose and peeling paint debris, chemical strippers, rags, etc. as potential hazardous waste. Clean-up drop cloths and HEPA vacuum loose and peeling chips and debris daily for all work areas before leaving the site.

Complete abatement work exceeding the permissible exposure limit using CDPH Certified Lead Workers and Supervisors, including but not necessarily limited to extensive manual or mechanical scraping or sanding of loose and peeling paints and spot abatement of primed structural steel prior to torching or cutting, as applicable.

**Other Items:**

**Task 6**

<b>Mercury Lamp Recycling</b>	X	Remove and recycle fluorescent lamps throughout the buildings as required by the renovation and demolition plans. Quantity— field verify quantity.
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**IX. MONITORING AND CLEARANCE**



**Asbestos Clearance Requirements** (includes estimated # of samples):

<b>Cementitious flooring</b>	___ Visual Only	___ PCM/zone	<u>1-5</u> TEM/zone
<b>Roofing Abatement</b>	<u>X</u> Visual Only	___ PCM/zone	___ TEM/zone
<b>Caulking, flex connectors</b>	<u>X</u> Visual Only	___ PCM/zone	___ TEM/zone
<b>Fill Containing ACM debris</b>	<u>X</u> Visual Only	___ PCM/zone	___ TEM/zone

**Lead Clearance Requirements** (includes estimated # of samples):

<b>Stabilization of Paints and demolition of intact painted elements</b>	___ Visual Only	<u>1-5</u> Wipes/zone post renovation and prior to reoccupancy
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**X. SIGNATURES**

Consultant's Signature:  Chuck Siu, CIH, PE, CSP, CAC (92-0098), CDPH	Date: 10/6/17
Consultant's Signature:  Christina Codemo, CHMM, CAC (99-2649), REPA	Date: 10/6/17
Contractor's Signature	Date:

**SECTION 02 82 33**

**REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS**

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**SECTION 02 82 33**

**REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. Section Includes: Minimum requirements for hazardous materials handling, control, and abatement activities, as applicable, including, but not necessarily limited to:
  - 1. Hazardous materials controls.
  - 2. Handling and disposal of asbestos-containing building materials (ACBM).
  - 3. Handling and disposal of asbestos contaminated.
  - 4. Demolition associated with access to hazardous materials.
  - 5. Criteria for abatement zone clearance testing.
  - 6. Criteria for reoccupancy clearance.
- B. Related Sections:
  - 1. Section 02 26 00 –Existing Conditions – Hazardous Materials Conditions
  - 2. Section 01 33 00 - Submittals.
  - 3. Section 02 80 01 – Hazardous Materials Abatement Workplan
  - 4. Section 02 83 33 – Removal and Disposal of Material Containing Lead.

**1.2 REFERENCES**

- A. American Society for Testing and Materials (ASTM):
  - 1. E84: "Test Method for Surface Burning Characteristics of Building Materials."
  - 2. E119: "Standard Method for Fire Tests of Building Construction and Materials."
  - 3. E849: Safety and Health Requirements Relating to Occupational Exposure to Asbestos."
- B. American National Standards Institute (ANSI):
  - 1. Z9.2: "Fundamentals Governing the Design and Operation of Local Exhaust Systems."
  - 2. Z41.1: "Men's Safety Toe Footwear."

3. Z86.1: "Commodity Specification for Air."
4. Z87.1: "Practice for Occupational and Educational Eye and Face Protection."
5. Z88.2: "Practices for Respiratory Protection."
6. Z88.6: "Respiratory Protection - Respiratory Use Physical Qualifications for Personnel."
7. Z89.1: "Requirements for Industrial Head Protection."

C. National Fire Protection Association (NFPA):

1. Standard 10: "Fire Extinguishers."
2. Standard 70: "National Electric Code."
3. Standard 90A: "Fire Rating of Sprayed-On Fireproofing."
4. Standard 701: "Small Scale Fire Test for Flame Resistant Textiles and Films."

D. California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA):

1. Title 8 California Code of Regulations (8 CCR) Section 5144 - Respiratory Protection.
2. Title 8 California Code of Regulations (8 CCR), Article 4, Section 1529 - Asbestos Standard for the Construction Industry.
3. Title 8 California Code of Regulations (8 CCR) Sections 3203 and 1509 - Injury and Illness Prevention Program.
4. Title 8 California Code of Regulations (8 CCR), Article 110, Section 5208 - Asbestos Standard for General Industry.
5. Title 8 California Code of Regulations (8 CCR), Article 2.5, Section 341.6 for employer registration when disturbing more than one hundred square feet (100 SF) of ACCM.

E. California Air Resources Board (CARB)

1. Title 17, Section 93105. Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations.

### 1.3 DEFINITIONS

- A. Asbestos Work Class: Activities for removing asbestos materials by categories are as follows:

1. Work Class I: Activity involving removal of TSI and surfacing asbestos-containing materials (ACM) or friable presumed asbestos-containing materials (PACM).
  2. Work Class II: Activity involving removal of asbestos-containing materials (ACM) not in Work Class I. Excavation/grading of soil is a Class II activity.
  3. Work Class III: Repair and maintenance operations where TSI or surfacing is likely to be disturbed, which fits within one standard glovebag or waste container under sixty (60) inches.
  4. Work Class IV: Maintenance and custodial activities during which employees contact but do not disturb PACM or ACM and activities to clean-up dust, waste and debris resulting from Work Class I, II, and III activities.
- B. Abatement: Primary work involving the removal, containment, control or treatment of hazardous materials.
- C. Asbestos: A generic name given to a number of naturally occurring hydrated mineral silicates that possess a unique crystalline structure, are incombustible in air, and are separate into fibers. Asbestos includes any material that contains greater than 0.1 percent by weight in the asbestiform varieties of chrysotile (serpentine); crocidolite (riebecklite); amosite (cummingtonite-grunerite); anthophyllite; tremolite; and actinolite. For the purposes of determining respiratory protection and worker protection both the asbestiform and non-asbestiform varieties of the above materials and any of these materials that have been chemically treated or altered shall be considered asbestos.
- D. Asbestos-Containing Material (ACM): Any material which contains more than one percent (>1%) asbestos by weight for the purposes of abatement, waste disposal and fiber controls specified under this Contract.
- E. Asbestos Containing Building or Construction Material (ACBM or ACCM): Any material which contains more than one tenth of one percent (>0.1%) asbestos by weight requiring personal protection, dust controls, Contractor registration, and worker training in compliance with Cal/OSHA regulation 8 CCR 1529. For waste disposal purposes, ACBM and ACCM greater than 0.1% by weight and less than 1% by weight is classified as non-hazardous waste, although it is a regulated material under Cal/OSHA.
- F. Hazardous Materials Control: Incidental work procedures for control of releases of project-related hazardous materials, including containment, enclosure, wetting, controlled renovations and demolition procedures, and removal and disposal.
- G. Hazardous Waste:
1. Waste material, including asbestos, loose and peeling lead-based paints, and any other material which requires management, handling transport, treatment, storage or disposal according to the requirements of the Federal Resource, Conservation and Recovery Act

(RCRA) and associated regulation 42 U.S.C. 6901 et seq. and 40 CFR Part 260 et seq.) or the California Hazardous Waste Control Law and associated regulations (Health and Safety Code 25000 et seq. and 22 CCR 66260 et seq.).

2. References to hazardous material or contaminated material incorporate definitions of hazardous pollutants, hazardous contaminants, hazardous material, hazardous substance, hazardous waste, toxic pollutants and toxic substance applicable in accordance with Federal, State, regional and local statutes, laws, regulations and policies.

H. Presumed Asbestos Containing Material (PACM): Thermal system insulation and surfacing material found in buildings constructed no later than 1980.

- I. Naturally Occurring Asbestos (NOA): Soil or rocks containing >0.25% asbestos that has not been modified by a manufacturing process. CalOSHA classifies base rock as NOA; whereas asphalt or concrete as non-NOA. NOA that contains >1% is also a CalOSHA Class II ACM.

#### 1.4 SUBMITTALS

##### A. Asbestos:

1. Submit the following, in accordance with Section 01 33 00 – Submittals and Section 02 80 01 – Hazardous Materials Abatement Workplan, prior to Commencement of the Abatement Work:
  - a. Proof of current Asbestos Contractor's licenses (CSLB) including C-22 license for asbestos abatement.
  - b. Valid and current BAAQMD notification for the Project.
  - c. Cal/OSHA 24-hour Temporary Worksite Notification for Asbestos and Methylenedianiline-Related Work per 8 CCR 1529 for disturbances exceeding one hundred square feet (>100 SF) or friable asbestos abatement activities.
  - d. Worker documentation, including:
    - 1). Current AHERA training certifications - supervisor/competent persons.
    - 2). Current AHERA training certifications - workers.
    - 3). Respiratory fit test records within the past 12 months minimum, or in compliance with 8 CCR 5144.
    - 4). Medical examination approvals for respirator use within the past 12 months, or in compliance with 8 CCR 5144.



- e. Written asbestos abatement work plan and schedule as part of the Contractor's Hazardous Materials Management Plan (HMMP) to be submitted in accordance with Section 01 35 43.13 – Environmental Procedures for Hazardous Materials.
  - f. Material Safety Data Sheets (MSDS) for chemicals used. Note that after June 1, 2015, the Hazard Communication Standard (HCS) requires chemical manufacturers, distributors, or importers to provide Safety Data Sheets (SDSs) (formerly known as Material Safety Data Sheets or MSDSs) to communicate the hazards of hazardous chemical products.
  - g. Emergency phone number and pager listing.
  - h. DOP testing of negative pressure units and HEPA-filtered vacuums.
  - i. Rotameter calibration data within past six (6) months.
  - j. Negative Exposure Assessment, as warranted, where personal protective equipment differs from minimal requirements established by Cal/OSHA's Construction Industry Standards.
  - k. Overall scope and schedule of all hazardous materials management including but not limited to:
    - 1) Description of all hazardous materials work to be performed or managed, and intended control procedures.
    - (2) Schedule of all hazardous materials work.
    - (3) Description of personal protective equipment and methods as well as intended compliance monitoring.
  - l. Name, phone number, pager number of Contractor's designated Hazardous Materials Supervisor.
  - m. Name, address and phone number of the Contractor's landfill;
2. Submit the following, in accordance with Section 01 33 00 - Submittals, within five (5) calendar days of the request by the Owner or within five (5) calendar days of completion of the abatement or hazard control work.
- a. Contractor daily personal air-monitoring data.
  - b. Updated worker documentation, as needed.
  - c. Daily boundary access logs.
  - d. Daily negative pressure records, as applicable.

- e. Copies of updated schedules and notices to regulatory agencies, as needed.
  - f. Receipt and weight tickets from landfill operator or incinerator, as applicable.
  - g. Copies of completed uniform waste manifests.
  - h. Certification of Completion.
3. Submit the following, in accordance with Section 01 33 00 – Submittals and per 1529 CCR Section (K)(3)(c), within ten (10) calendar days of completion of the abatement or hazard control work.
- a. A detailed list describing the presence, location and quantity of ACM and PACM remaining in the work area.

#### 1.5 QUALITY ASSURANCE

##### A. Qualifications:

1. Asbestos Abatement Work: Only qualified persons shall engage in asbestos abatement activities. Work involving asbestos-containing materials exceeding 100 square feet (SF) or 100 linear feet (LF) shall be completed by a Contractor holding a valid asbestos handling license issued by the California Contractors State Licensing Board (CSLB) and a valid current Certificate of Registration for Asbestos-Related Work as issued by the California Department of Industrial Relations - Division of Occupational Safety and Health (Cal/OSHA). Work shall be completed under the on-site supervision of a Competent Person as defined by OSHA Regulation 29 CFR Part 1926.1101 (8 CCR 1529 in California). All abatement workers shall have AHERA training with annual 8-hour refresher training, current medical exams for the use of respiratory protection, and current fit test of appropriate respirators.

##### B. Regulatory Requirements: The Contractor shall be alerted to and familiar with the following laws and regulations regarding the hazards, control measures, management, characterizing, transport and disposal of hazardous wastes:

1. Asbestos Abatement Work: All labor, materials, facilities, equipment, services, employees and training, and testing necessary to perform the work required for asbestos abatement and disposal of waste shall be in accordance with these Specifications and the most current regulations, including but not limited to:
  - a. Environmental Protection Agency NESHAP and AHERA regulations (40 CFR Part 763, as applicable).
  - b. Occupational Safety and Health Administration (inclusive of OSHA 29 CFR 1926.1101)
  - c. California Department of Occupational Safety and Health (inclusive of Cal/OSHA 8 CCR 1529)

- d. Bay Area Air Quality Management District (BAAQMD), Regulation 11, Rule 2.
  - e. Other applicable federal, state, and local governmental regulations pertaining to asbestos-containing materials (ACM) and asbestos waste.
- C. Meetings:
- 1. Pre-Construction or Pre-Abatement Meeting:
    - a. Prior to any abatement work, the Contractor is to attend a pre-construction meeting to be attended by representatives of the Owner, the Owner's Consultants, the Contractor, the Hazardous Materials Abatement Subcontractor, and other Subcontractors whose work may be affected. The meeting agenda shall include the following considerations:
      - 1). Review of the Specifications and Plans in detail related to the abatement and hazards work. All conflicts and ambiguities, if any, shall be discussed.
      - 2). Review the project conditions, schedule, construction sequencing, abatement application requirements, and quality of completed work.
      - 3). Review in detail the means of protecting adjoining areas, protect of Contractor's, Subcontractor's, Owner's workers, and completed work during the abatement activities.
      - 4). Pre-job submittals requirements.
      - 5). Site security requirements.
  - 2. Weekly Meetings: At the Owner's option, abatement projects extending over one week in length may require attendance of the Contractor at a weekly progress meeting. The purpose of this meeting is to review abatement and project scheduling, coordination with other trades, security and site-specific requirements.

#### 1.6 PROJECT CONDITIONS

- A. Contractor shall pay all costs associated with the compliance with applicable hazardous materials regulations or requirements incurred by the Contractor or its subcontractors for this Project.
- B. Take precautions necessary to protect the health and safety of construction workers, site visitors, the Owner personnel, outside consultants, the public and others from exposure to hazardous materials.
- C. Take precautions necessary to insure all surrounding properties or adjacent occupied areas are protected from any contamination from all hazardous materials from this Project Site.

- D. Review the information in the environmental and hazardous material investigation reports and make such information available to appropriate subcontractors and building occupants.
- F. Minimize generation and migration of hazardous and contaminated materials, waste, dust, fumes and debris.
- G. Prevent contamination or further contamination of any material or area by hazardous or contaminated material, waste, dust, fumes or debris.
- H. Avoid mixing or concentrating removed, or demolished materials so as to increase the cost of disposing of such materials required to be disposed as hazardous or contaminated wastes.
- I. Contractor shall retain, and the Owner will not indemnify against, any liability of Contractor resulting from the activities or duties which are the responsibility of Contractor under the terms of the Contract, including but not limited to present or future liability arising from the arrangement of transportation or disposal of any hazardous or contaminated material, whether on or off-site.
- J. Pursuant to 29 CFR 1926.1101, the Contractor shall be deemed to exercise general supervisory authority over the work covered by the standard, even though the General Contractor is not qualified to serve as the asbestos "Competent Person," as defined by the standard. As supervisor of the entire Project, the General Contractor shall ascertain whether any subcontractor is in compliance with the standard and shall require such contractor to come into compliance with the standard when necessary.
- K. Contractors shall schedule and coordinate abatement activities to time limitations indicated in the Contract Documents.

#### 1.7 QUALIFICATIONS

- A. Hazardous Materials Supervisor: Assign a qualified person directly responsible under the Contractor's Superintendent having the necessary training to be knowledgeable in the identification, control, and management of the hazardous materials on-site. The Hazardous Materials Supervisor is responsible for the following:
  - 1. Enforcing safe work and hygiene practices in compliance with the Site-Specific Hazardous Materials Management Plan (HMMP).
  - 2. Advising subcontractors of potential hazards and minimum general requirements of the HMMP.
  - 3. Coordinating subcontractor's work regarding hazardous material procedures and controls.
  - 4. Establishing and maintaining restricted work areas.
  - 5. Requiring proper use of personal protective equipment.

6. Communicating approved modified safety requirements to site personnel.
  7. Notification and coordinating signing of waste manifests with the Owner.
- B. Hazardous Materials Handlers: Only qualified persons shall engage in hazardous material-related work. Contractor and subcontractor personnel who come into contact with, are exposed to, disturb, operate equipment or otherwise handle hazardous or contaminated material, or debris shall have appropriate hazard communication and required training, personal and medical monitoring, and shall be certified to wear appropriate personal protective equipment as required by the applicable laws and regulations. Special qualifications which may be required depending on the Contractor's means and methods include, but are not limited to, the following:
1. Asbestos-Related Work Involving Asbestos-Containing Materials exceeding 100 square feet:
    - a) Valid asbestos handling license issued by the California State Contractors Licensing Board and a valid current Certificate of Registration for Asbestos-Related Work as issued by the California Department of Industrial Relations - Division of Occupational Safety and Health (Cal/OSHA).
    - b) Work shall be completed under the on-site supervision of a Competent Person as defined by OSHA Regulation 29 CFR Part 1926.1101 (8 CCR 1529 in California).
    - c) All abatement workers shall have AHERA training with annual 8-hour refresher training, current medical exams for the use of respiratory protection, and current fit tests of appropriate respirators.

- C. Hazardous Materials Haulers:
1. Possess during the hauling of hazardous material, applicable federal, state, and local vehicle insurance requirements, valid driver's license, vehicle registration and licenses, and a current Class 1 Certification of Compliance from the California Highway Patrol affixed to each vehicle or container
  2. Possess a Hazardous Substance Removal Certification granted by the State of California Department of Toxic Substances Control (510-540-3802) and other required certifications and insurance.
  3. Contractor shall be responsible for informing drivers of hauling vehicles about:
    - a) The nature of the material hauled.
    - b) Any recommended or required routes to and from the site.
    - c) Applicable city street use regulations and requirements, and State of California Department of Transportation (Caltrans) codes, regulations and requirements.
    - d) The Owner's requirements for proper handling and transportation of hazardous waste.
    - e) The legal maximum loads for each vehicle.

#### 1.8 REGULATORY REQUIREMENTS

- A. Hazardous and contaminated materials and hazardous waste shall be handled according to applicable laws and regulations in effect at the time of disturbance, transport or disposal of said hazardous materials or waste and requirements of the Contract Documents. In the event of conflict, the more stringent requirement shall apply.
- B. The Owner is the generator, as defined in 22 CCR Section 66260.10 and 40 CFR Part 261, of any hazardous waste, and will be responsible for that hazardous waste to the extent required by law.
- C. Contractor is alerted to and shall familiarize itself to the following laws and regulations regarding the generation, management, characterization and disposal of hazardous waste:
1. Resources Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq. and regulations 40 CFR Part 260 et seq.
  2. California Health and Safety Code, Division 20 and regulations, and 22 CCR Section 66000 et seq.
  3. For asbestos hazards: Comply with the applicable requirements of the Cal/OSHA Construction Asbestos Standard, 8 CCR Section 1529, and the BAAQMD regulations.

1.9 HAZARDOUS MATERIALS USED TO PERFORM THE WORK

- A. General: Minimize the use of hazardous materials to perform the work. Where materials, which contain hazardous substances or mixtures, are used to perform the work, material usage shall be in strict adherence to Cal/OSHA's safety requirements and the manufacturer's warnings and application instructions listed on the Material Safety Data Sheet provided by the product manufacturer and on the product container label.
  - 1. Contractor will be responsible for coordinating the exchange of MSDS (SDS after June 1, 2015) or other hazard communication information between subcontractors at the site.
  - 2. Contractor will notify the Owner when a specific product or equipment, or their intended usage, may be unsafe prior to ordering the product or equipment or prior to the product or equipment being incorporated in the Work.
- B. Prohibited Material: The following materials and chemicals are specifically prohibited from use on this project unless otherwise accepted in writing by the Owner.
  - 1. Material with a stated ACGIH threshold limit value of less than 25 parts per million.
  - 2. Ethylene glycol monomethyl ether.
  - 3. Dipropylene glycol methyl ether.
  - 4. Ethylene glycol.
  - 5. Formaldehyde.
  - 6. Methylene chloride.
  - 7. Isocyanates.
  - 8. Chemicals with a flash point of less than 140 degrees Fahrenheit.

## **1.10 TIME LIMITATION AND DELAY CHARGES**

- A. Complete all asbestos or other hazard work specified in this Section in no more than the allotted calendar days or work shifts as outlined in the Abatement Work Plan or as otherwise specified in the Contract Documents.
  - 1. In the event of failure to complete the Work of this Section within the specified time, the Contractor shall pay liquidated damages in the amount of one thousand dollar (\$1,000.00) per calendar day for each day of delay in completion of work beyond the number of days specified in the Contract Documents. The specified amount of liquidated damages represents the Owner's estimate of costs which include, but are not limited to, those of the Owner and the Owner's Consultants for observations and inspections, daily air monitoring, equipment, transportation, and analysis charges which would be incurred by the Owner after the number of calendar days specified for completion of the Work of this Section.

## **PART 2 – PRODUCTS**

### **2.1 ASBESTOS WORK - MATERIALS AND EQUIPMENT**

- A. Protective Devices:
  - 1. Temporary wash stations or showers, disposable clothing, respirators, gloves, hard hats, and other required items.
  - 2. Respirators shall protect against asbestos and other appropriate dusts, fumes and mists as approved by:
    - a. the Mine Safety and Health Administration (MSHA).
    - b. the National Institute for Occupational Safety and Health (NIOSH) under provisions of 30 CFR Part 11.
- B. Waste Receptacles: Conform to federal and State regulations, with 6-mil minimum thickness or glovebags or waste bags.
- C. Sealants and Polyethylene Sheeting:
  - 1. Polyethylene sheeting shall be flame-retardant and approved and listed by the State Fire Marshal in accordance with Section 13121 and/or 13144.1 of the California Health and Safety Code.
    - a. Thickness and Size: six (6) mil thick minimum, unless otherwise specified, sized to minimize the frequency of joints.



- b. Flammability: Comply with NFPA Standard 701 with a flame spread rating of no greater than five (<5) and a smoke development rating of no more than seventy (<70) when tested in accordance with ASTM E84 procedures.
  - 2. Sealing Tape shall conform to the following:
    - a. 2-inches or wider, capable of sealing joints of adjacent sheets of polyethylene and attaching polyethylene sheet to finished or unfinished surfaces or similar materials.
    - b. Tape shall be capable of adhering under dry and wet conditions, including use of amended water.
  - 3. Preservation Sealing Tape: Type specifically designed for adhering to critical or sensitive surfaces without damage to surface; 3M or equal.
  - 4. Spray adhesives shall not contain methylene chloride or methyl chloroform (1,1,1-trichloroethane) compounds.
  - 5. Fire resistant sealants shall be compatible with concrete, metals, wood, cable jacketing and other materials capable of preventing fire, smoke, water and toxic fumes from penetrating through sealants.
    - a. Sealants shall be asbestos free and shall have a flame spread, smoke and fuel contribution of zero.
    - b. Sealants shall be ASTM -and UL-rated for three (3) hours for standard method of fire test for firestop systems.
  - 6. Lagging sealer for enclosing and sealing raw exposed edges of piping, fitting, equipment and duct insulation (as applicable) shall meet the requirements of NFPA 90A.
- D. Surfactants and Encapsulants:
- 1. Wetting agents or surfactants shall be effective and compatible with the ACM and ACBM being wetted.
  - 2. Bridging or penetrating type encapsulants shall have the following characteristics:
    - a. Water based. Do not utilize an organic solvent in which the solid parts of the encapsulant are suspended.
    - b. Non-flammable with no methylene chloride.
    - c. U.L. listed encapsulants, in full-scale ASTM E119 fire test, compatible with W.R. Grace "Retroguard, RG-1" fireproofing with "Spatterkote" Type SKII" bonding treatment for structural and decking widths exceeding twenty four (24) inches.

- d. Compatible with replacement materials, especially mastics, fireproofing, and adhesives.
- E. Mastic Removers shall conform to the following:
1. Non-flammable solvent or gel, with a flash point above one hundred and forty degrees Fahrenheit (>140 deg. F.).
  2. Low odor.
  3. Solvent waste shall not result in the generation of hazardous waste as described under 22 CCR, Division 4.
  4. Removers shall not contain methylene chloride, halogenated hydrocarbons, or any of the following glycol ethers:

<u>Common Name</u>	<u>Abbrev.</u>	<u>CAS#</u>	<u>Chemical Name</u>
ethylene glycol methyl ether	EGME	109-86-4	2-methoxyethanol
ethylene glycol methyl ether acetate	EGMEA	110-49-6	2-methoxyethyl acetate
ethylene glycol ethyl ether	EGEE	110-80-5	2-ethoxyethanol
ethylene glycol ethyl ether acetate	EGEEA	111-15-9	2-ethoxyethyl acetate
ethylene glycol dimethyl ether	EGDME	110-71-4	1,2-dimethoxyethane
ethylene glycol diethyl ether	EGDEE	629-14-1	1,2-diethoxyethane
diethylene glycol	DEG	111-46-6	2,2'-dihydroxyethyl ether
diethylene glycol methyl ether	DEGME	111-77-3	2-(2-methoxyethoxy) ethanol
diethylene glycol ethyl ether	DEGEE	111-90-0	2-(2-ethoxyethoxy) ethanol
diethylene glycol dimethyl ether	DEGDME	111-90-6	bis(2-methoxyethoxy) ether
triethylene glycol dimethyl ether	TEGDME	112-49-2	2,5,8,11-tetraoxadecane
dipropylene glycol	DPG	110-98-5	2,2-dihydroxyisopropyl ether

- F.
- G. Vacuums and Negative Pressure Units (NPU) used for clean-up of materials and detail shall be HEPA-filtered. Provide DOP testing on-site for all units, unless otherwise noted in the Contract Documents.

## 2.2 OTHER HAZARDOUS MATERIALS - MATERIAL AND EQUIPMENT

- A. Waste Containers:
1. Provide sealable metal drums, 55-gallon capacity, with sealable lids. Label the drums in accordance with EPA and DTSC requirements, including the Generator I.D. or location identification and manifest number. Drums shall be air and water tight.

## **PART 3 – EXECUTION**

### **3.1 EXAMINATION**

- A. Review the hazardous material report(s) to familiarize oneself with hazardous material locations and conditions, and previous abatement by others, as applicable.
- B. Review site conditions to verify quantities, work zones, available utilities, security, etc.

### **3.2 PREPARATION**

- A. Minimum Protective Procedures for Asbestos Work:
  - 1. Protection of Visitors and Other Site Personnel: Cordon off the abatement area(s) with appropriate signs, and provide temporary tunneling or scaffolding, as applicable.
  - 2. Respiratory Protection: Comply with Cal/OSHA Regulation 8 CCR Section 1529 and ANSI Standard Z88.2, "Practices for Respiratory Protection." Use respirators approved by the National Institute for Occupational Safety and Health (NIOSH).
  - 3. Provide site security to assure that no member of the public is able to gain access to the asbestos work area at any time. Maintain access and egress routes at all times.
  - 4. Provide worker training, respiratory protection, and medical examinations to meet applicable regulations.
  - 5. Provide temporary lighting and power to work areas, including installation of ground fault interrupters.
  - 6. Fully ground all equipment within the work zone and decontamination assemblies.
  - 7. Establish negative pressure in work area(s) as required under 8 CCR Section 1529. Note that where approved by the Owner, negative pressure units may be removed overnight from unoccupied building where site security and equipment are at risk. Under such conditions, the Contractor shall be responsible for sealing all openings and the decontamination assembly before completion of the day's work and reestablishing negative pressurization of the zone before abatement commences.
  - 8. Construct enclosure system(s) for worker and equipment decontamination.
  - 9. Provide workers with sufficient sets of protective full-body clothing to be worn in the designated work area and whenever a potential exposure to airborne asbestos or potential safety hazards exists. Such clothing shall include but not be limited to: full-body coveralls, headgear, eye protection, and gloves. Disposable-type protective clothing, headgear, and footwear may be provided.

- a. Full-Body Clothing: Assure that workers wear hoods covering their hair in the designated work areas at all times. Do not wear protective clothing in lieu of street clothing outside the work area. Leave non-disposable-type protective clothing and footwear in the wash room until the end of the asbestos abatement work. An acceptable alternative to disposal is proper storage in a sealed and labeled container so that containers would be opened and clothing reused only in an asbestos work area.
  - b. Eye protection: Provide eye protection to be worn as required by applicable safety regulations. Wear eye protection at all times within the asbestos work areas during all phases of work: preparation, removal, clean-up, encapsulation, waste handling, and similar operations. When appropriate, based on regulatory mandates, a full facepiece respirator may be worn to satisfy this requirement. Equipment shall conform to ANSI Z87.1. Use of contact lenses with respiratory protection is prohibited.
  - c. Head Protection: Provide hard hats or other head protection as required by applicable safety regulations, conforming to ANSI Z89.1, Class A or B.
  - d. Foot Protection: Provide nonskid footwear to all abatement workers, conforming to ANSI Z41.1, Class 75.
- B. Site Protective Controls:
1. Protect against unnecessary disturbances or damages to sensitive finishes or furnishings that will remain within the facility.
  2. Locate temporary scaffolding and containment barriers, as required, and proceed with the construction or demolition, allowing for continued operation of any adjacent occupied areas, as applicable.
  3. Protect existing furnishings and building finishes from water, lead dusts, or chemical strippers.
  4. Evaluation will review possible contamination resulting from:
    - a. Failure to adequately cordon off or contain work area dusts, clean-up debris, and use approved work practices, such as wet wiping and HEPA vacuuming.
    - b. Failure or breaches in the work area isolation containment.
    - c. Failure or rupture in the negative pressurization/HEPA filtration system.
    - d. Incomplete decontamination of personnel or equipment removed from the work area(s).

### 3.3 ASBESTOS ABATEMENT PROCEDURES

A. Notifications:

1. Notify, in writing, the BAAQMD ten (10) working days prior to commencement of any non-emergency asbestos project involving more than two hundred sixty linear feet (>260 LF) or more than one hundred sixty square feet (>160 SF) or more than 35 cubic feet of RACM.
2. Notify Cal/OSHA twenty four (24) hours in advance of any disturbances of any amount of friable or non-friable asbestos-containing materials or prior to performing asbestos-related work.

B. Procedures:

1. Thermal System Insulation (TSI):
  - a. Remove TSI as indicated on the Contract Drawings using full isolation or glovebag procedures per Cal/OSHA Regulation 8 CCR 1529, Work Class I, minimum.
  - b. Glovebag cut-out procedures may be used for services scheduled for demolition, as applicable.
  - c. Use wet methods and HEPA vacuums, setting up critical barriers for quantities greater than 25 LF
  - d. Seal HVAC systems and install drop cloths below and over nearby objects.
  - e. Ventilate away from the workers, using a HEPA filtration system.
  - f. Provide a full decontamination system with shower for abatement quantities exceeding twenty five linear feet (>25 LF) or as otherwise directed by the Contract Documents.
  - g. HEPA vacuum the entire contained area prior to clearance air testing.
  - h. Glovebag abatement work, where applicable, requires two workers minimum and smoke testing of all bags prior to abatement.
  - i. Dispose of TSI in double goosenecked labeled bags or double wrap cut-out sections in 6-mil polyethylene sheeting and properly labeled as friable asbestos waste.
2. Vinyl Floor Tiles and Mastics:
  - a. Remove the flooring and mastics as indicated on the Contract Drawings using full isolation procedures, satisfying the requirements of Cal/OSHA Regulation 8 CCR 1529, Work Class II.
  - b. Set-up critical barriers and splash guards and establish negative pressurization.
  - c. Remove the tiles using wet methods to minimize breakage and airborne fiber releases.
  - d. Remove the mastic using a mastic remover.

- e. HEPA vacuum the contained area following abatement for clearance; minimize use of encapsulant on substrates to be retiled.
  - f. Provide a full decontamination system with shower for areas exceeding twenty five square feet (>25 SF).
  - g. Dispose of tiles and mastic as Category 1 non-friable waste.
3. Asbestos Plasters and Sprayed-on Surfacing Materials:
- a. Remove ACM as indicated on the Contract Drawings using full isolation or mini-containment procedures per Cal/OSHA Regulation 8 CCR 1529, Work Class I, minimum.
  - b. Use wet methods and HEPA vacuums.
  - c. Set-up critical barriers for quantities greater than twenty five square feet (>25 SF).
  - d. Seal HVAC systems and install drop cloths below and over nearby objects. Ventilate away from the workers, using a HEPA filtration system.
  - e. Provide a full decontamination system with shower for abatement quantities exceeding 25 LF or as otherwise directed by the Contract Documents.
  - f. HEPA vacuum the entire contained area prior to clearance air testing.
  - g. Dispose of ACM in double goosenecked bags properly labeled as friable asbestos waste.
4. Caulking:
- a. Remove the caulking as indicated by the Contract Drawings.
  - b. Cordon off the work area, installing critical barriers at the windows, doors, and other penetrations, as applicable.
  - c. Remove ACM using wet methods per Cal/OSHA's Regulation 8 CCR 1529, Work Class II.
  - d. Set-up drop cloths on the ground and nearby objects to contain falling materials on the ground or public access areas surrounding the work area.
  - e. HEPA vacuum the sills and frames following abatement.
  - f. Provide a full decontamination system with shower for areas exceeding 100 SF.
  - g. Dispose of caulking as Category 2 non-friable waste.
5. Trace Asbestos Materials (Except Sheetrock Wallboard and Joint Compounds with Skimcoat):

- a. Remove composite materials as indicated on the Contract Drawings using full isolation or mini-containment procedures within occupied building per Cal/OSHA Regulation 8 CCR 1529, Work Class II.
  - b. Use wet methods and HEPA vacuums, setting up critical barriers for occupied areas.
  - c. Set-up critical barriers for occupied areas.
  - d. For building demolition projects, cordon off the area and use dust control methods to minimize airborne fiber releases.
  - e. HEPA vacuum the entire contained area prior to clearances for renovation projects.
  - f. Dispose of composite materials as "trace" (less than one percent (<1%)) asbestos waste, unless otherwise contaminated with other asbestos or hazardous wastes.
6. Contaminated Non-Asbestos Materials:
- a. Remove contaminated non-ACM substrates or underlying ceiling tiles, etc.
  - b. Use wet methods and HEPA-filtered vacuums to decontaminate, where feasible. Allow inspection of the decontaminated materials by the Owner's Environmental Consultant prior to removal from the work area.
  - c. Contaminated waste shall be disposed in double goosenecked bags or burrito- wrapped as friable asbestos waste.
  - d. Minimize excess waste quantities, where feasible.
7. Other: Remove and dispose in compliance with Cal/OSHA requirements under 8 CCR 1529 and AHERA requirements under 40 CFR Part 763.

C. Special Techniques and Procedures

- 1. Isolate HVAC system(s) to prevent contamination and fiber dispersal to other areas of the building.
  - a. Openings to ducts, fans, louvers, and plenums shall be sealed with two layers of polyethylene sheeting prior to the start of removal.
  - b. Provide caulked, rigid panels at the discretion of the Owner.
  - c. Repair any damage to ductwork, grilles, dampers, louvers, or HVAC equipment at the completion of the abatement work.

- d. Secure systems and equipment using OSHA lock-out and tag-out procedures, as applicable.
2. Ensure that all electrical power terminating in the work area, including but not limited to outlets and lights are disconnected and cannot be reenergized during the course of the work.
  - a. Ensure that all power lines which transit the work area and are necessary for the continued operation of services in areas outside the work area are identified and protected adequately in order not to pose a hazard to workers during the course of work.
  - b. Provide temporary power and lighting, and ensure safe installation of temporary sources and equipment per applicable electrical code requirements, and provide safety lighting and ground fault interrupter circuits as power source of electrical equipment.
  - c. Secure systems and equipment using OSHA lock-out and tag-out procedures, as applicable.
3. Construct critical barriers and decontamination enclosure systems, as applicable. Erect polyethylene sheeting to protect walls, windows, flooring, and fixed equipment, as applicable.
4. Provide differential air pressure systems for each work area in accordance with Appendix J of the EPA's "Guidance for Controlling Asbestos-Containing Materials in Buildings," EPA 560/5-85-024.
  - a. Establish negative pressurization within all Asbestos Work Class 1 areas, exhausting air to the exterior, unless otherwise approved by the Owner.
  - b. Do not locate outlets near or adjacent to other building intake vents or louvers or at the entrances to the building.
  - c. Do not exhaust air into the building's interior spaces or within fifty (50) feet of the building's supply air intakes without on-site DOP testing of all NPUs to show a filter efficiency of ninety nine and ninety seven hundreds percent (99.97%) minimum.
  - d. Provide a minimum work area differential air pressure of twenty five hundredths inches water gauge (-0.025 inch w.g.) and four (4) air changes per hour at all times for Asbestos Work Class 1 areas or as otherwise designated by the Contract Documents.
5. Remove ACM employing full isolation, glovebag, and glovebag with mini-containment procedures as designated by material quantities and work class under Cal/OSHA regulation 8 CCR Section 1529.
  - a. Glovebag cut-out methods may be used for systems scheduled for demolition as outlined in the Demolition Plans.



- b. Use wet cleaning methods, HEPA vacuuming, and proper work practices.
  - c. Mini-containments may not be required for glovebag TSI removal in unoccupied zones provided the bag is evacuated with a HEPA-filtered vacuum prior to the removal of the element being stripped or unless otherwise indicated in the Contract Documents. All areas requiring aggressive clearance air sampling will require mini-containments or full containments and pre-cleaning throughout the isolated area using HEPA vacuums and wet methods.
- 6. As applicable to abatement of surfacing materials and non-glovebag thermal system insulation removal projects or for other work completed within full isolation containments, remove visible accumulations of asbestos material, debris, and dust from within the work area and its decontamination enclosure systems. Clean all surfaces within the work area.
  - 7. Where encapsulation is required, encapsulate following the Owner's pre-encapsulation inspection.
  - 8. Minimize encapsulating of sensitive abated areas or surfaces, such as vinyl floor from wood or concrete substrates, so as not to affect the adhesion of replacement materials.
  - 9. After encapsulation:
    - a. Remove the inner layer of polyethylene sheeting from the floor, walls, and other equipment.
    - b. Dispose as asbestos waste, as applicable.
    - c. Leave all critical barriers with one layer of polyethylene sheeting.
  - 10. After removing the final layer of polyethylene sheeting (as appropriate):
    - a. Final-clean all surfaces, including the inner surface of the outer layer of polyethylene that serves as a critical barrier, any subfloor trenches, and similar locations.
    - b. Allow adequate time for settlement of dust, and then repeat final cleaning operation.
    - c. Clean and remove all materials and equipment within the work area, using the equipment decontamination enclosure system.
  - 11. Exterior Asbestos Work Class II abatement operations shall utilize critical barriers, drop cloths, wet methods, and HEPA vacuums as outlined under Cal/OSHA regulation 8 CCR Section 1529.

D. Field Quality Control

- 1. Site Tests: Clearance Criteria

- a. Clearance air samples using aggressive air sampling techniques shall be collected for all abatement zones, unless otherwise designated in the Contract Documents.
- b. Phase Contrast Microscopy (PCM) Clearances: Areas cleared by PCM shall show an airborne concentration of total fibers for each sample at or below one hundredth fibers per cubic centimeter ( $\leq 0.01$  f/cc) using the NIOSH 7400A counting rules. Any sample result exceeding one hundredth fibers per cubic centimeter ( $> 0.01$  f/cc) shall require recleaning of the work area and retesting. The Owner, based on the quantity and types of materials removed, configuration, and sequencing of the work areas, and similar considerations, shall determine the minimum number of samples.
- c. When transmission electron microscopy (TEM) clearances are required, as designated by the Contract Documents, analysis shall be by the method described in 40 CFR Part 763, Appendix A, Subpart E (AHERA), with an analysis turn-around time of twenty four (24) hours, unless otherwise designated by the Owner. Z-test requirements under the AHERA regulations will not apply to any Owner's projects.
- d. The Owner shall pay the costs of the final round of visual inspections, aggressive air sampling, and PCM and/or TEM analyses that will meet the Specifications. All rounds of visual inspections, aggressive air sampling, and PCM and/or TEM analyses that fail to meet the contract criteria shall be borne by the Contractor. For the purpose of this paragraph, visual inspection includes the area isolation inspection, pre-encapsulation inspection, and final area cleanup inspection.

E. Waste Disposal and Manifesting:

1. Packing, labeling, transporting, and disposing of asbestos materials shall comply with Cal/EPA regulations under 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (DTSC 8022A, 7/92, and EPA 8700-22), and the requirements of "Waste Disposal and Manifesting," discussed below.

3.5 WASTE DISPOSAL AND MANIFESTING

A. Hazardous Waste Disposal:

1. Packing, labeling, transporting, and disposing of hazardous waste shall comply with Cal/EPA regulations under 29 CFR 1910.1001 and 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (DTSC 8022A and EPA 8700-22). Waste and glovebags shall be properly labeled prior to their removal from the contained or regulated area, including all required asbestos warning labels.
2. Waste dumpsters shall be placarded, sealed, and locked overnight. Waste containers shall be stored to prevent public access or disturbances.
3. A "Waste Manifest" shall be completed for disposal of hazardous waste. The transporter shall possess a valid EPA Transporter I.D. number. The Contractor shall notify the Owner's

Project Manager at least forty eight (48) hours prior to the time that the Manifest is required to be signed by the Owner.

4. Applicable information to be included in the "Waste Manifest" includes the following:

- a. EPA Generator I.D. Number: Verify with the Owner's Project Manager.
- b. Generator's Name and Address: Verify with the Owner's Project Manager.
- c. Generator Tax I.D. Number: Verify with the Owner's Project Manager.

B. Recycling:

- 1. Contractor is prohibited from recycling of any construction debris that has any asbestos contamination regardless of amount, including residual asbestos-containing mastics, or concrete which may be averaged to be less than or more than 1% asbestos. Material will be disposed of in accordance with requirements listed in this section.

### 3.6 FINAL PROJECT CLEAN-UP AND REOCCUPANCY CLEARANCE CRITERIA

- A. Asbestos-containing materials will be abated with clearance by visual inspection and phase contrast microscopy (PCM) or transmission electron microscopy (TEM), as applicable, as outlined in the Abatement Work Plans (Section 02 26 00).

END OF SECTION 02 82 33

**SECTION 02 83 33**

**CONTROL, REMOVAL AND DISPOSAL OF MATERIALS CONTAINING LEAD**

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## **SECTION 02 83 33**

### **CONTROL, REMOVAL AND DISPOSAL OF MATERIALS CONTAINING LEAD**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes: Minimum requirements for hazardous materials handling, control, and abatement activities, as applicable, including, but not necessarily limited to:
  - 1. Hazardous materials controls.
  - 2. Handling and disposal of lead-based paints and lead-containing materials.
  - 3. Demolition associated with access to hazardous materials.
  - 4. Criteria for abatement zone clearance testing.
  - 5. Criteria for reoccupancy clearance.
- B. Related Sections:
  - 1. Section 02 26 00 –Existing Conditions – Hazardous Materials Conditions
  - 2. Section 01 33 00 - Submittals.
  - 3. Section 02 80 01 – Hazardous Materials Abatement Workplan
  - 4. Section 02 82 33 – Removal and Disposal of Asbestos-Containing Materials.

##### **1.2 REFERENCES**

- A. American Society for Testing and Materials (ASTM):
  - 1. E84: "Test Method for Surface Burning Characteristics of Building Materials."
  - 2. E119: "Standard Method for Fire Tests of Building Construction and Materials."
- B. American National Standards Institute (ANSI):
  - 1. Z9.2: "Fundamentals Governing the Design and Operation of Local Exhaust Systems."
  - 2. Z41.1: "Men's Safety Toe Footwear."
  - 3. Z86.1: "Commodity Specification for Air."

4. Z87.1: "Practice for Occupational and Educational Eye and Face Protection."
  5. Z88.2: "Practices for Respiratory Protection."
  6. Z88.6: "Respiratory Protection - Respiratory Use Physical Qualifications for Personnel."
  7. Z89.1: "Requirements for Industrial Head Protection."
- C. National Fire Protection Association (NFPA):
1. Standard 10: "Fire Extinguishers."
  2. Standard 70: "National Electric Code."
  3. Standard 90A: "Fire Rating of Sprayed-On Fireproofing."
  4. Standard 701: "Small Scale Fire Test for Flame Resistant Textiles and Films."
- D. California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA):
1. Title 8 California Code of Regulations (8 CCR) Section 5144 - Respiratory Protection.
  2. Title 8 California Code of Regulations (8 CCR) Section 1532.1 - Construction Lead Standard.
  3. Title 8 California Code of Regulations (8 CCR) Sections 3203 and 1509 - Injury and Illness Prevention Program.
- E. U. S. Department of Housing and Urban Development (HUD): Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," referred to as the "HUD Guidelines."

### 1.3 DEFINITIONS

- A. Abatement: as defined by the Department of Public Health for lead hazards work, includes any set of measures designed to reduce or eliminate lead hazards.
- B. Activity Class/Category - Lead: Lead hazard designations assigned to work activities that involve lead-containing materials. Activities that fall into Classes I through III, including as examples the operations defined below, are required to assume the following personal airborne exposure levels, unless otherwise demonstrated.
1. Activity Class I; exposure below five hundred micrograms per cubic meter ( $<500 \mu\text{g}/\text{m}^3$ ).
    - a. Surface clean-up of lead-containing dust or debris less than fifteen thousand micrograms per square foot ( $<15,000 \mu\text{g}/\text{SF}$ );

- b. Spray painting with lead-based paints; Manual demolition of structures (e.g. drywall, plaster, etc.);
  - c. Manual sanding, grinding, needle gunning, chiseling, hammering, wire brushing, milling or scraping of lead-based coatings;
  - d. Head gun removal of any surface coating; and power tool cleaning with dust collection systems.
2. Activity Class II; exposure greater than five hundred micrograms per cubic meter ( $>500 \mu\text{g}/\text{m}^3$ ) and less than twenty five hundred micrograms per cubic meter ( $<2,500 \mu\text{g}/\text{m}^3$ ).
- a. Using lead mortar;
  - b. Lead burning;
  - c. Rivet busting;
  - d. Power tool cleaning without dust collection systems;
  - e. Clean-up of dry abrasive; and
  - f. Abrasive blasting enclosure movement and removal
3. Activity Class III; exposure greater than twenty five hundred micrograms per cubic meter ( $>2,500 \mu\text{g}/\text{m}^3$ ).
- a. Abrasive blasting of any coated surfaces;
  - b. Welding on any coated surfaces;
  - c. Torching or cutting on any coated surfaces; and
  - d. Torch burning of any coated surfaces.
- C. Certified Lead Worker: includes those who do lead-related construction work activities on a work site under the directions of a Certified Lead Supervisor, including:
- 1. Removal, disposal or abatement of loose and peeling lead-based paints as defined by CDPH, including scraping, demolition or other Cal/OSHA Activity 1 through 3 work as defined above.
  - 2. Removal or repair of lead plumbing.
  - 3. Repainting or general construction on surfaces painted with lead-based paints.

4. Removal, enclosing or covering of lead-contaminated soils.
  5. Note that renovations, remodeling, and painting, work or other activities listed above may be completed by workers satisfying the EPA's RRP training requirements only.
- D. Certified Lead Supervisor: includes those who supervise daily work activities on a lead-related construction site, as well as supervision of repainting or general construction performed on surfaces with lead-based paints where abatement is designed to permanently reduce or eliminate lead hazards for public (non-industrial) buildings or to last more than twenty (20) years. The Certified Lead Supervisor shall oversee the Certified Lead Workers, enforce safe work practices, and schedule and coordinate work site activities with the building occupants and other contractors and consultants.
- E. Containment: as defined by the California Department of Public Health includes any system, process or barrier used to contain lead hazards in a work area, including plastic sheeting, wet scraping, and other lead-safe work practices as described in the HUD Guidelines, Chapter 8.

#### 1.4 SUBMITTALS

A. Lead-Related Work:

1. Submittals the following, in accordance with Section 01 33 00 - Submittals, prior to commencement of the lead-related work:
  - a. Worker documentation, including:
    - 1). Current CDPH Certified Lead Supervisor training certificates.
    - 2). Current lead awareness training certificates – workers.
    - 3). Respiratory fit test records within the past twelve (12) months minimum, or in compliance with 8 CCR 5144.
    - 4). Medical examination approvals for respirator use within the past 12 months, or in compliance with 8 CCR 5144.
    - 5). Blood lead test within past 90 days.
  - b. Abatement Plan prepared by a Certified Lead Supervisor, Certified Lead Project Monitor, or Certified Lead Project Designer including:
    - 1). detailed lead hazards control and management measures.
    - 2). a detailed description of abatement methods, locations and components where abatement is planned.



- 3). a recommended schedule for reinspection.
  - 4). instructions to maintain potential lead hazards in safe condition.
  - c. Notification for abatement exceeding 100 SF per Cal/OSHA regulation 8 CCR 1532.1 for HUD-defined and presumed lead-based paints.
  - d. Material safety data sheets for chemicals used.
2. Submit the following, in accordance with Section 01 33 00 - Submittals, within five (5) calendar days of the request by the Owner or within five (5) calendar days of completion of the abatement or hazard control work.
- a. Updated worker documentation, as needed.
  - b. Contractor periodic personal air-monitoring results.
  - c. Receipt and weight tickets from landfill operator or recycler as applicable.
  - d. Waste profiling data (TCLP, WET, and SW846, as applicable).

## 1.5 QUALITY ASSURANCE

### A. Qualifications:

1. Lead Hazard/Abatement Work: Only qualified persons with CDPH approved Lead Workers training, current medical examinations and approval for the use of respiratory protection, and current fit testing of respirators under the direct supervision of a CDPH approved Lead Abatement Supervisor shall engage in work defined under Cal/OSHA regulation 8 CCR 1532.1 affecting lead-based paints and lead construction hazards, including but not limited to:
- a. Working in an environment where lead exposures exceed 30 micrograms per cubic meter.
  - b. Abating lead-based paints, including but not limited to abatement of loose and peeling lead-based paints, demolition and disposal of concrete-encased primed structural steel and/or stripping of lead coatings from structural steel prior to torching or welding.

### B. Regulatory Requirements: The Contractor shall be alerted to and familiar with the following laws and regulations regarding the hazards, control measures, management, characterizing, transport and disposal of hazardous wastes:

1. Lead Hazard/Abatement Work: All labor, materials, facilities, equipment, services, employees and training, and testing necessary to perform the work required for lead

abatement, demolition, decontamination, hazard control, and disposal of waste shall be in accordance with these Specifications and the most current regulations, including but not limited to:

- a. Environmental Protection Agency National Ambient Air Quality Standards, as applicable (40 CFR 61).
- b. Occupational Safety and Health Administration (inclusive of OSHA 29 CFR 1926.62, 29 CFR 1926.59, and 29 CFR 1910).
- c. California Department of Occupational Safety and Health (inclusive of Cal/OSHA 8 CCR 1532.1).
- d. California Environmental Protection Agency (Cal/EPA), Title 22.
- e. California Department of Public Health (17 CCR Sections 35001 -36100).
- f. U.S. Environmental Protection Agency Renovation Repairs & Painting (RR&P Rules)
- g. Other applicable federal, state, and local governmental regulations pertaining to lead hazards and lead waste.

C. Meetings:

1. Pre-Construction or Pre-Abatement Meeting:

- a. Prior to any abatement work, the Contractor is to attend a pre-construction meeting to be attended by representatives of the Owner, the Owner's Consultants, the Contractor, the Hazardous Materials Abatement Subcontractor, and other Subcontractors whose work may be affected. The meeting agenda shall include the following considerations:
  - 1). Review of the Specifications and Plans in detail related to the abatement and hazards work. All conflicts and ambiguities, if any, shall be discussed.
  - 2). Review the project conditions, schedule, construction sequencing, abatement application requirements, and quality of completed work.
  - 3). Review in detail the means of protecting adjoining areas, protect of Contractor's, Subcontractor's, Owner's workers, and completed work during the abatement activities.
  - 4). Pre-job submittals requirements.
  - 5). Site security requirements.

2. Weekly Meetings: At the Owner's option, abatement projects extending over one week in length may require attendance of the Contractor at a weekly progress meeting. The purpose of this meeting is to review abatement and project scheduling, coordination with other trades, security and site-specific requirements.

#### 1.6 TIME LIMITATION AND DELAY CHARGES

- A. Complete all lead and other hazard work specified in this Section in no more than the allotted calendar days or work shifts as outlined in the Abatement Work Plan or as otherwise specified in the Contract Documents.
  1. In the event of failure to complete the Work of this Section within the specified time, the Contractor shall pay liquidated damages in the amount of one thousand dollar (\$1,000.00) per calendar day for each day of delay in completion of work beyond the number of days specified in the Contract Documents. The specified amount of liquidated damages represents the Owner's estimate of costs which include, but are not limited to, those of the Owner and the Owner's Consultants for observations and inspections, daily air monitoring, equipment, transportation, and analysis charges which would be incurred by the Owner after the number of calendar days specified for completion of the Work of this Section.

### PART 2 – PRODUCTS

#### 2.1 LEAD-RELATED WORK - MATERIALS AND EQUIPMENT

- A. Protective Devices:
  1. Polyethylene drop cloths and dust barriers, temporary wash stations or showers, disposable clothing, respirators, gloves, hard hats, and other required items.
  2. Respirators shall protect against lead and other appropriate dusts, fumes and mists as approved by:
    - a. the Mine Safety and Health Administration (MSHA).
    - b. the National Institute for Occupational Safety and Health (NIOSH) under provisions of 30 CFR Part 11.
- B. Sealants and Polyethylene Sheeting:
  1. Polyethylene sheeting shall be flame-retardant and approved and listed by the State Fire Marshal in accordance with Section 13121 and/or 13144.1 of the California Health and Safety Code.
    - a. Thickness and Size: 6-mil thick minimum, unless otherwise specified, sized to minimize the frequency of joints.

- b. Flammability: Comply with NFPA Standard 701 with a flame spread rating of no greater than five (<5) and a smoke development rating of no more than seventy (<70) when tested in accordance with ASTM E84 procedures.

C. Sealing Tape shall conform to the following:

1. 2-inches or wider, capable of sealing joints of adjacent sheets of polyethylene and attaching polyethylene sheet to finished or unfinished surfaces or similar materials.
  - a. Tape shall be capable of adhering under dry and wet conditions, including use of amended water.
  - b. Preservation Sealing Tape: Type specifically designed for adhering to critical or sensitive surfaces without damage to surface; 3M or equal.
  - c. Spray adhesives shall not contain methylene chloride or methyl chloroform (1,1,1-trichloroethane) compounds.
  - d. Fire resistant sealants shall be compatible with concrete, metals, wood, cable jacketing and other materials capable of preventing fire, smoke, water and toxic fumes from penetrating through sealants.
    - 1). Sealants shall be asbestos free and shall have a flame spread, smoke and fuel contribution of zero.
    - 2). Sealants shall be ASTM -and UL-rated for three (3) hours for standard method of fire test for firestop systems.

D. Provide waste receptacles that meet federal and State regulations.

E. Paint Removers shall conform to the following:

1. Non-flammable removing solvents or gels, with a flash point above one hundred and forty degrees Fahrenheit (>140 deg. F.).
2. Solvent waste shall not result in the generation of hazardous waste as described under 22 CCR, Division 4.
3. Removers shall not contain methylene chloride, halogenated hydrocarbons, or any of the following glycol ethers.

Common Name	Abbrev.	CAS#	Chemical Name
ethylene glycol methyl ether	EGME	109-86-4	2-methoxyethanol
ethylene glycol methyl ether acetate	EGMEA	110-49-6	2-methoxyethyl acetate
ethylene glycol ethyl ether	EGEE	110-80-5	2-ethoxyethanol
ethylene glycol ethyl ether acetate	EGEEA	111-15-9	2-ethoxyethyl acetate
ethylene glycol dimethyl ether	EGDME	110-71-4	1,2 dimethoxyethane
ethylene glycol diethyl ether	EGDEE	629-14-1	1,2 diethoxyethane
diethylene glycol	DEG	111-46-6	2,2 dihydroxyethyl ether
diethylene glycol methyl ether	DEGME	111-77-3	2-(2-methoxyethoxy) ethanol
diethylene glycol ethyl ether	DEGEE	111-90-0	2-(2-ethoxyethoxy) ethanol
diethylene glycol dimethyl ether	DEGDME	111-90-6	bis(2-methoxyethoxy) ether
triethylene glycol dimethyl ether	TEGDME	112-49-2	2,5,8,11 tetraoxadodecane
dipropylene glycol	DPG	110-98-5	2,2 dihydroxyisopropyl ether

- F. Cleaning Agents: Cleaning agents, equipment, and methods employed shall not in any way damage the substrate or adjoining surfaces and finishes. Cleaning solvents shall be non-injurious to the surfaces upon which they are applied. The methods used shall cause no pitting, erosion or damages to the surfaces.

1. Do not use chemicals that may attach or leave deposits on the substrate material.
2. Modify the process or processes to suit the finish, hardness, and condition of the surface to be cleaned.

- G. Vacuums and negative pressure units shall be HEPA-filtered for clean-up of loose debris and contaminants. Provide DOP testing on-site for all units, unless otherwise noted in the Abatement Work Plan.

## 2.2 OTHER HAZARDOUS MATERIALS - MATERIAL AND EQUIPMENT

### A. Waste Containers:

1. Provide sealable metal drums, 55-gallon capacity, with sealable lids. Label the drums in accordance with EPA and DTSC requirements, including the Generator I.D. or location identification and manifest number. Drums shall be air and water tight.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Review the hazardous material report(s) to familiarize oneself with hazardous material locations and conditions, and previous abatement by others, as applicable.

- B. Review site conditions to verify quantities, work zones, available utilities, security, etc.

### 3.2 PREPARATION

#### A. Minimum Protective Procedures for Lead-Related Work:

1. Follow, at the minimum, dust control procedures as outlined under Cal/OSHA regulation 8 CCR 1532.1 and CDPH regulation 17 CCR Sections 35001 through 36100.
2. Respiratory Protection: Comply with Cal/OSHA Regulations included in 8 CCR Section 1532.1 and ANSI Standard Z88.2, "Practices for Respiratory Protection."
  - a. Use respirators approved by the National Institute for Occupational Safety and Health (NIOSH).
  - b. Provide respiratory protection to employees involved with lead-based paint demolition and/or abatement elements or as required for demolition work where employees may be occupationally exposed to lead at or exceeding the Action Level (AL) at no cost to the employees or Owner.
  - c. Workers shall wear appropriate respiratory protection during lead hazards work, unless initial testing verifies that employee exposures are below the Action Level.
3. Site security to assure that no member of the public is able to gain access to regulated work areas. Maintain access and egress routes at all times.
4. Worker training, respiratory protection, medical examinations, and blood lead monitoring to meet applicable regulations.
5. Activity Class I work areas, as a minimum, with a two (2) stage decontamination assembly, including an equipment and contiguous clean room with bucket wash-up facilities positioned as follows:
  - a. Equipment Room shall have lockers or labeled bags and containers for storing contaminated protective clothing and equipment.
  - b. Clean Room shall have lockers or containers for storing employee's street clothes and personal items. Clean Room shall also contain a suitable supply of potable water to permit each employee to wash his or her hair, hands, forearms, face and neck.
6. Sufficient sets of protective full-body clothing for workers to be worn in designated work area and/or whenever a potential airborne lead hazard exists. Clothing shall include, but not be limited to, full-body coveralls, headgear, eye protection, and gloves. Disposable-type protective clothing, headgear and footwear are acceptable.

7. Full-Body Clothing: Workers shall wear hoods covering their hair in the designated lead hazard work areas at all times.
  - a. Wearing of protective clothing, in lieu of street cloths, outside the work area is not permitted.
  - b. Non-disposable-type protective clothing and footwear shall be left in the Wash Room decontamination assembly for disposal.
  - c. The use of cloth coveralls following the prescribed laundry procedures as identified in 8 CCR, 1532.1 is acceptable.
8. Eye Protection: Eye protection, conforming to ANSI Z87.1 shall be worn at all times within the lead hazard areas.
9. Head Protection: Hard hats or other head protection as required by applicable safety regulations and conforming to ANSI Z89.1, Class A or B.
10. Foot Protection: Construction workers shall use non-skid footwear conforming to ANSI Z41.1, Class 75.

B. Site Protective Controls:

1. Protect against unnecessary disturbances or damages to sensitive finishes or furnishings that will remain within the facility.
2. Locate temporary scaffolding and containment barriers, as required, and proceed with the construction or demolition, allowing for continued operation of any adjacent occupied areas, as applicable.
3. Protect existing furnishings and building finishes from water, lead dusts, or chemical strippers.
4. Erect temporary protective covers over pedestrian walkways and at points of passage for persons or vehicles that are to remain operational during the lead hazard work.
5. Exterior lead hazard operations shall utilize mini-containments, drop cloths, wet methods, and HEPA vacuums as outlined in Cal/OSHA regulation 8 CCR Section 1532.1 and the HUD Guidelines, Chapter 8.
6. The Owner may evaluate the lead dust concentrations outside the work area on adjoining finishes during the work progress by collecting wipe samples to evaluate the integrity of the containment and to detect dust contamination.
7. Evaluation will review possible contamination resulting from:
  - a. Failure to adequately cordon off or contain work area dusts, clean-up debris, and use approved work practices, such as wet wiping and HEPA vacuuming.
  - b. Failure or breaches in the work area isolation containment.
  - c. Failure or rupture in the negative pressurization/HEPA filtration system.
  - d. Incomplete decontamination of personnel or equipment removed from the work area(s).
8. Perimeter wipe samples may be collected adjacent to each work area and compared to the pre-construction background concentrations. The Owner will analyze the wipe sample by flame atomic absorption per NIST Standard 1578.
9. The Contractor shall reclean adjoining occupied areas with surface concentrations exceeding background level or forty micrograms per square foot ( $>40 \mu\text{g}/\text{SF}$ ) during the construction activities. The Contractor shall bear the costs (including engineering, administrative, housekeeping, analytical and the labor and materials costs of the Owner's consultant(s)) to return elevated surface lead concentrations to acceptable levels.



### 3.3 LEAD ABATEMENT AND HAZARD CONTROL

- A. Notifications: Cordon off active lead hazard and abatement zone(s) and post with warning signs at entries to regulated areas bearing the following information:

Warning  
Lead Work Area  
Poison  
No Smoking or Eating  
Authorized Personnel Only

B. Procedures:

1. Abatement of lead-based paints and presumed lead-based paints as defined by HUD and as regulated under the California Department of Public Health's Title 17, California Code of Regulations (CCR), Division 1, Chapter 8, "Accreditation, Certification, and Work Practices in Lead-Related Construction," Article 1, Sections 35001 et al, and Article 16, Sections 36000 and 36100 shall:
  - a. Include posting and delivery of notifications prior to conducting abatement, including:
    - 1). Completing CDPH Form 8551 (12/97) and posting all entrances to the structure at least 5 days prior to conducting abatement. The posted form shall not be removed until abatement is completed and a clearance inspection has been conducted.
    - 2). Deliver of the completed CDPH Form 8551 to the Department of Public Health, c/o Notification at the Childhood Lead Prevention Program Branch, 1515 Clay Street, Suite 1801, Oakland, CA 94612; fax: (510) 622-4939.
    - 3). Retain records of notification for at least three (3) years.
  - b. Be conducted only by a Certified Lead Supervisor or a Certified Lead Worker. The Certified Lead Supervisor shall be on-site during all work site preparation and during the post-abatement clean-up of work areas. At all other times when abatement is conducted, the Certified Lead Supervisor shall be on-site or available by telephone, pager or answering service, and able to be present at the work area in no more than two (<2) hours.
  - c. Be conducted using containment in a manner such as not to contaminate non-work areas with lead dust, soil, or paint debris.
  - d. Be conducted in accordance with procedures specified in the HUD Guidelines, Chapters 11 and 12.

C. Loose and Peeling Paint:

1. Scrape loose and peeling paints using dust control procedures and procedures as outlined under Cal/OSHA Regulation 8 CCR 1532.1.
2. Characterize the waste for possible disposal as a hazardous waste.

D. Lead Paint Abatement:

1. Remove paints on structural steel components scheduled for welding or torching using a chemical stripper, needle gun or other approved methods as outlined in the approved Contractor's Hazardous Materials Management Plan (HMMP). Note that spot abatement of structural steel components does not eliminate the possible need for respiratory protection and hazard controls by the welder or torcher under 8 CCR 1529 due to unabated residues or paints on back-to-back components, which can not be accessed for abatement.
2. Use drop cloths, polyethylene barriers, Hudson and airless sprayers and other methods as required for dust control.
3. Characterize and dispose of paints, rags, etc., separately for possible disposal as a hazardous waste.

E. Lead Dust Clean-up:

1. Clean-up background or construction-related dusts from demolition of lead-coated elements or other contaminant sources using wet methods and HEPA-filtered vacuums.
2. Do not dry sweep.

F. Lead Hazard Control:

1. Scrape loose and peeling paints and use dust controls for demolition of lead-coated architectural and structural elements as indicated by the Demolition Plans, following minimum procedures as outlined under Cal/OSHA Regulation 8 CCR 1532.1.
2. Remove and dispose of intact lead-coated architectural and structural elements as non-hazardous waste.
3. HEPA vacuum residual debris and wet wipe affected substrates as required for clearance inspection or testing.

G. Special Procedures and Techniques:

1. Cordon off the proximity (within approximately 20 feet) of Activity Class I work areas using construction tape, polyethylene dust barriers, or other appropriate means.
  - a. Persons entering the regulated "cordoned" work area shall wear appropriate respiratory protection and full body coveralls.
  - b. Affix appropriate warning signs at the entry and approaches to the regulated area(s).
2. Lockout electrical and HVAC equipment within the regulated area as necessary.

3. Protect floors, furnishings, landscaping, and other items with polyethylene drop cloths or other acceptable means to prevent contamination or damage to other building surfaces and finishes.
4. Apply chemical strippers and scrape following the manufacturer's recommended procedures. After scraping, remove remaining loose paint with a HEPA vacuum.
5. Maintain work area surfaces as free as practicable from accumulated dust or debris. Clean equipment, tools and containment structures within regulated areas, at a minimum, with HEPA vacuums or wet methods.
6. Conduct operations to prevent injury to adjoining facilities, persons, motor vehicles, and other items as applicable.
  - a. Prevent chemical cleaning agents from coming into contact with pedestrians, motor vehicles, landscaping, buildings, and other items and other surfaces that could be injured or damaged by such contact.
  - b. Do not spray or scrape outdoors during winds of sufficient force to spread cleaning agents to unprotected surfaces.
7. For areas where removal of loose and peeling paints only are required, the Contractor shall ensure that the paint that remains on walls, ceilings, eaves, and other surfaces in areas of active work, as applicable, shall be adhered to the substrate sufficiently to support eventual repainting. Paints that peel or loosen during wetting will become part of the scope of work scheduled for removal and disposal.
8. Where complete removal of lead coats is required, finished work shall show no signs of stains, scratches, streaks, or runs of discoloration from use of cleaners.
  - a. Leave substrate surfaces neat and clean, including removal of primers in addition to finish coats. Surfaces shall be uniformly cleaned.
  - b. Neutralize substrate using a TSP and detergent wash.
9. Where mechanical sanding or removal of lead-based paints is required, the Contractor shall fully contain the work area, establish negative pressurization of the contained zone, and attach HEPA-filtration devices to all mechanical tools. Upgrades in respiratory protection shall be provided as required under 8 CCR 1532.1.
10. Avoid direct welding or cutting on surfaces containing any detectable lead by mechanically or chemically removing the coating to a distance of at least six inches from the point at which heat is applied.

- a. If surface coatings are not removed prior to welding or cutting, provide local exhaust ventilation to capture the aerosolized lead, using HEPA filters.
  - b. If surface coatings are not removed prior to torching or welding, provide upgraded welder's respiratory protection in compliance with Cal/OSHA regulation 8 CCR 1532.1.
11. Where mechanical removal of surface coatings constitutes a Level II activity, provide power tools, to the extent feasible, with local HEPA exhaust or dust collector systems to capture the aerosolized lead.

H. Demolition Procedures:

1. Removal of obstructing materials as needed for access to hazardous materials.
2. Removal of obstructing materials where hazardous materials contamination is known to exist.
3. Removal of obstructing materials where hazardous materials exposure is likely to result.
4. Follow, at the minimum, the protective procedures as outlined in Cal/OSHA regulation 8 CCR 1532.1.
5. Protection of Visitors and Other Site Personnel: Cordon off the abatement area(s) with appropriate signs, and provide temporary tunneling or scaffolding, as applicable.
6. Respiratory Protection: Comply with Cal/OSHA Regulation 8 CCR Section 1529 and ANSI Standard Z88.2, "Practices for Respiratory Protection." Use respirators approved by the National Institute for Occupational Safety and Health (NIOSH).

I. Prohibited Activities:

1. Workers shall decontaminate themselves and appropriate equipment prior to eating, drinking and smoking.
2. Clean debris and surfaces with HEPA-filtered vacuums or wet methods.
3. Shoveling, wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and are found to be ineffective.

J. Field Quality Control

1. Site Test: Monitoring and Clearance by the Owner:

- a. During lead hazard-related work, such as demolition, refinishing, or torching and welding activities, the Owner may collect air samples for analysis by flame atomic absorption.
  - b. Air sampling results in excess of the Cal/OSHA "Project Action Level" of thirty micrograms per cubic meter ( $30 \mu\text{g}/\text{m}^3$ ) within the construction zone may require isolation of the work area, upgrades in the required respiratory protection, amendment of work procedures, and/or clean-up of the affected area.
  - c. Air sampling results in excess of the EPA's National Ambient Air Quality Standard (NAAQS) of one and one-half micrograms per cubic meter ( $1.5 \mu\text{g}/\text{m}^3$ ) at the site's property line or at adjoining occupied non-construction areas may require isolation of the work area, amendment of work procedures, and clean-up of the affected area.
  - d. Resampling of the contaminated areas and handling, shipping, and analysis charges (including the Owner's time and expenses) for additional sampling required to show background levels below these lead standards shall be borne by the Contractor.
- K. Clearance Criteria - Lead Abatement Zones:
1. The lead abatement zone shall remain secured until cleared by the Owner.
  2. Visual Inspection:
    - a. When the Contractor considers the work or a designated portion of the work to be complete, the Contractor shall notify the Owner's Project Manager that the work is ready for abatement zone clearance inspection.
    - b. Within a reasonable time after receiving notification from the Contractor, the Owner will perform a visual inspection of the work area.
    - c. Evidence of lead contamination identified during the inspection will necessitate further cleaning as specified herein.
  3. Wipe Sample Clearance Criteria: The Contractor shall reclean the area if surface concentrations exceed the following "CDPH Dust Standards:"

40 micrograms/ $\text{ft}^2$	for interior floors
250 micrograms/ $\text{ft}^2$	for interior horizontal surfaces
400 micrograms/ $\text{ft}^2$	for exterior floor and exterior horizontal surfaces
  4. Air Sample Clearance (Additional to Wipe Clearance): Where lead hazard abatement occur concurrently with asbestos abatement activities, the area may be cleared additionally by aggressive air sampling, where airborne lead concentrations following the final visual inspection shall not exceed the EPA's NAAQS standard of one and one-half micrograms per

cubic meter ( $1.5 \mu\text{g}/\text{m}^3$ ) as analyzed by NIOSH method 7082 (flame atomic absorption) or 7105 (graphite furnace atomic absorption).

5. Resampling of the contaminated areas and handling, shipping, analysis charges (including the Owner's time and expenses) for additional sampling required to show background levels below these lead standards shall be borne by the Contractor.

L. Waste Disposal and Manifesting:

1. Comply with current federal, State and local regulations concerning the waste handling, containerization, transportation, and disposal of lead-based paint or lead-contaminated materials as discussed under "Waste Disposal and Manifesting" below.
2. Loose debris and scraped materials shall be treated as hazardous waste, unless otherwise approved by the Owner. Construction waste coated with intact LBP may be disposed of as construction debris in accordance with the Cal/EPA requirements.
3. Laboratory costs associated with analyses required for disposal, if required, shall be at the Contractor's expense.
4. Segregate, containerize, and characterize construction debris including rags, protective coveralls, polyethylene sheeting, and other consumable items. Waste shall be packaged in accordance with the applicable U. S. Department of Transportation regulations included in 49 CFR Parts 173, 178 and 179.
5. Profile waste with an approved landfill or incinerator by means of standard digestion and extraction tests (TCLP, WET, and SW846), as appropriate. Use the facility's EPA Generator I.D. number on the "Waste Manifest." See additional requirements specified below in Article titled "Manifesting."
6. If debris is to be recycled, provide a bill of lading and a memorandum from the recycler acknowledging that lead may be present and work activities and disposal will comply with applicable regulations. Submit in accordance with procedures of Section 01 33 00 - Submittals.

3.4 WASTE DISPOSAL AND MANIFESTING

A. Hazardous Waste Disposal:

1. Packing, labeling, transporting, and disposing of hazardous waste shall comply with Cal/EPA regulations under 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (DTSC 8022A and EPA 8700-22). Waste and glovebags shall be properly labeled prior to their removal from the contained or regulated area, including all required warning labels.

2. Waste dumpsters shall be placarded, sealed, and locked overnight. Waste containers shall be stored to prevent public access or disturbances.
3. A "Waste Manifest" shall be completed for disposal of hazardous waste. The transporter shall possess a valid EPA Transporter I.D. number. The Contractor shall notify the Owner's Project Manager at least forty eight (48) hours prior to the time that the Manifest is required to be signed by the Owner.
4. Applicable information to be included in the "Waste Manifest" includes the following:
  - a. EPA Generator I.D. Number: Verify with the Project Manager.
  - b. Generator's Name and Address: Verify with the Owner's Project Manager.
  - c. Generator Tax I.D. Number: Verify with the Owner's Project Manager.

### 3.5 FINAL PROJECT CLEAN-UP AND REOCCUPANCY CLEARANCE CRITERIA

#### A. Lead:

1. Final Reoccupancy Cleaning:
  - a. Final clean-up prior to Owner reoccupancy shall include wet wiping using a TSP solution and HEPA vacuuming all suspect dust and debris areas.
  - b. Areas that do not comply with the "Final Reoccupancy Clearance Criteria" shall continue to be cleaned by and at the Contractor's expense until the specified criteria is achieved, as evidenced by results of inspections as previously specified.

END OF SECTION 02 83 33



**SECTION 02 84 33**

**REMOVAL AND DISPOSAL OF MERCURY CONTAINING MATERIALS**

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## **SECTION 02 84 33**

### **REMOVAL AND DISPOSAL OF MERCURY CONTAINING MATERIALS**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes: Minimum requirements for hazardous materials handling, control, and abatement activities, as applicable, including, but not necessarily limited to:
  - A.1 Hazardous materials controls.
  - A.2 Handling, disposal or recycling of mercury-containing lamps and thermostats.
- B. Related Documents:
  - 1. Section 02 26 00 –Existing Conditions – Hazardous Materials Conditions
  - 2. Section 01 33 00 - Submittals.
  - 3. Section 02 80 01 – Hazardous Materials Abatement Workplan
  - 4. Section 02 82 33 – Removal and Disposal of Asbestos-Containing Materials.
  - 5. Section 02 83 33 – Removal and Disposal of Material Containing Lead.

##### **1.2 REFERENCES**

- A. American National Standards Institute (ANSI):
  - A.1 Z41.1: "Men's Safety Toe Footwear."
  - A.2 Z86.1: "Commodity Specification for Air."
  - A.3 Z87.1: "Practice for Occupational and Educational Eye and Face Protection."
  - A.4 Z88.2: "Practices for Respiratory Protection."
  - A.5 Z89.1: "Requirements for Industrial Head Protection."
- A.6 Title 8 California Code of Regulations (8 CCR) Sections 3203 and 1509 - Injury and Illness Prevention Program.

### 1.3 DEFINITIONS

- A. Hazardous Materials Control: Incidental work procedures for control of releases of project-related hazardous materials, including containment, enclosure, wetting, controlled renovations and demolition procedures, and removal and disposal.
- B. Hazardous Waste:
  - 1. Waste material, including mercury-containing items and any other material which requires management, handling transport, treatment, storage or disposal according to the requirements of the Federal Resource, Conservation and Recovery Act (RCRA) and associated regulation 42 U.S.C. 6901 et seq. and 40 CFR Part 260 et seq.) or the California Hazardous Waste Control Law and associated regulations (Health and Safety Code 25000 et seq. and 22 CCR 66260 et seq.).
  - 2. References to hazardous material or contaminated material incorporate definitions of hazardous pollutants, hazardous contaminants, hazardous material, hazardous substance, hazardous waste, toxic pollutants and toxic substance applicable in accordance with Federal, State, regional and local statutes, laws, regulations and policies.

### 1.4 SUBMITTALS

- A. Written abatement work plan and schedule as part of the Contractor's Hazardous Materials Management Plan (HMMP) which includes:
  - 1. Overall scope and schedule of all hazardous materials management.
  - 2. Description of all hazardous materials work to be performed or managed, and intended control procedures.
  - 3. Schedule of all hazardous materials work.
  - 4. Description of personal protective equipment and methods as well as intended compliance monitoring.
  - 5. Name, phone number, pager number of Contractor's designated Hazardous Materials Supervisor as required in this section's "Quality Control."
  - 6. Name, address and phone number of the Contractor's landfill;
- B. Emergency phone number and pager listing.
- C. Copies of updated schedules and notices to regulatory agencies, as needed.

- D. Receipt and weight tickets from landfill operator, recycler or incinerator, as applicable.
- E. Copies of completed uniform waste manifests.
- F. Waste profiling data.
- G. Certification of Completion.

#### **1.4 PROJECT CONDITIONS**

- A. Contractor shall pay all costs associated with the compliance with applicable hazardous materials regulations or requirements incurred by the Contractor or its subcontractors for this Project.
- B. Take precautions necessary to protect the health and safety of construction workers, site visitors, the Owner personnel, outside consultants, the public and others from exposure to hazardous materials.
- C. Take precautions necessary to insure all surrounding properties or adjacent occupied areas are protected from any contamination from all hazardous materials from this Project Site.
- D. Review the information in the environmental and hazardous material investigation reports and make such information available to appropriate subcontractors and building occupants.
- E. Contractor will obtain and pay for all sampling and profiling analyses required for waste disposal. California Environmental Laboratory Accreditation Program (ELAP)-accredited laboratories shall perform analyses. Contractor shall notify Owner and Environmental Consultant a minimum of 72 hours prior to waste profile sampling. Environmental Consultant will oversee waste profile sampling; however, contractor is responsible for all costs associated with profile sampling and characterization.
- F. Minimize generation and migration of hazardous and contaminated materials, waste, dust, fumes and debris.
- G. Prevent contamination or further contamination of any material or area by hazardous or contaminated material, waste, dust, fumes or debris.
- H. Avoid mixing or concentrating removed, or demolished materials so as to increase the cost of disposing of such materials required to be disposed as hazardous or contaminated wastes.
- I. Contractor shall retain, and the Owner will not indemnify against, any liability of Contractor resulting from the activities or duties which are the responsibility of Contractor under the terms of the Contract, including but not limited to present or future liability arising from the arrangement of transportation or disposal of any hazardous or contaminated material, whether on or off-site.

- K. Contractors shall schedule and coordinate abatement activities to time limitations indicated in the Contract Documents

## 1.5 QUALIFICATIONS

- A. Hazardous Materials Supervisor: Assign a qualified person directly responsible under the Contractor's Superintendent having the necessary training to be knowledgeable in the identification, control, and management of the hazardous materials on-site. The Hazardous Materials Supervisor is responsible for the following:
  - 1. Enforcing safe work and hygiene practices in compliance with the Site-Specific Hazardous Materials Management Plan (HMMP).
  - 2. Advising subcontractors of potential hazards and minimum general requirements of the HMMP.
  - 3. Coordinating subcontractor's work regarding hazardous material procedures and controls.
  - 4. Establishing and maintaining restricted work areas.
  - 5. Requiring proper use of personal protective equipment.
  - 6. Communicating approved modified safety requirements to site personnel.
  - 7. Notification and coordinating signing of waste manifests with the Owner.
- B. Hazardous Materials Handlers: Only qualified persons shall engage in hazardous material-related work. Contractor and subcontractor personnel who come into contact with, are exposed to, disturb, operate equipment or otherwise handle hazardous or contaminated material, or debris shall have appropriate hazard communication and required training, personal and medical monitoring, and shall be certified to wear appropriate personal protective equipment as required by the applicable laws and regulations. Special qualifications which may be required depending on the Contractor's means and methods include, but are not limited to, the following:
  - 1. Mercury Lamp/Thermostat-Related Work: Spent fluorescent and other mercury-containing lamps and thermostats shall be considered a hazardous waste by the California Department of Public Health (CDPH 22 CCR Section 66699(b)). Lamps and thermostats should be shipped to a commercial recycler. Removal of lamps and thermostats shall be completed by a trained worker who has successfully completed the 40-hour HAZWOPER worker training and mercury hazard communication training.
- C. Hazardous Materials Haulers:

1. Possess during the hauling of hazardous material, applicable federal, state, and local vehicle insurance requirements, valid driver's license, vehicle registration and licenses, and a current Class 1 Certification of Compliance from the California Highway Patrol affixed to each vehicle or container
2. Possess a Hazardous Substance Removal Certification granted by the State of California Department of Toxic Substances Control (510-540-3802) and other required certifications and insurance.
3. Contractor shall be responsible for informing drivers of hauling vehicles about:
  - a) The nature of the material hauled.
  - b) Any recommended or required routes to and from the site.
  - c) Applicable city street use regulations and requirements, and State of California Department of Transportation (Caltrans) codes, regulations and requirements.
  - d) The Owner's requirements for proper handling and transportation of hazardous waste.
  - e) The legal maximum loads for each vehicle.

#### **1.6 REGULATORY REQUIREMENTS**

- A. Hazardous and contaminated materials and hazardous waste shall be handled according to applicable laws and regulations in effect at the time of disturbance, transport or disposal of said hazardous materials or waste and requirements of the Contract Documents. In the event of conflict, the more stringent requirement shall apply.
- B. The Owner is the generator, as defined in 22 CCR Section 66260.10 and 40 CFR Part 261, of any hazardous waste, and will be responsible for that hazardous waste to the extent required by law.
- C. Contractor is alerted to and shall familiarize itself to the following laws and regulations regarding the generation, management, characterization and disposal of hazardous waste:
  1. Resources Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq. and regulations 40 CFR Part 260 et seq.
  2. California Health and Safety Code, Division 20 and regulations, and 22 CCR Section 66000 et seq.

### **1.7 TIME LIMITATION AND DELAY CHARGES**

- A. Complete all hazard work specified in this Section in no more than the allotted calendar days or work shifts as outlined in the Abatement Work Plan or as otherwise specified in the Contract Documents.
  - 1. In the event of failure to complete the Work of this Section within the specified time, the Contractor shall pay liquidated damages in the amount of one thousand dollar (\$1,000.00) per calendar day for each day of delay in completion of work specified in the Contract Documents. The specified amount of liquidated damages represents the Owner's estimate of costs which include, but are not limited to, those of the Owner and the Owner's Consultants for observations and inspections, daily air monitoring, equipment, transportation, and analysis charges which would be incurred by the Owner after the number of calendar days specified for completion of the Work of this Section.

## **PART 2 – PRODUCTS**

### **2.1 MATERIAL AND EQUIPMENT**

- A. Waste Containers:
  - 1. Provide sealable metal drums, 55-gallon capacity, with sealable lids. Label the drums in accordance with EPA and DTSC requirements, including the Generator I.D. or location identification and manifest number. Drums shall be air and water tight.
- 2. PART 3 – EXECUTION

### **3.1 EXAMINATION**

- A. Review the hazardous material report(s) to familiarize oneself with hazardous material locations and conditions, and previous abatement by others, as applicable.
- B. Review site conditions to verify quantities, work zones, available utilities, security, etc.

### **3.2 PREPARATION**

- A. Minimum Protective Procedures:
  - 1. Protection of Visitors and Other Site Personnel: Cordon off the abatement area(s) with appropriate signs, and provide temporary tunneling or scaffolding, as applicable.
  - 2. Provide site security to assure that no member of the public is able to gain access to the work area at any time. Maintain access and egress routes at all times.
  - 3. Provide worker training, respiratory protection, etc. to meet applicable regulations.

4. Provide temporary lighting and power to work areas, including installation of ground fault interrupters.
5. Fully ground all equipment within the work zone and decontamination assemblies.
6. Provide workers with sufficient sets of protective full-body clothing to be worn in the designated work area and whenever a potential exposure to potential safety hazards exists. Such clothing shall include but not be limited to: full-body coveralls, headgear, eye protection, and gloves. Disposable-type protective clothing, headgear, and footwear may be provided.
  - a. Full-Body Clothing: Assure that workers wear hoods covering their hair in the designated work areas at all times. Do not wear protective clothing in lieu of street clothing outside the work area. Leave non-disposable-type protective clothing and footwear in the wash room until the end of the abatement work. An acceptable alternative to disposal is proper storage in a sealed and labeled container so that containers would be opened and clothing reused only in the work area.
  - b. Eye protection: Provide eye protection to be worn as required by applicable safety regulations. Wear eye protection at all times within the work areas during all phases of work: preparation, removal, clean-up, encapsulation, waste handling, and similar operations. When appropriate, based on regulatory mandates, a full facepiece respirator may be worn to satisfy this requirement. Equipment shall conform to ANSI Z87.1. Use of contact lenses with respiratory protection is prohibited.
  - c. Head Protection: Provide hard hats or other head protection as required by applicable safety regulations, conforming to ANSI Z89.1, Class A or B.
  - d. Foot Protection: Provide nonskid footwear to all abatement workers, conforming to ANSI Z41.1, Class 75.

### **3.3 NOT USED**

### **3.4 MERCURY-CONTAINING LAMP REMOVAL PROCEDURES**

#### **A. Handling and Disposal of Lamps:**

1. Spent fluorescent and other mercury-containing lamps shall be considered a hazardous waste by the California Department of Public Health (CDPH; 22 CCR Section 66699(b)).
2. Ship lamps to a commercial recycler where they are to be crushed and the mercury reclaimed.
3. Comply with DOT requirements for manifests, with evidence of proper disposal provided to the Owner, including a log of shipping dates and quantities.



4. Load into secured cardboard boxes for shipment to prevent unnecessary breakage.
5. In the event of lamp breakage, clean-up broken glass and debris immediately, using a HEPA-filtered vacuum for final clean-up.

### 3.5 WASTE DISPOSAL AND MANIFESTING

#### A. Hazardous Waste Disposal:

1. Packing, labeling, transporting, and disposing of hazardous waste shall comply with Cal/EPA regulations under 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (DTSC 8022A and EPA 8700-22). Waste shall be properly labeled prior to their removal from the contained or regulated area, including all required warning labels.
2. Waste containers shall be placarded, sealed, and locked overnight. Waste containers shall be stored to prevent public access or disturbances.
3. A "Waste Manifest" shall be completed for disposal of hazardous waste. The transporter shall possess a valid EPA Transporter I.D. number. The Contractor shall notify the Owner at least 48 hours prior to the time that the Manifest is required to be signed.
4. Applicable information to be included in the "Waste Manifest" includes the following:
  - a. EPA Generator I.D. Number: Verify with the Owner.
  - b. Generator's Name and Address: Verify with the Owner.
  - c. Generator Tax I.D. Number: Verify with the Owner.

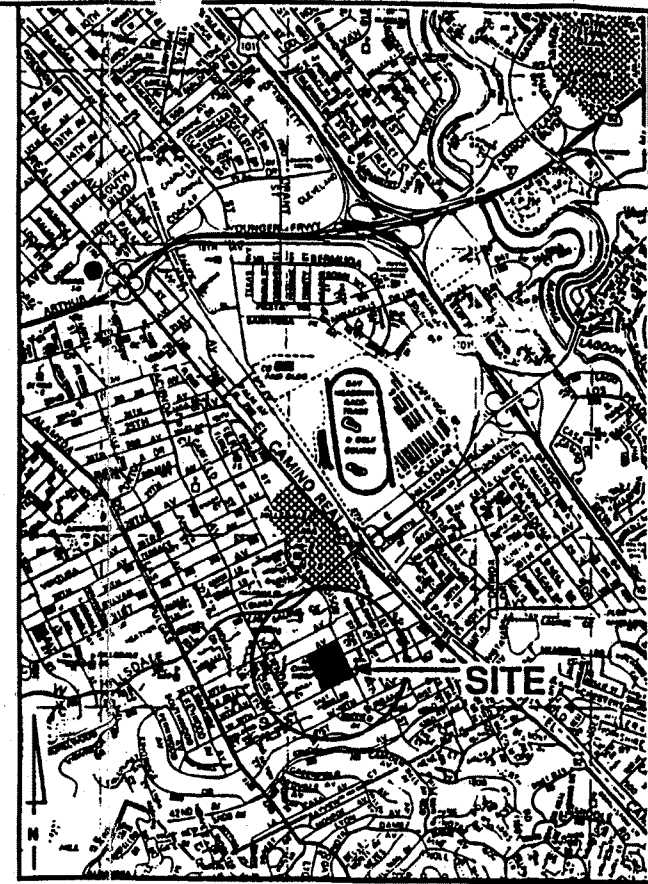
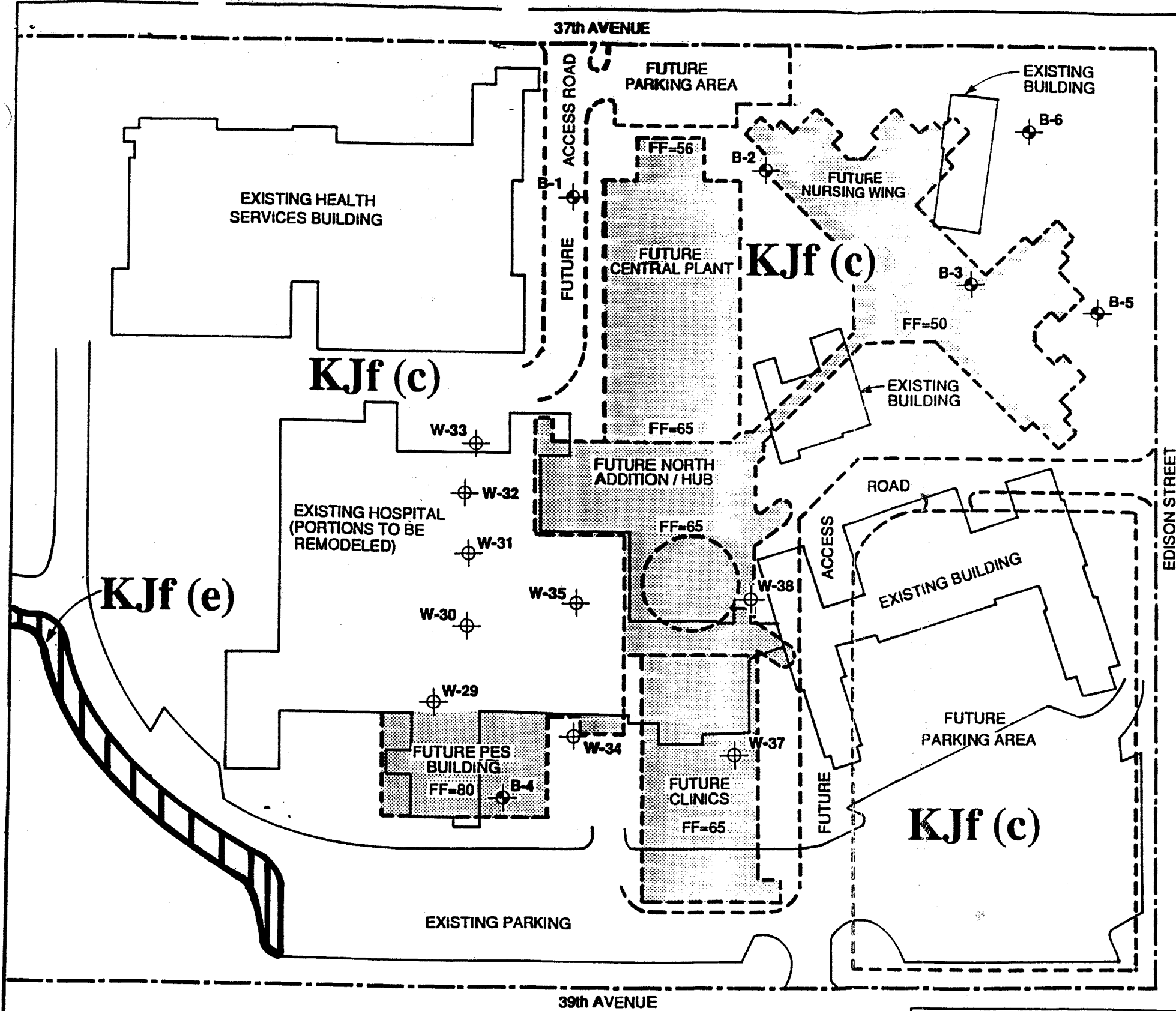
END OF SECTION 02 84 33

# **San Mateo Health System Campus Upgrade Project**

## **Available Geotechnical Data and Existing Conditions**

### **Enclosed:**

1. Geotechnical Engineering Report, dated January 16, 1992
2. Geotechnical Engineering Report, dated January 29, 1993
3. Geotechnical Engineering Report, dated November 14, 2017
4. Existing site condition drawing, dated November 11, 2017



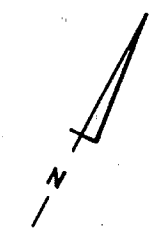
VICINITY MAP (No Scale)

**EXPLANATION**

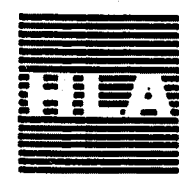
- B-1 HLA Boring, 1992
- W-29 Boring by Others, 1953

**GEOLOGIC UNITS**

- KJf -** Franciscan Formation - Graywacke sandstone with interbedded siltstone and shale. Fractured and sheared with local gouge zones. Bedding relationships generally obscured by shearing
- KJf (e) -** Bedrock exposed in a 1:1 cutslope (horizontal : vertical)
- KJf (c) -** Bedrock covered by 2 - 19 feet of residual and colluvial clayey soils.



**References:** 1. Boundary and Topographic Survey, San Mateo County General Hospital, prepared by Acres Consulting Engineers, dated January 1992, and  
2. Site Plan, Schematic Design, San Mateo County Health Center, prepared by The Ratcliff Architects, dated December 1992.



**Harding Lawson Associates**  
Engineering and  
Environmental Services

**Site Plan and Site Geology**  
San Mateo County General Hospital Additions  
San Mateo, California

PLATE

**1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
AM	22823-1.0	<i>Mark Wilson</i>	1/93	7/93



January 16, 1992

9195.010.04

Department of General Services  
County of San Mateo  
County Government Center  
Redwood City, California 94063

Attention: Mr. Fred A. Countryman, Architect  
Architectural/Engineering Section

Ladies and Gentlemen:

Geologic Hazard Evaluation Report  
San Mateo County General Hospital  
222 West 39th Avenue  
San Mateo, California  
Project No. 563A-0030441

This letter report presents the results of Harding Lawson Associates' (HLA) geologic hazard evaluation for the San Mateo County General Hospital (SMCGH). We understand that the proposed improvements to the facility include construction of a four-story addition to the existing hospital wing, remodeling and code compliance upgrading of the existing hospital wing, and demolition of the outpatient clinic wing. The existing hospital wing and the proposed new addition are shown on Figure 1.

This study addresses the following items:

1. Description of terrain.
2. Brief geological history.
3. Geologic hazards evaluation addressing:
  - Seismic ground shaking
  - Surface faulting
  - Liquefaction
  - Lurching and lateral spreading
  - Landslides
  - Flooding and surface drainage
4. Determination of the soils coefficient factor.
5. Conclusions regarding geotechnical suitability of the site.

## SCOPE OF SERVICES

To complete this geologic hazards evaluation, we performed the following tasks.

1. Conducted a review of available published geologic literature relevant to the site and a site-specific geotechnical investigation report that was prepared for construction of the existing hospital wing. The geotechnical investigation included soils boring and test data useful in evaluating subsurface geologic and soils conditions.
2. Performed a site reconnaissance by our Certified Engineering Geologist.
3. Prepared this report presenting our conclusions regarding geologic hazards and geotechnical suitability of the proposed project.

## TOPOGRAPHY

The site lies along a topographic boundary between the gently-sloping San Francisco Bay plain to the east and the hills that form the uplands of the San Francisco Peninsula to the west. Most of the site slopes gently to the north with slope inclinations generally averaging a little over 5 percent. Somewhat steeper slopes are located in the south portion of the site directly adjacent to the proposed new hospital expansion. Slope inclinations in this area reach a maximum of 15 to 20 percent.

Cut slopes have been graded along the base of the 15 to 20 percent sloping area in the south portion of the site to form a driveway. These cut slopes are within about 10 to 20 feet of the south edge of the proposed new expansion. The cut slopes range up to about 10 feet in height and are inclined to a steepness up to about 1-1/2:1 (horizontal to vertical).

## GEOLOGY

### Regional Geology

The site is in the California Coast Range geologic province. The region consists primarily of a series of subparallel, northwest-trending mountain ranges underlain by a complex series of faulted and folded rocks. Much of the structure and geomorphic expression of the province is dominated by large, active, strike-slip faults of the San Andreas fault system.

Two types of basement complexes occur in the region which are separated by the San Andreas fault. East of the San Andreas fault, basement rocks consist of a deep oceanic assemblage of igneous, sedimentary and metamorphic rocks formed in a subduction zone (Franciscan Formation). West of the fault, basement rocks consist of an assemblage of high-grade metamorphic rocks intruded by granite (Salinian block). The SMCGH site is underlain by Franciscan basement rocks.

The basement complexes are overlain by marine and non-marine sedimentary and volcanic rocks of Tertiary age that have been folded and faulted by tectonic

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deformation. Valleys and basins between the mountain ranges, including the basin that contains San Francisco Bay, are floored by relatively undeformed Quaternary sediments.

### Site Geology

According to geologic mapping of the area published by the U.S. Geological Survey (Brabb and Pampeyan, 1983), the hospital site lies on a geologic contact between unconsolidated alluvium that underlies the San Francisco Bay plains to the east and consolidated bedrock of the Franciscan Formation that underlies the foothills of the Santa Cruz Mountains to the west. The alluvium was deposited on top of the Franciscan bedrock by streams draining from the hills to the west. Stratigraphically, the alluvium pinches out along the contact. Near the contact, the alluvium is thin. To the east, the alluvium becomes increasingly thicker and typically reaches several hundred feet in thickness along the shores of San Francisco Bay.

A previous foundation investigation performed at the site for the existing hospital building (Woodward, Clyde and Associates, 1953) indicates that the area within the perimeter of the building was underlain by clayey alluvial soils ranging between 4 and 19 feet in thickness prior to construction. Much of these soils were removed to form basement excavations for the existing building. The alluvial soils are described as stiff silty clays with varying amounts of small pebbles. The deepest soils, reaching a thickness of 19 feet, were found at the south corner of the existing hospital building, directly adjacent to the north side of the proposed new hospital wing.

During our geologic reconnaissance, we observed Franciscan bedrock exposed in cut slopes directly adjacent to the south side of the proposed new expansion. The exposed bedrock consists of deeply weathered, closely to intensely fractured graywacke sandstone. The exposed sandstone is low to moderate in hardness and weak to moderate in strength. At depth, the graywacke sandstone may be less weathered, harder and stronger than that exposed at the surface. The sandstone generally appears similar to that encountered in borings as described in the 1953 geotechnical report.

### **GEOLOGIC HAZARDS EVALUATION**

Based on our geologic review and site reconnaissance, we judge that the most significant geologic hazard affecting the proposed improvements is the potential for strong seismic ground shaking to occur. As discussed below, there is a high probability that the facility will experience strong seismic ground shaking one or more times during its operational life. Other than seismic ground shaking, we judge that there are no other significant geologic hazards, as discussed in the following sections.

### Seismic Ground Shaking

The site is located in a region of high seismicity dominated by the San Andreas fault system. This fault system includes the main trace of the San Andreas fault as well as a number of large branch faults, including the Hayward, Calaveras, and Rogers Creek faults. A recent study published by the U.S. Geological Survey (USGS Circular 1053, 1990) estimates that there is a 67 percent probability that there will be one or more

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large earthquakes of moment magnitude 7 or greater in the Bay area within the next 30 years.

The main trace of the San Andreas fault lies 3 miles west of the site and governs the maximum levels of seismic shaking which could affect the site due to its close proximity relative to other faults. The northern segment of the San Andreas fault generated the 1906 San Francisco earthquake, which had a Richter magnitude of 8 1/4 (Ellsworth, 1990). The epicenter of that earthquake was just west of the city of San Francisco.

A recurrence of the 1906 earthquake is generally considered to be the maximum credible earthquake<sup>(1)</sup> for the site vicinity. It is also designated as the maximum probable earthquake<sup>(2)</sup>. By definition, the maximum probable earthquake shall be no lower than the maximum that has occurred within historic time (CDMG Note 42)

The 1990 USGS study estimates that during the next thirty years there is a 2 percent probability of a moment magnitude 8 earthquake on the segment of the San Andreas fault north of Crystal Springs Reservoir and a 23 percent probability of a moment magnitude 7 earthquake on the Peninsula segment of the San Andreas fault south of Crystal Springs Reservoir.

Other faults in the region could also generate significant levels of seismic shaking at the site, though not as high as that potentially generated by the San Andreas fault. Table 1 summarizes earthquake potential within a 100 mile radius of the site.

A map published by the U. S. Geological Survey (Thompson and Evernden, 1986) presents predicted earthquake shaking intensities in San Mateo County generated by an earthquake comparable in magnitude to the 1906 San Francisco earthquake. Earthquake intensity is a partially subjective measure of earthquake strength as it affects local residents and construction and depends mainly on magnitude, distance from the epicenter, and the thickness, strength and saturation level of soils at a site. The most commonly used scale of intensity is the Modified Mercalli Scale which rates seismic intensity on a scale of I to XII (Plate 3).

The U.S.G.S. map indicates that the SMCGH site would be subjected to seismic shaking intensities of VI-1/2 to VII-1/2. These intensity values are relatively low compared to those predicted for large areas closer to the shores of San Francisco Bay because deep saturated sediments that underlie the shoreline areas would likely amplify earthquake waves and intensify ground shaking. The stiff, shallow clays that underlie the SMCGH site would not be subject to these amplification affects.

- 
- (1) The maximum credible earthquake is defined as the maximum earthquake that appears to be reasonably capable of occurring under the conditions of the presently known geological framework.
  - (2) The maximum probable earthquake is defined as the maximum earthquake that appears to be reasonably expected within a 100-year period. According to the CDMG Note 42, the postulated magnitude shall not be lower than the maximum that has occurred within historic time.

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### Surface Faulting

There are no known or suspected active faults in the site vicinity nor does the projected extension of any known active fault pass close to or through the site. The site does not lie in an Alquist-Priolo Special Studies Zone, which designates known geologically young faults with demonstrated Holocene displacement (surface faulting within approximately the last 10,000 years). Historical surface faulting has generally followed the trace of geologically young faults. While there is always some possibility of new faulting or reactivation of old faulting to occur in a seismically active region, we judge that the potential for such faulting to occur on the site is very low.

### Liquefaction

Liquefaction is a phenomenon in which earthquake shaking causes a sudden loss of shear strength in relatively loose, saturated, cohesionless soils when rapid, earthquake-induced compaction causes pore water pressure to equal the confining pressure of the soil. Ground deformation and foundation bearing failures can result.

Based on the soils data presented in the 1953 Woodward Clyde report, the site appears to be underlain by clayey, cohesive soils, and bedrock is at a relatively shallow depth. We judge that liquefaction potential is nil under these conditions.

### Lurching and Lateral Spreading

In addition to liquefaction, seismically induced ground failure also includes lurching and lateral spreading. Lurching, which will generally cause ground cracking, can occur along the top of an unsupported vertical face such as a creek or bank. No unsupported vertical faces exist on or adjacent to the site; therefore, the potential for lurching is considered to be low.

Lateral spreading or flow can occur from earthquake shaking on slopes underlain by weak or liquefaction-susceptible soils. We judge that the potential for lateral spreading to occur on the site is low because the soils are relatively firm clays that are not susceptible to liquefaction. Steeper slopes in the southern portion of the site are underlain by rock at a shallow depth, which is not subject to lateral spreading.

### Landslides

Other than minor raveling of rock exposed in cut slopes along the driveway, we did not observe features indicative of potential slope instability on the site. Raveling from cut slopes appears to be very limited in extent and does not present a significant hazard. The potential for significant landslides to develop is considered to be low.

### Flooding and Surface Drainage

Based on mapping published by the U. S. Geological Survey (Limerinos et al., 1973) the site is not located in a flood prone area. Flooding from earthquake induced sources is also unlikely because the site is not exposed to tsunamis or seiches due to its elevation and distance from San Francisco Bay and there are no reservoirs or



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significant sized bodies of water upslope from the site that could inundate it if water were released during an earthquake (Association of Bay Area Governments, 1983). The topography and drainage in nearby areas makes future flooding unlikely. Runoff draining toward the new improvements can be controlled and intercepted by conventional gutters, ditches and storm drains.

#### **SOIL PROFILE COEFFICIENT**

Because the site appears to be underlain by shallow rock and/or shallow firm soils, we judge that the appropriate soil profile coefficient factor is 1.0.

#### **GEOTECHNICAL SUITABILITY OF PROPOSED IMPROVEMENTS**

Previous geotechnical investigations of the site (Woodward, Clyde & Associates, 1953) indicate that the site is underlain by soils ranging in thickness from a few feet to approximately 19 feet. That investigation recommended that most of the existing hospital wing be supported on spread footings extending into bedrock at the bottom of the basement levels, except for two small one-story wings which do not have basement levels and could be supported on footings resting on soils above bedrock using smaller allowable bearing pressures.

Based on our surface reconnaissance of the site and review of available geologic and geotechnical reports, we believe that the site is suitable for the proposed project. It does not appear that there would be unusual difficulties in gaining foundation support, and it is likely that similar foundation recommendations as those used in construction of the 1950's hospital wing would likely be appropriate for the new addition. Alternately, if future geotechnical investigations for the new addition indicate that the soils are considerably deeper than the basement floor elevations, it may be preferable to support all or part of the structure on deeper foundations such as drilled caissons.

Groundwater may be encountered in some foundation excavations; however, we believe that relatively routine dewatering, concrete tremie methods or other conventional procedures could be used to mitigate groundwater conditions.

Excavations for the new building may encounter relatively firm bedrock. Based on surface exposures, it appears that the bedrock is likely to be fractured enough so that it can be ripped by conventional grading equipment. This will need to be confirmed by test borings advanced to the bottom of the proposed excavations.

January 16, 1992

9195.010.04

Mr. Fred A. Countryman, Architect

Department of General Services

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We trust that this letter report provides the information that you require at this time.

Yours very truly,

HARDING LAWSON ASSOCIATES

*Mark O. Wieggers*

Mark O. Wieggers

Engineering Geologist - 1506

*Henry T. Taylor*

Henry T. Taylor

Geotechnical Engineer

*Shahriar Vahdani*  
9/5/92

Shahriar Vahdani, Ph.D.

Civil Engineer



MOW/HTT/SV/dm/B13087CT73

Attachments: Table 1 - Summary of Earthquake Potential on Active Faults within a  
100-mile radius  
Plate 1 - Site Plan  
Plate 2 - Major Historic Active Faults  
in the San Francisco Bay Area  
Plate 3 - Modified Mercalli Scale

6 copies submitted

## REFERENCES

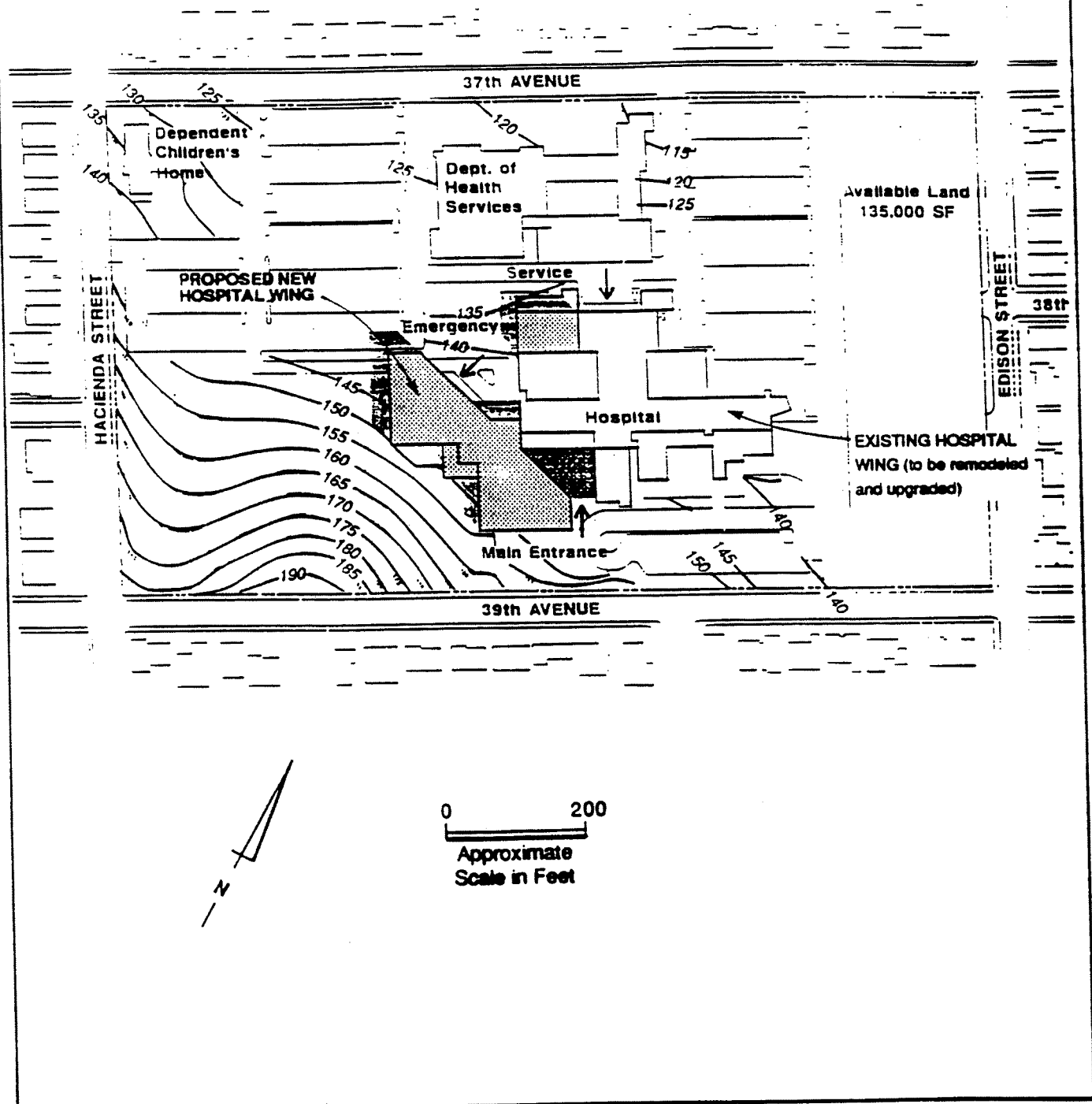
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- Ellsworth, W.L., 1990, Earthquake History 1769-1989, in Wallace, R.E. ed., The San Andreas Fault System, California: U.S. Geological Survey Professional Paper 1515.
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- U.S. Geological Survey, 1990, Probabilities of Large Earthquakes in the San Francisco Bay Region, California: Circular 1053.
- Woodward, Clyde and Associates, Foundation Investigation for the Proposed San Mateo County Community Hospital (Job No. 767-53) unpublished consulting report dated June 4, 1953.

Table 1. Summary of Earthquake Potential  
Active Faults within 100-Mile Radius  
San Mateo County General Hospital

Fault	Largest Historical Earthquake	Maximum Credible Earthquake	Maximum Probable Earthquake	Fault Length (mi)	Distance From Site (mi)	Peak Bedrock Acceleration (1) ( $\times g$ )	
						Maximum Credible	Maximum Probable
San Andreas (North Section)	8-1/4	8-1/4	8-1/4	500+	3	0.62	0.62
Hayward	7+1/2	7-1/2	7	45	15	0.33	0.28
Seal Cove- San Gregorio	6.1	7-1/2	6-1/2	200	10	0.41	0.30
Calaveras	6	7-1/2	7	72	24	0.18	0.14
Rodgers Creek- Healdsburg	5.7	7-1/2	7	45	43	0.15	0.11
Green Valley- Concord	5.4	6-1/2	5-1/2	38	32	0.11	0.06
Antioch (Davis)	6+1/2	6-1/2	5-1/2	40+	42	0.08	0.04

-----  
(1) Peak bedrock acceleration is estimated graphically from charts by Idriss, 1987.



**Harding Lawson Associates**  
Engineering and  
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**Site Plan**  
**San Mateo County General Hospital**  
**San Mateo, California**

PLATE

**1**

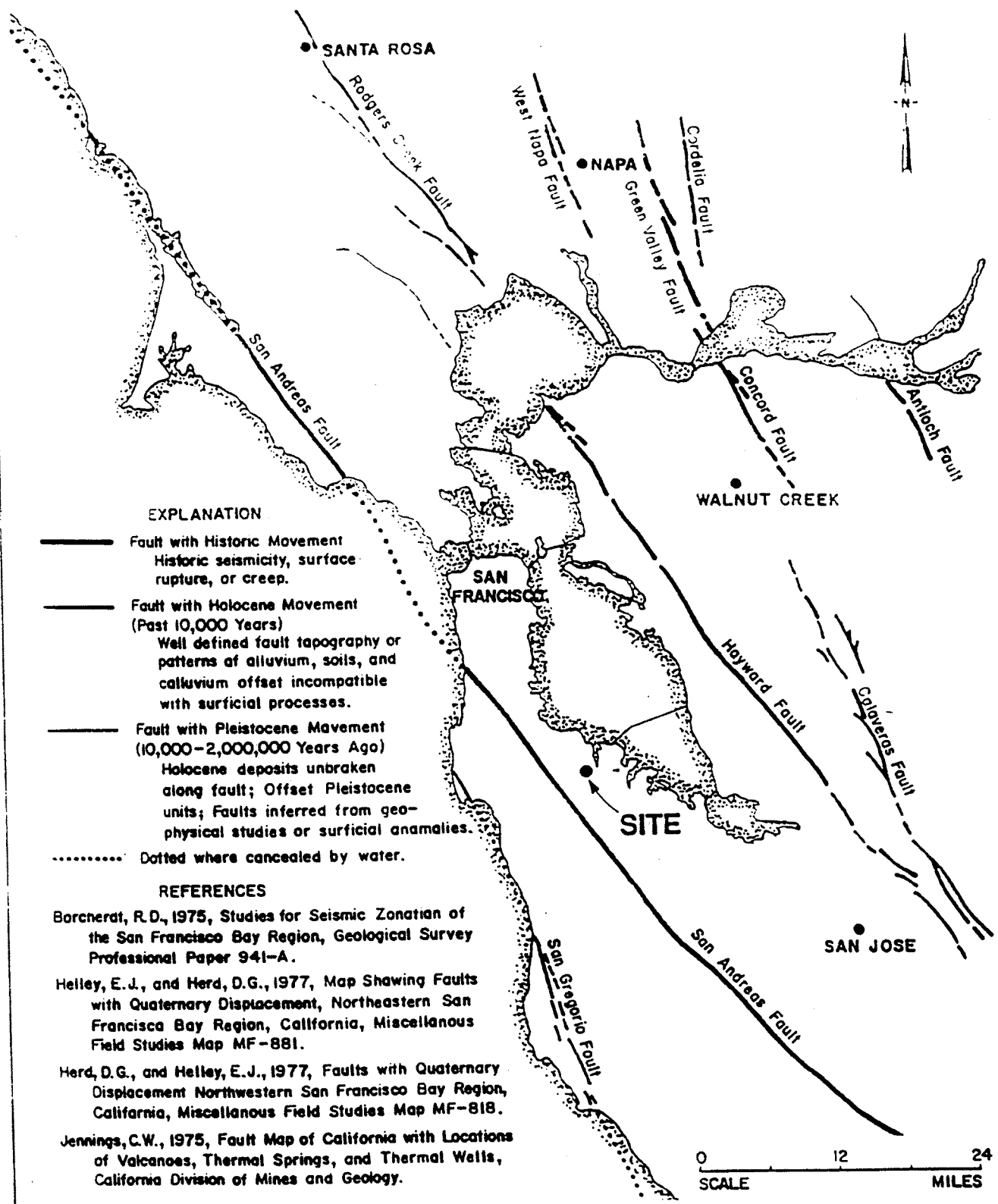
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APPROVED  
*MW*

DATE  
1/82

REVISED DATE



**Harding Lawson Associates**  
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Environmental Services

**Major Historic - Active Faults and Potential - Active  
Faults in the San Francisco Bay Area  
San Mateo County General Hospital  
San Mateo, California**

PLATE

**2**

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09195.010.04

APPROVED  
*[Signature]*

DATE  
1/92

REVISED DATE

**MODIFIED MERCALLI SCALE<sup>1</sup>**

	Intensity	Effects	$v^2$ cm/s <sup>2</sup>	$\xi^2$
M <sup>2</sup>	I	Not felt. Marginal and long-period effects of large earthquakes.		
3	II	Felt by persons at rest, on upper floors, or favorably placed.		
	III	Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.		0.0035-0.007
4	IV	Hanging objects swing. Vibration like passing of heavy trucks; or sensation of a jolt like a heavy ball striking the walls. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink. Crockery clashes. In the upper range of IV wooden walls and frame creak.		0.007-0.015
	V	Felt outdoors: direction estimated. Sleepers awakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clocks stop, start, change rate.	1-3	0.015-0.035
5	VI	Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Knickknacks, books, etc., off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster and masonry D cracked. Small bells ring (church, school). Trees, bushes shaken (visibly, or heard to rustle - CFR).	3-7	0.035-0.07
	VII	Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices (also unbraced parapets and architectural ornaments - CFR). Some cracks in masonry C. Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.	7-20	0.07-0.15
6	VIII	Steering of motor cars affected. Damage to masonry C; partial collapse. Some damage to masonry B; none to masonry A. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.	20-60	0.15-0.35
7	IX	General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. (General damage to foundations - CFR.) Frame structures, if not bolted, shifted off foundations. Frames racked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluviated areas sand and mud ejected, earthquake foundations, sand craters.	60-200	0.35-0.7
8	X	Most masonry and frame structures destroyed with their foundations, some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.	200-500	0.7-1.2
	XI	Rails bent greatly. Underground pipelines completely out of service.		>1.2
	XII	Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.		

<sup>1</sup> From Richter (1958).

<sup>2</sup> Average peak ground velocity, cm/s.

<sup>3</sup> Average peak acceleration (away from source).

<sup>4</sup> Richter magnitude correction.

**Note:** Masonry A, B, C, D. To avoid ambiguity of language, the quality of masonry, brick or otherwise, is specified by the following lettering (which has no connection with the conventional Class A, B, C construction).

- **Masonry A:** A Good workmanship, mortar, and design, reinforced, especially laterally, and bound together by using steel, concrete, etc; designed to resist lateral forces.
- **Masonry B:** Good workmanship and mortar, reinforced, but not designed to resist lateral forces.
- **Masonry C:** Ordinary workmanship and mortar; no extreme weaknesses such as non-tied-in corners, but masonry is neither reinforced nor designed against horizontal forces.
- **Masonry D:** Weak materials, such as adobe; poor mortar; low standards of workmanship; weak horizontally.



**Harding Lawson Associates**  
Engineering and  
Environmental Services

**Modified Mercalli Scale**  
**San Mateo County General Hospital**  
**San Mateo, California**

PLATE

**3**

**DRAWN**  
**AM**

**JOB NUMBER**  
**09195,010.04**

**APPROVED**  
*MLW*

**DATE**  
**1/92**

**REVISION DATE**



December 21, 1992

22503.10

Department of General Services  
County of San Mateo  
County Government Center  
Redwood City, California 94063

RECEIVED

SEP 02 1998

ASSE

Attention: Mr. Fred A. Countryman, Architect  
Architectural/Engineering Section

Ladies and Gentlemen:

Geologic Hazard Evaluation Addendum  
San Mateo County General Hospital  
222 West 39th Avenue  
San Mateo, California

This letter is an addendum to Harding Lawson Associates's (HLA's) geologic hazards evaluation report dated January 16, 1992, addressing proposed new construction and remodeling at San Mateo County General Hospital in San Mateo, California.

Our report evaluated potential affects of geologic hazards on the new construction. The geologic hazards evaluated included 1) seismic ground shaking, 2) surface faulting, 3) liquefaction, 4) lurching and lateral spreading, 5) landslides, and 6) flooding. We concluded that, except for the potential for strong seismic ground shaking, there are no significant geologic hazards that affect the site. Our report provided the applicable soils coefficient factor for the site as defined in the Uniform Building Code and included a brief discussion of the overall geotechnical suitability of the site for the proposed construction.

Since completing the report, we understand that the location of some of the new additions have changed. Specifically, major additions and remodelling previously planned for the southwest side of the site have been deleted and major additions are now planned for the northeast side of the site. The location of the new additions and remodelling are shown as shaded areas on the attached site plan.

We have reviewed the new construction plan and conclude that the results of our previous geologic hazards evaluation remain applicable to the new construction. We have not identified any new geologic hazards affecting the proposed construction and consider strong seismic ground shaking to be the only significant geologic hazard that may affect the site.



December 21, 1992

22503.10

Mr. Fred A. Countryman, Architect

Department of General Services

Page 2

In our previous study, we reviewed test boring data near the existing buildings and concluded that the site was geotechnically suitable for the improvements planned at that time. Although there are no test boring data in the northeast portion of the site where some of the new improvements are planned (see attached Site Plan), we do not anticipate large differences in subsurface conditions. The depth and composition of soils may vary somewhat; however, we judge that our conclusions on the geotechnical suitability of the site remain applicable to the new construction. Test borings will be needed during project design to accurately identify soil and bedrock conditions. A soil coefficient factor of 1.0, as stated in our previous report, remains applicable for this site.

We trust that this letter provides you with the information you require at this time.

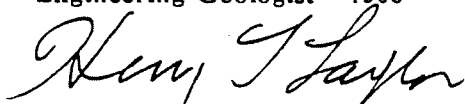
Yours very truly,

HARDING LAWSON ASSOCIATES



Mark O. Wieggers

Engineering Geologist - 1506



Henry T. Taylor

Geotechnical Engineer

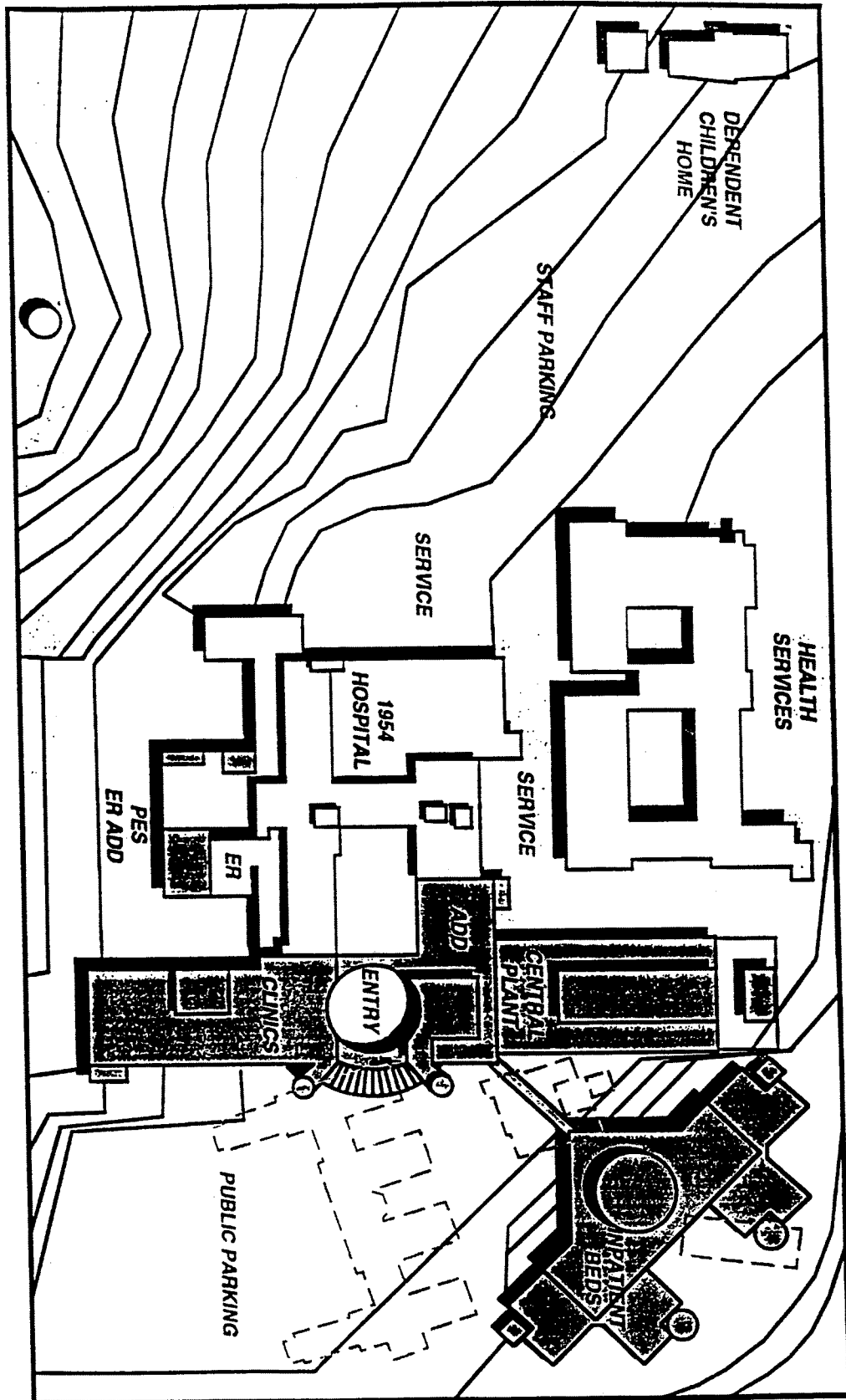
MOW/HTT/dm/A16118-CT65

Attachment: Site Plan



HACIENDA STREET

37TH AVENUE



39TH AVENUE

EDISON STREET

PROPOSED SITE PLAN

THE RATIONAL ARCHITECTS  
SAN MATEO COUNTY HEALTH CENTER

FAX TRANSMITTAL

Date: **FAXED**

**HARDING LAWSON ASSOCIATES**  
Engineering and Environmental Services

Marathon Plaza  
303 Second Street, Suite 630 North  
San Francisco, California 94107  
(415) 543-8422  
FAX: (415) 777-9706

TO: Fred Countryman  
FAX #: 363 1926  
FROM: Garfield Wray  
SUBJECT: CDMG Response  
NUMBER OF PAGES (INCLUDING COVER SHEET): 7

HLA JOB NUMBER: 20823-1.0 NON-CHARGEABLE: \_\_\_\_\_

INSTRUCTIONS/REMARKS: \_\_\_\_\_  
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June 21, 1993

28823-1.0

Geological/Geotechnical Review Unit  
Division of Facilities Development  
Office of Statewide Health Planning and Development  
1600 9th Street, Room 420  
Sacramento, California 95814

Attention: Mr. Perry Amimoto

Ladies and Gentlemen:

**Seismic Design Criteria  
San Mateo County General Hospital  
San Mateo, California**

This letter presents Harding Lawson Associates' (HLA's) response to the California Division of Mines and Geology's (CDMG's) review comments (CDMG memorandum dated April 23, 1993) regarding our seismic design criteria<sup>1</sup> developed for the planned hospital additions. As part of our scope of work for the subject project, we performed seismic risk analyses in accordance with the requirements for hospitals described in Title 24 of the 1991 Edition of the California Code of Regulations. We developed site-specific design response spectra for the:

1. Maximum Probable Ground Motion (MPGM) defined as the ground motion with a 10 percent probability of being exceeded in 50 years.
2. Upper Bound Earthquake Ground Motion (UBEGM) defined as the ground motion with a 10 percent probability of being exceeded in 250 years or the maximum level of motion which may ever be expected at the building site within the known geologic framework.

A description of the engineering analyses performed, the MPGM and UBEGM spectra, and the fault parameters used in our analyses were presented in our January 29, 1993 report. Our report was submitted to the Office of Statewide Health, Planning and Development (OSHPD) and routed to the CDMG for review.

The CDMG questions whether our methodology and the set of assumptions used in our analyses are consistent with the provisions of Title 24. It appears that the CDMG's interpretation of the provisions of Title 24 for conducting probabilistic analyses to estimate the MPGM or the UBEGM results in conservative input parameters. We believe this is undesirable since conservatism accumulates in a probabilistic analysis. We believe that there are variations in methodology and varying combinations of input assumptions that can produce reasonable estimates of the ground motion in accordance with the provisions of Title 24.

---

<sup>1</sup> Geotechnical Investigation, San Mateo County Hospital Additions, San Mateo, California, dated January 29, 1993, HLA Job No. 22823-1.0

In our January 1993 report, we established the UBEGM spectrum using deterministic procedures at a mean plus one standard deviation ( $\sigma$ ) level of ground motion using the Sadigh attenuation relationships as reported by Joyner and Boore (1988). We understand that this procedure was generally supported by members of the Ad Hoc Committee on Ground Motion & Dynamic Analysis of the Building Safety Board that was held on May 19, 1993. We understand that the UBEGM spectrum is not critical to the design of the facility in this instance; the remainder of this response therefore deals only with the MPGM.

The MPGM spectrum submitted in our January 29, 1993, report was checked in two ways to ensure that it represents a reasonable estimate of ground motion for the design of the proposed hospital extensions. First, it was consistent with a number of other such analyses conducted by this and other firms for various sites on the San Francisco peninsula. Second, it was specifically reviewed by Dr. Robert Pyke, an independent consultant with some 20 years experience in the conduct of seismic hazard studies. Dr. Pyke examined our input assumptions, including the use of the Joyner and Boore (1988) attenuation relationship and our segmentation model for the San Andreas fault, and concluded that our calculated result was a reasonable estimate of the expected ground motion at the site and was consistent with his own estimates for similar sites.

The key input assumptions for the probabilistic analysis that was used to develop the MPGM spectrum were listed in our January 1993 report. We believe that these assumptions were generally reasonable but agree with the suggestion of the CDMG that the San Andreas Fault - North Coast segment should be extended further south than the segmentation boundary shown in USGS Circular 1053, so that its point of closest approach is about 5 km from the site. As discussed above, the Joyner and Boore (1988) attenuation relationship (which we used in our original analysis) produces conservative results when used in probabilistic analyses which include large magnitude sources at short distances. We believe that this conservatism offsets the effects of a shorter San Andreas-North Coast segment.

To evaluate the impact of varying fault segmentation, we performed additional risk analyses. However, to avoid unnecessary conservatism which results from the use of Joyner and Boore attenuation relationships, we used the attenuation relationship of Sadigh, as reported by Joyner and Boore (1988). We believe that the Sadigh relationships for "rock" and "strike-slip" faults are the most appropriate for this site. The CDMG staff have cited reasonably good agreement between the Joyner and Boore relationship and data recorded in recent magnitude 7.0 to 7.4 earthquakes as their justification for continuing to use the Joyner and Boore attenuation relationships. But, as shown in Plate 1, the Sadigh and the Campbell (1990) relationships are similar to the Joyner and Boore relationships in this magnitude range and also provide a reasonably good fit to the data.

The Joyner and Boore attenuation relationships, however, have two limitations with respect to their use in probabilistic analyses. First, as discussed in our January report with reference to the UBEGM, the Joyner and Boore relationships were developed using data limited to magnitude 7.7 and were not intended to be used for greater magnitude values. Second, Joyner and Boore did not separate out their data in terms of site and source conditions to the same extent as later workers, and they assumed that the scatter in the data was independent of magnitude. This resulted in a single, large value of the log-normal standard deviation ( $\sigma$ ), for each period. As noted by Bender and Perkins (1993), "...the attenuation function should be designed for particular site conditions whenever possible (reducing the value of  $\sigma$  below that obtained when data for different site conditions are combined)".

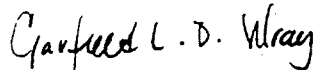
Thus, to recheck our original analysis, we have repeated it using both a longer San Andreas North Coast segment and the Sadigh "rock" attenuation relationship. The result is shown in Plate 2, along

with Dr. Pyke's independent assessment of the MPM using the Sadigh relationship. We note that both HLA and Dr. Pyke used the sigmas cited in the Joyner and Boore paper. The CDMG is correct in stating that Sadigh and his colleagues have subsequently increased these values but the changes are very small for larger magnitude earthquakes and increase the estimated motions in the Bay Area by only several percent.

While reasonable combinations of input assumptions will produce slightly different spectra, for practical purposes we see no need to change our originally recommended spectra. We would be pleased to meet with the CDMG staff to discuss this response and request that such a meeting be scheduled within five working days of the receipt of this letter in Sacramento in order that the project not be further delayed.

Yours very truly,

HARDING LAWSON ASSOCIATES



Garfield L. Wray  
Civil Engineer



Hadi J. Yap, Ph.D.  
Geotechnical Engineer

GLW/HJY/jf/B17392-CT117

Attachment: List of References  
Plates 1 and 2

cc: Department of Conservation  
Division of Mines and Geology  
Attention: Mr. Jeffrey Howard

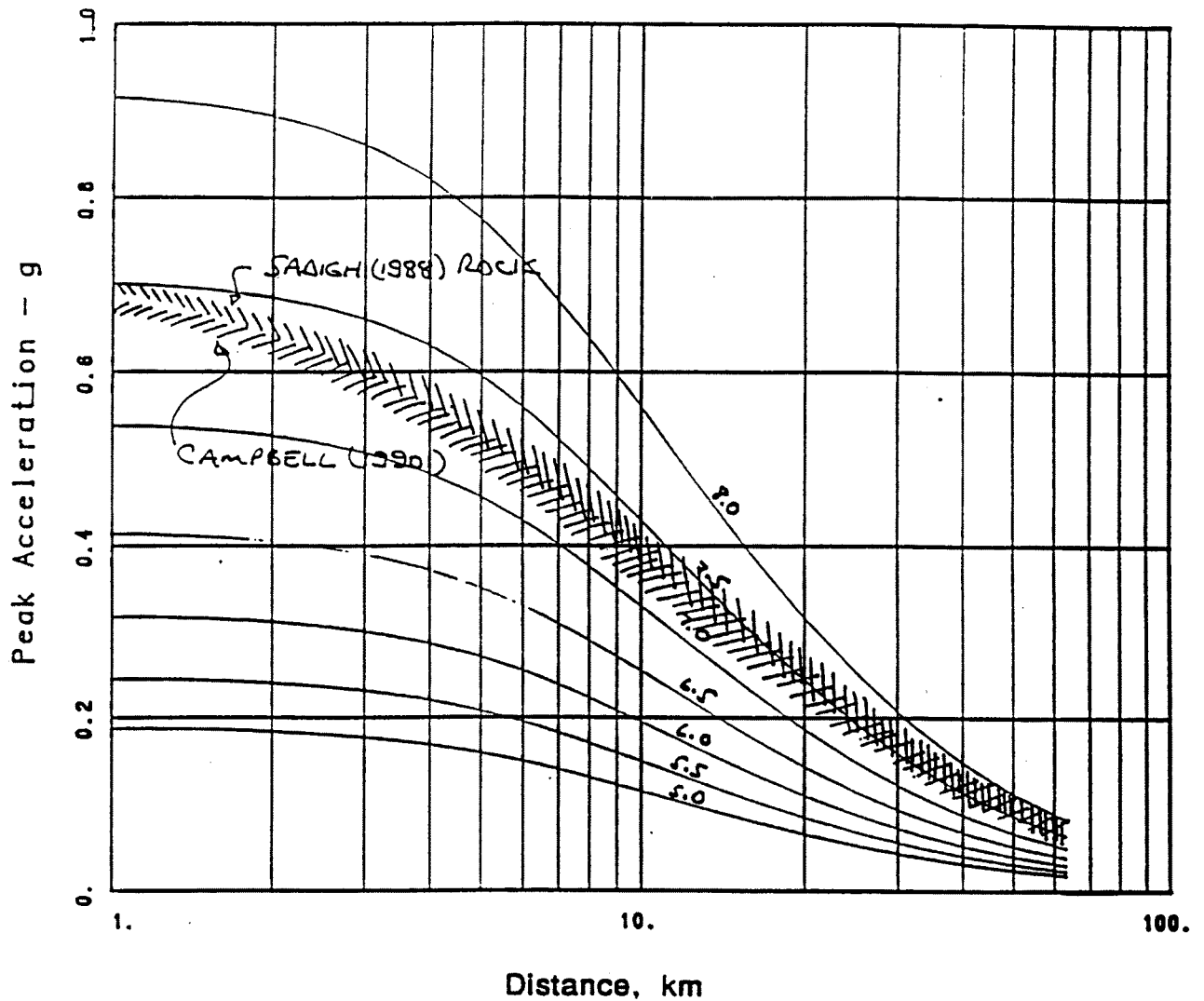
DASSE Design, Inc.  
Attention: Mr. William Dasher

County of San Mateo  
Facilities Planning & Development  
Attention: Mr. Fred Countryman

## REFERENCES

Harding Lawson Associates

- Bender, B.K. and Perkins, D.M.. 1993, *Treatment of Parameter Uncertainty and Variability for a Single Seismic Hazard Map*, Earthquake Spectra, Vol. 9, No. 2, May 1993.
- Campbell, K.W., 1990. *Empirical Prediction of Near-Source Soil and Soft-Rock Ground Motions for the Diablo Canyon Power Plant Site, San Luis Obispo County, California*, prepared for the Lawrence Livermore National Laboratory.
- Joyner, W.B. and Boore, D.M.. 1988, *Measurement, Characterization, and Prediction of Strong Ground Motion*. Earthquake Engineering and Soil Dynamics II - Recent Advances in Ground-Motion Evaluation. Proceedings of the specialty conference sponsored by the Geotechnical Engineering Division of the American Society of Civil Engineers.



**Harding Lawson Associates**  
Engineering and  
Environmental Services

Comparison of Joyner and Boore (1982)  
Sadigh (1988) and Campbell (1990) Attenuation  
Relationships for  $7.0 \leq M \leq 7.4$   
San Mateo County General Hospital Additions  
San Mateo, California

PLATE

**1**

DRAWN

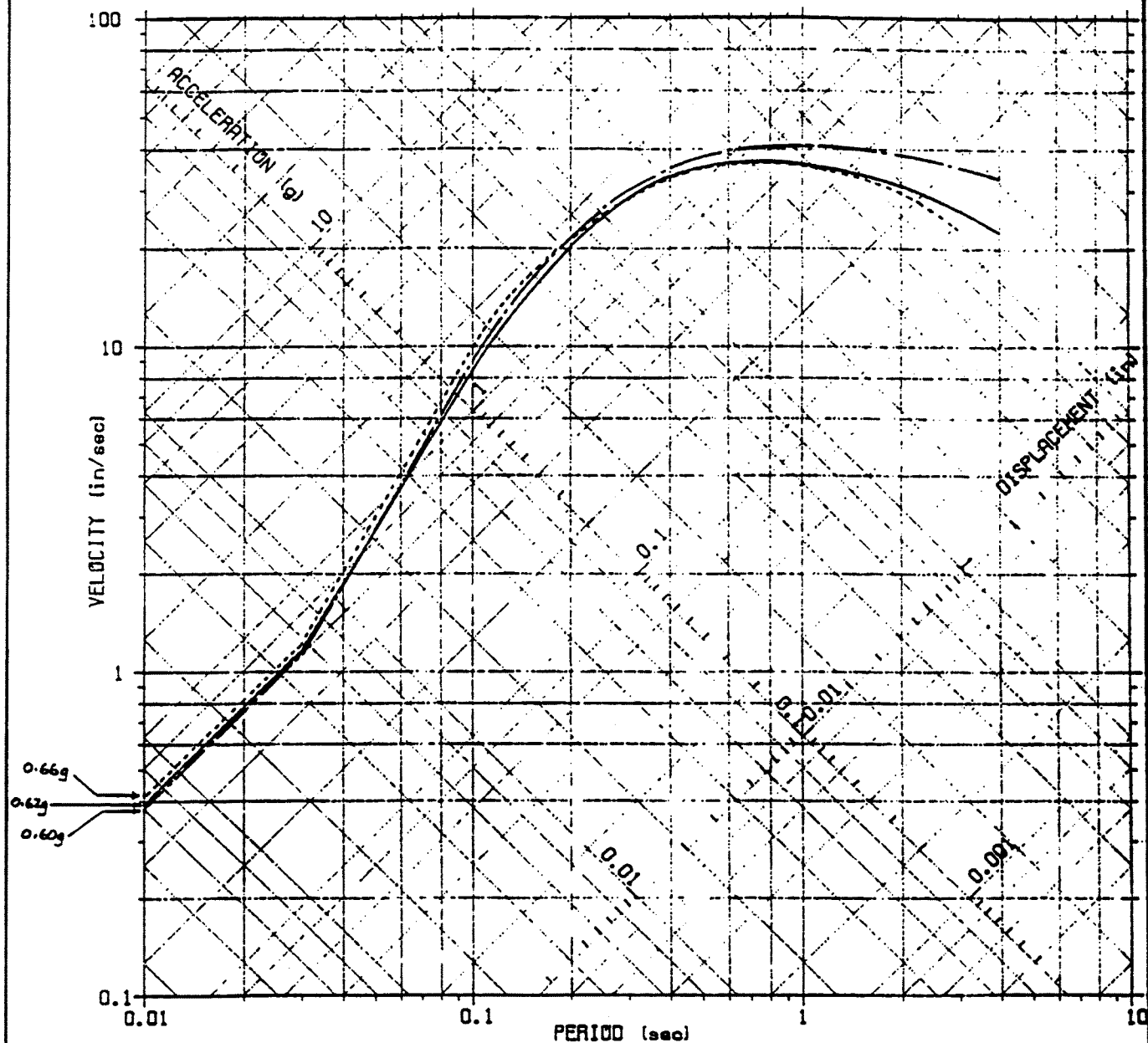
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22823-1.0

APPROVED

DATE  
6/93

REVISED DATE





#### EXPLANATION

- HLA 1/29/93
- HLA 6/93
- ... PYKE 6/93



**Harding Lawson Associates**  
Engineering and  
Environmental Services

**Comparison of MPGM Spectra  
at 5% Damping  
San Mateo County General Hospital Additions  
San Mateo, California**

PLATE

**2**

DRAWN

JOB NUMBER  
22823-1.0

APPROVED

DATE  
6/93

REVISED DATE



July 16, 1993

22823-1.0

Mr. Perry Amimoto  
Geological/Geotechnical Review Unit  
Division of Facilities Development  
Office of Statewide Health, Planning, and Development  
1600 Ninth Street, Room 420  
Sacramento, California 95814

**Geologic Map  
San Mateo County General Hospital Additions  
San Mateo, California**

Dear Mr. Amimoto:

This letter transmits a map showing the site geology for the San Mateo County General Hospitals Additions project in San Mateo, California. The site geology map was prepared in response to a request from the California Division of Mines and Geology (CDMG) in their April 23, 1993 memorandum to you which presented the results of their review of our geotechnical investigation for the project.\*

The attached site plan and site geology map supplements our Geologic Hazard Evaluation Report dated January 16, 1992 and our Geologic Hazard Evaluation Addendum Report dated December 21, 1992. The site geologic features shown on the map are consistent with the discussion of site geology presented in those reports.

---

\* Geotechnical Investigation, San Mateo County General Hospital Additions, San Mateo, California, dated January 29, 1993, HLA Job No. 22823-1.0.

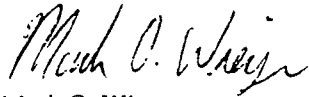
July 16, 1993  
22823-1.0  
Mr. Perry Amimoto  
Geological/Geotechnical Review Unit  
Page 2

Harding Lawson Associates

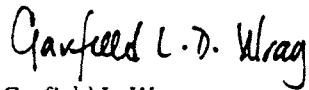
We trust this transmittal provides the information regarding site geology that is required at this time. Other issues that were raised in CDMG's April 23, 1993 memorandum are being addressed separately. If you have any questions, please call.

Yours very truly,

HARDING LAWSON ASSOCIATES



Mark O. Wieggers  
Engineering Geologist - 1506



Garfield L. Wray  
Civil Engineer

MOW/GLW/dm/B17552CT118

Attachment: Plate 1 - Site Plan and Site Geology

cc: Department of Conservation  
Division of Mines and Geology  
Attention: Mr. Jeffrey Howard

DASSE Design, Inc.  
Attention: Mr. William Dasher

Ratcliffe Architects  
Attention: Mr. Donald Rudy

County of San Mateo Facilities Planning and Development  
Attention: Mr. Fred Countryman





August 17, 1993

Mr. James F. Davis  
Department of Conservation  
Division of Mines and Geology  
801 K Street, MS 12-30  
Sacramento, California 95814-3531

Seismic Design Criteria  
San Mateo County General Hospital  
San Mateo, California

Dear Mr. Davis:

In response to your letter dated August 10, 1993, and your request for clarification on issues 1 and 2 raised at our July 20, 1993 meeting, we have the following comments:

#### ISSUE 1

In Dr. Pyke's analyses, events on the Northern San Andreas fault were restricted to the narrow band of moment magnitude 7.9 to 8.0 in order to force the analyses to consider characteristic earthquakes of this magnitude with a source to site distance of about 5 km. Smaller events on the Northern San Andreas fault were not considered because of the common belief that the Northern San Andreas fault is presently "locked", and the characteristic earthquake model is particularly applicable in this case. Also, because 1) the date of last occurrence of such earthquakes is known, 2) reasonable estimates can be made of the mean recurrence interval of such events, and 3) of the uncertainty in such estimates, the procedure suggested by Cornell and Winterstein for calculating the rates of activity to be used in Poissonian analyses appears to be particularly appropriate. This procedure is also applicable to larger events that may occur on the Peninsular segment of the San Andreas fault. Whether smaller events on the Peninsular segment and background events should also be included in the analysis when the entire slip deficit is already accounted for by the larger earthquakes is debatable.

More importantly, we wish to emphasize that the results of Dr. Pyke's analyses, which were presented at our meeting with OSHPD on June 11 and at the Informal Conference on July 20, were provided as backup for his opinion that the HLA spectra of January 29 are appropriate for use in the design of this facility and to illustrate the sensitivity of this type of analyses to varying input assumptions. They supplement, but do not supersede, the HLA analyses and recommended spectra.

#### ISSUE 2

Ms. Koh faxed copies of the input files you requested to Mr. Howard on or about July 29. If these cannot be located, we would be pleased to forward additional copies. However, we have now conducted additional analyses for peak acceleration using the program FRISK68 and the 1981/1988 Joyner & Boore attenuation relationship and believe that we can explain the reasons for the differences between CDMG's analysis and the original HLA analysis.

August 17, 1993  
22823-1.0  
Mr. James F. Davis  
Department of Conservation  
Page 2

Harding Lawson Associates

Using the Wells and Coppersmith relationship between magnitude and rupture length and CDMG's coordinates (for the end point of the Northern San Andreas fault) and activities, we obtained as might be expected, exactly the same value of 0.756g for the 10 percent in 50 years peak acceleration. Substitution of HLA's end point for the Northern San Andreas reduces the value of 0.756g, and substitution of Bonilla's relationship between magnitude and rupture length (which is used in HLARISK) further reduces the value to 0.667g. Thus, the computed result shows some sensitivity to the magnitude-rupture length relationship; however, the major reason for the difference in the CDMG and HLA results is that in computing the activities for input to FRISK89, CDMG have computed, using the HLA "a" and "b" values, the annual number of events greater than the minimum magnitudes of 6.5 and 7.3 for the Peninsula and Northern San Andreas faults respectively, rather than the annual number of events between the minimum and maximum magnitudes, as we believe is required as input to FRISK and as is done internally in HLARISK.

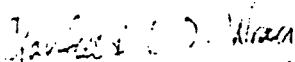
Therefore, for the Northern San Andreas, CDMG has used activities of 0.008 or 0.010 events per year (depending on whether the original or the revised HLA "a" value is used), whereas we calculate activities of 0.004 or 0.005 events per year, consistent with the starting assumption of a mean recurrence interval of 234 years for characteristic events on the Northern San Andreas. Use of consistent activities for the Northern and Peninsula San Andreas yields peak accelerations of 0.52g in our FRISK89 analyses if we use the Bonilla relationship and 0.58g if we use Wells and Coppersmith, compared to the 0.60g value that we originally obtained using HLARISK.

#### ADDITIONAL ISSUE

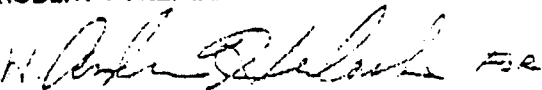
You are no doubt aware that the U.S. Geological Survey has just released an interim update to the old Joyner and Boore attenuation relationship. While detailed discussion of the merits of the new relationship may not be appropriate at this time, we believe that they tend to substantiate our arguments for adoption of the recommended spectra for this site. Please advise us whether submittal of additional materials on this issue would allow your approval of our recommended spectra and eliminate the need for the proposed August 24 hearing.

Yours very truly

HARDING LAWSON ASSOCIATES

  
Garfield L. Wray  
Civil Engineer

ROBERT PYKE, CONSULTING ENGINEER

  
Robert M. Pyke, Ph.D.  
Geotechnical Engineer

GLW/WAL:dna:W17688-CT120

## MEMORANDUM

Post-It™ brand fax transmittal memo 7671		# of pages
To	From	
Co.	Co.	
Dept.	Phone #	
Fax #	Fax #	

TO : Neal Hardman  
Office of Statewide Health  
Planning & Development  
1600 Ninth Street, Room 420  
Sacramento, California 95814

DATE : August 20, 1993

FROM : James F. Davis  
Department of Conservation  
Division of Mines and Geology  
801 K Street, MS 12-30  
Sacramento, California 95814-3531  
(916) 445-1923

SUBJECT : DMG Review of San Mateo County General Hospital Site Evaluation,  
Project # HS-920974-41

## BACKGROUND:

The applicant's analyses and the DMG evaluation of the San Mateo County General Hospital site were discussed at the Informal Conference that was held by OSHPD on July 20, 1993. At that time, three issues were identified for resolution. The first two issues dealt with Harding Lawson Associates (HLA's) approach to characterizing the seismic sources used in their maximum probable ground motion analyses.

The third issue was the appropriateness of using the Sadigh 1988 attenuation relationship in the HLA analysis, since it yielded considerably lower values than those obtained by DMG. DMG's preference has been to rely on the well documented Joyner and Boore 1985 attenuation relationship in comparison with applicant analyses that have yielded significantly lower values and have used other attenuation formula that have no definitive published reference presenting the development of the standard deviation. DMG is otherwise open to the consideration of other formulas.

In order to resolve this issue, I volunteered that, in the context of strong motion records recorded from selected California earthquakes, DMG would evaluate the suitability of the Sadigh 1988 equation for use in HLA's analyses.

## DMG Analysis

During the time since July 20, DMG has obtained additional information from HLA regarding the seismic source model that they used in their analyses. On July 22, Robert Pyke, consultant to HLA, presented DMG with results containing higher values that approach DMG's analyses. To date, DMG has not been able to

replicate the lower HLA results that the applicant proposes for design using the applicant's reported seismic sources and analytical method.

In reference to the third issue, DMG's evaluation of the suitability of the Sadigh 1988 attenuation relationship for the San Mateo County General Hospital site, we have found that the Sadigh equation generally underestimates the standard error term associated with earthquake ground motions. Because the standard error term is underestimated, hazards analyses using the Sadigh 1988 relationship are comparatively unconservative.

We compared several other attenuation equations as part of our evaluation of the Sadigh formula including the Geomatrix 1991 equation, which is an update of Sadigh 1988. DMG has found that the attenuation equation of Geomatrix 1991 for rock sites such as the San Mateo County General Hospital (defined as those sites with soil profile type S1 under Title 24, Table 23J) is comparatively more consistent with selected representative California strong motion data than the other formulas considered. It is also more suitable to rock sites in this regard than Joyner and Boore 1988.

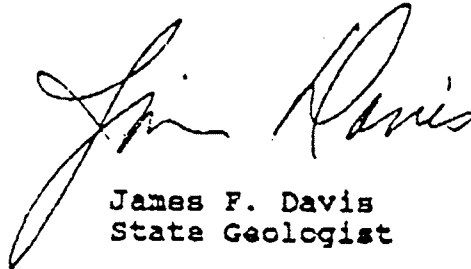
#### DMG Conclusions

Currently, Issues 1 and 2 remain unresolved. If DMG had not undertaken the Issue 3 investigation and only the Issues 1 and 2 clarifications received to date from HLA were the basis of our conclusion, DMG would have had to recommend proceeding with the appeal on the San Mateo County General Hospital Site review.

Regarding Issue 3, DMG's analysis of the maximum probable ground motion at the San Mateo County General Hospital site using the attenuation relationship of Geomatrix (1991) results in a uniform hazard response spectrum that is similar to the recommendation of HLA at all periods except periods shorter than 0.03 seconds (Figure 1 and Table 1). Because of this similarity and because the differences may not be significant to the design of the structure, DMG scheduled a meeting with OSHPD on August 18, 1993 to present its findings. I understand that OSHPD has contacted the project structural engineer and that he has determined that the differences between the DMG and HLA spectra are not significant to design. Based on this understanding, DMG concludes that the recommended spectrum of HLA for this project is comparable to results obtained by DMG using appropriate models of seismic sources in the San Mateo County area and using the Geomatrix 1991 attenuation relation. The comparison is presented in Figure 1 and Table 1.

Neal Hardman  
August 20, 1993  
Page 3

DMG plans to use the Geomatrix 1991 attenuation relationship for comparison in reviewing uniform hazard response spectra representing maximum probable ground motion for rock sites in accordance with Section 2335 of Title 24. A DMG Technical Advisory will be issued regarding this conclusion in the immediate future. The Advisory will be accompanied by a summary of our comparison of the attenuation formulas.



James F. Davis  
State Geologist

Attachments

cc: Department of Conservation  
Edward G. Heidig, Director  
Michael Byrne, Deputy Director  
Michael Reichle, Supervising Geologist  
Trinda Badrossian, Supervising Geologist  
Tony Shakal, Supervising Geologist

Office of Statewide Health Planning and Development  
William Staehlin  
Sharad Pandya

State Building Safety Board  
William Holmes, Chair  
Patricia Heerhartz, Executive Officer

Harding Lawson Associates  
Garfield Wray



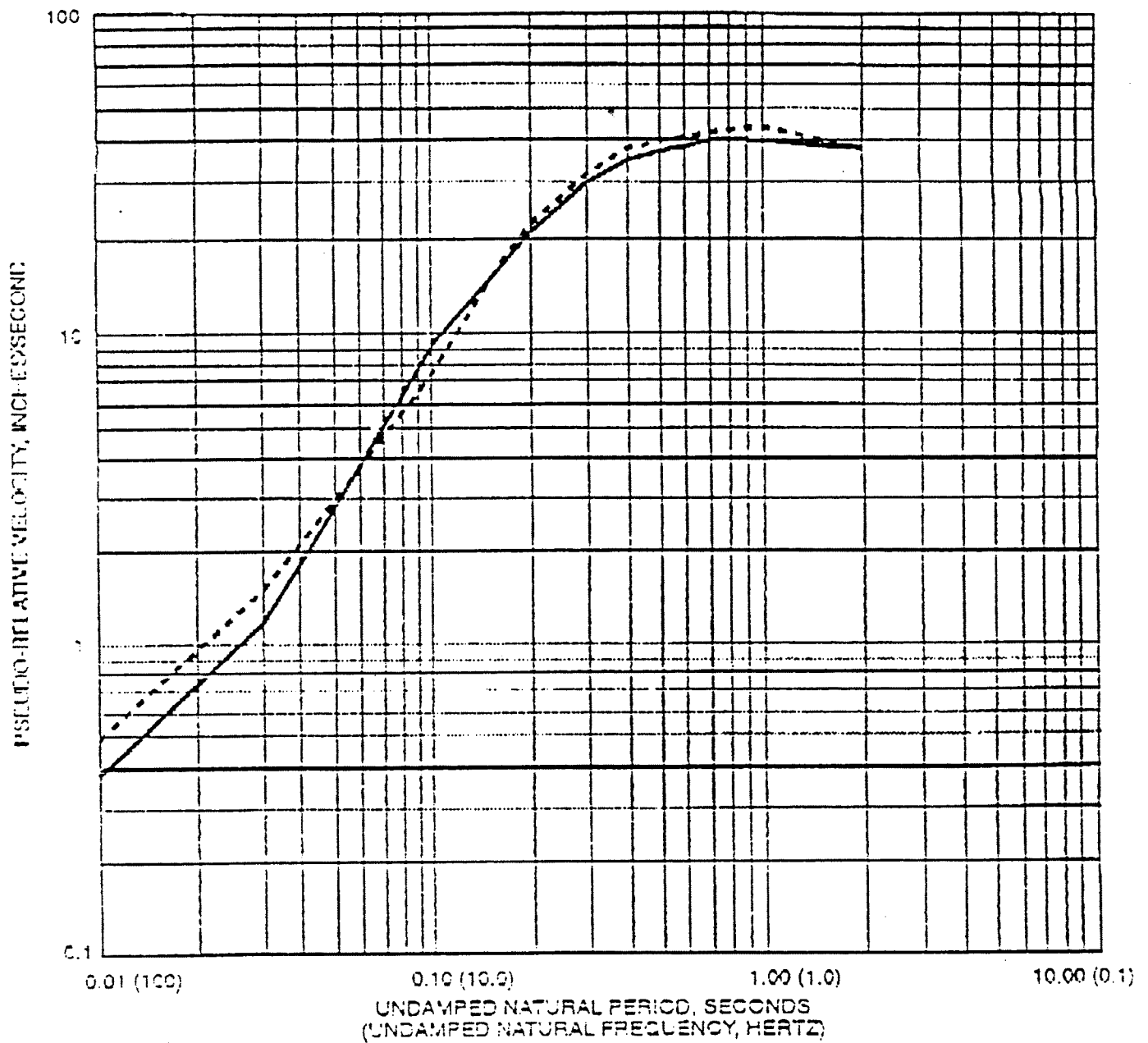


Figure 1. Comparison of HLA recommended Maximum Probable Ground Motion with results Calculated by DMG using the attenuation relationship of Geomatrix (1991)

#### EXPLANATION

- HLA recommended
- - - DMG models w/ Geomatrix

Table 1

Comparison of HLA and DMG ANALYTICAL RESULTS

1. HLA "recommended design values" (1/29/93 report)
2. DMG San Andreas Model Based on historic seismicity (1855-1989) using Geomatrix (1992)

Period (s)	Spectral Velocity (in/sec)	
	1	2
[PGA]	.60g	.74g
0.1	9.2	7.1
0.2	21.5	21.7
0.3	30	30.5
0.4	34	38.4
0.5	37	39.1
0.75	40	41.6
1.0	40	42.3
2.0	38	37.6

(Bold print indicates that the value is above HLA recommendation)

**OVERVIEW AND FINAL SUMMARY OF DMG REVIEW AND FINDINGS  
REGARDING THE SAN MATEO COUNTY GENERAL HOSPITAL PROJECT**

Project File No. HS 920974-41

**PURPOSE**

This report summarizes the Department of Conservation's Division of Mines and Geology (DMG) commentary to the Office of Statewide Hospital Planning and Development (OSHDP) on reports for San Mateo County General Hospital (HS 920974-41) and the issues that were the basis of an appeal to the State Building Safety Board by San Mateo County. It presents a synopsis of the commentaries as information was received by DMG and sets forth the results of the analyses by DMG that led to the resolution of the ground motion issues avoiding the necessity of an appeal hearing.

**EXECUTIVE SUMMARY**

The ultimate resolution on August 20 of the ground motion issue by the DMG analysis began with the first phase of the appeal in July. In accordance with the appeal process, the applicant's evaluation and DMG's analyses of the hospital site were discussed at an Informal Conference that was held by OSHPD on July 20, 1993. Three issues were identified for resolution. The first two issues dealt with San Mateo County's consultant, Harding Lawson Associates' (HLA) approach to characterizing the seismic sources used in its Maximum Probable Ground Motion (MPGM) analyses. It was agreed that HLA would provide DMG with additional data on the source models that it had used in its probabilistic seismic hazard analysis (PSHA). However, issues 1 and 2 were unresolved at the time that the outcome of issue 3 obviated the necessity of the hearing.

The third issue was the appropriateness of using the attenuation equation of Sadigh (as reported by Joyner and Boore, 1988), since it yielded considerably lower values than those obtained by DMG using Joyner and Boore 1988. DMG's analysis of the Sadigh 1988 and several related attenuation equations, reported below, led to the conclusion that the equation of Geomatrix 1991 was more consistent with selected representative California strong motion data than either Sadigh 1988 or Joyner and Boore 1988. The Geomatrix 1991 attenuation equation, used with seismic source models based on historic seismicity, resulted in response spectra that were similar at most periods to that recommended by the consultant.

DMG's comparison of the response spectra calculated by DMG using the Geomatrix 1991 equation with the spectra recommended by HLA led to a structural engineering decision by the applicant and OSHPD that the differences between DMG's response spectra and the HLA's recommended spectra were not significant to the project design. This decision, reached on August 20, 1993, resulted in San Mateo MPGM response spectra.

#### DMG REVIEW OF MPGM RESPONSE SPECTRAL VALUES

DMG's review of the San Mateo County General Hospital project was in three phases: activity prior to the July 20, 1993 Informal Conference; the Conference and its attendant documentation; and continuing activity that extended until August 20.

##### PRIOR TO JULY 20

##### Original Analysis by HLA:

HLA's recommendation for the MPGM response spectrum was calculated using Probabilistic Seismic Hazard Analysis (PSHA) techniques and submitted in Plate A-3 of the HLA report dated January 29, 1993 (shown in Figure 1 in this report). HLA submitted partial details of its PSHA, which indicated the attenuation formula of Joyner and Boore 1988 was used in the analysis.

DMG's review (report received March 1, 1993, review issued April 23, 1993) noted:

- 1) HLA's recommended response spectra were lower than either published information on probabilistic ground motion of the site area (e.g., Algermissen and others, 1990) or DMG's independent PSHA which also used the Joyner and Boore 1988 formula;
- 2) HLA had not provided enough details so that DMG could replicate the PSHA in order to determine the source of the discrepancy. DMG pointed out that it appeared the HLA seismic source model for the San Andreas fault differed from DMG's evaluation in several respects, including the HLA estimate that the seismic source representing the largest San Andreas events was about three times farther away from the site than DMG's interpretation. DMG's calculation of the MPGM spectrum is also shown in Figure 1 of this report.

##### HLA response to DMG April review:

HLA's report to OSHPD on June 21, 1993 altered its model in response to DMG's commentary. It revised the distance between the site and the largest San Andreas events from 13km to 5km (see handwritten notation added to Table 1 on July 20). Considering the earthquake source to be closer would tend to raise the spectral values at the site. In HLA's revised fault distance to the site, however, it used the attenuation formula of Sadigh 1988

rather than the Joyner and Boore 1988 relationship, which HLA relied upon in its January 29, 1993 report. In this June revision, HLA reported that the resulting spectrum displayed no significant increase when compared with its original January 29, 1993 recommendation.

Similar findings by HLA's consultant, Dr. Robert Pyke, were also reported. His results were slightly above recommendations presented by his colleagues at HLA at short periods and somewhat below HLA recommendations at longer periods.

When DMG used its interpretation of HLA's source model and the Sadigh 1988 attenuation equation it got lower values than it did when using Joyner and Boore 1988, but they were still significantly above those presented by HLA. DMG's July 6 review of HLA's response. To resolve this matter, in its July 6 memo, DMG reiterated requests for more complete details of HLA's PSHA input data so DMG could better compare the recommended spectral results with its own analysis. Without these data, DMG could not at this stage advise OHSPD that the HLA recommended spectral response was appropriate for the San Mateo site design. San Mateo County appealed to OSHPD for resolution of the matter. An Informal Conference was scheduled for July 20 under the provisions of the appeals process.

#### THE JULY 20 INFORMAL CONFERENCE Issues Identified on July 20

Prior to OSHPD scheduling the appeal hearing, an Informal Conference was held by the Building Safety Board on July 20, 1993 for the County and its consultants and DMG to review issues.

Three issues were identified as a result of the Conference. Two of the issues concerned the source modeling parameters of HLA and Dr. Pyke. These related to DMG's efforts to interpret and replicate the submitted spectrum using the submitted source models as part of the comparison and review process. The third issue concerned the appropriateness of the attenuation formula used by the consultant. The three issues were:

Issue 1) Minimum magnitude considered in HLA's seismic modeling. During the Conference, HLA representatives stated that M6-1/2 was the minimum magnitude considered in their analysis. Since this is not a normally-used or standard minimum magnitude in PSHA analyses, DMG requested the rationale for its use.

Issue 2) Incomplete information on the overall frequency vs. magnitude relations used by both HLA and Dr. Pyke. DMG requested updated values for HLA's January 29 Table A-1, reflecting the revised source modeling used with Sadigh 1988 in their June 21 reply. Data provided up to this point

required speculation by DMG to interpret. Without further detail, DMG could not determine the justification of the applicant's position.

Issue 3) Use of the Sadigh 1988 ground motion attenuation formula. DMG had used the attenuation formula of Joyner and Boore 1988 in its review analyses, comparing these results with those of the consultants. The Sadigh 1988 formula provided significantly different spectral values for DMG, reflecting the lower standard deviation used by Sadigh, compared with Joyner and Boore. The change to Sadigh 1988 from Joyner and Boore 1988 appeared to be an important element in HLA stating that its January 29, 1993 analysis was very close to its results reported on June 21, 1993. Thus, the identification of the most suitable attenuation curve for the San Mateo site was determined to be a critical part of the DMG comparison. To this end, DMG volunteered to compare the suitability of the Sadigh 1988 and the Joyner and Boore 1988 formula for use in this California hospital design report.

#### Summary of the July 20 Conference Effort to Resolve the Issues

Regarding issues 1 and 2, DMG agreed to continue its evaluation with new information that HLA agreed to provide. DMG requested no new analyses from the applicant. Regarding issue 3, DMG volunteered to evaluate the Sadigh 1988 formula for consistency with selected representative California strong motion data, as mentioned above.

#### Post-July 20 Analysis Issues 1 and 2

DMG continued to try to reproduce HLA's proposed design spectrum based on the information provided by HLA and Dr. Pyke at the Conference and in subsequent communications. Throughout this process, DMG's efforts did not provide a resolution of the difference between its and HLA's results. DMG's activities included analyses using both Joyner and Boore's 1988 and Sadigh's 1988 attenuation relations, and numerous communications with HLA staff and Dr. Pyke requesting clarification in order to identify the causes of differences.

To facilitate comparisons of source models, on July 23, DMG provided its complete program input data file and interpretations to HLA's investigators with the suggestion that they assist in identification of the causes of discrepancy. The HLA response still did not resolve the contrasts in results.

Dr. Pyke provided details of his analysis and results to DMG on July 22, 1993. This information indicated use of an "EQRISK"-type program in which seismic sources are represented by epicenter

locations. In contrast, DMG and HLA's PSHA use "FRISK"-type programs in which seismic events are modeled by fault rupture locations. Dr. Pyke subsequently stated that he had adjusted his EQRISK seismic source modeling in the following ways: 1) to compensate for the use of the Sadigh 1988 and Joyner and Boore 1988 attenuation formulas which require fault rupture representations of earthquakes; and 2) to reflect his belief that large magnitude events (greater than M7) on the San Andreas fault were unlikely during the life of the project. As a result, Dr. Pyke's seismic source modeling was not readily comparable to either HLA's or DMG's seismic source modeling.

DMG determined that Dr. Pyke's model for the San Andreas fault did not include events greater than M7 present in the actual seismic record as presented in such references as the 1990 Working Group USGS Circular 1053 and USGS Professional Paper 1515. Dr. Pyke subsequently reported that this approach reflected his judgment that the next characteristic event to occur on the San Andreas greater than M7 is unlikely to be within the lifetime of the structure. This information was provided in Mr. Garfield Wray's response on August 17 to Dr. James Davis' August 10 request to HLA for additional clarification.

The contrasts in DMG and HLA response spectra are presented in Table 2 and Figure 2. They were unresolved at the time Dr. Davis of DMG prepared the July 27 memo to Mr. Neal Hardman of OSHPD summarizing the status of issues 1 and 2. They were also unresolved despite a continuing effort during August when Dr. Davis prepared the August 20 memo to Mr. Hardman.

### Issue 3

Independently, DMG seismologists from the Geologic Hazards Program evaluated the Sadigh 1988 formula, comparing its standard deviation with the standard deviations of Joyner and Boore 1988 and with Geomatrix 1991 (which is an update of Sadigh's original 1988 formula). They were compared using two published databases of selected representative California earthquake ground motions. The seismologists concluded that the Sadigh 1988 formula generally underestimates the standard deviation relative to the data used in the comparison, and that the Joyner and Boore 1988 formula tends to overestimate it. Of the curves examined, the newer Geomatrix 1991 formula is considered more appropriate to describe California earthquake ground motions at rock sites. The insights from these DMG comparisons are new and are not available as published literature. The DMG seismology analysis is presented as Attachment 1.

Both the Sadigh 1988 and Geomatrix 1991 formulas have a standard deviation that is inversely proportional to earthquake magnitude for moderate to large earthquakes, and constant for the largest earthquakes. In contrast, the Joyner and Boore 1988 standard

deviation does not vary with magnitude. The standard deviations are comparable at small magnitudes, but the Joyner and Boore 1988 standard deviation is increasingly higher at larger magnitudes.

The San Mateo County site MPMG, which is dominated by the influence of the San Andreas fault, is relatively sensitive to choice of attenuation formula. This results because largest magnitudes (greater than  $M6-1/2$ ) occur relatively frequently on the San Andreas fault and have significant impact on the PSHA. Therefore, an attenuation formula with significantly lower standard deviation at largest magnitudes such as Sadigh 1988 will result in significantly lower MPMG estimates.

#### RESOLUTION OF THE HLA/DMG ANALYSES

DMG Hospital Site Review staff acquired revised PSHA software that allowed use of the Geomatrix 1991 formula. DMG developed new spectral estimates based on the seismic source models previously used in DMG's review and using the Geomatrix 1991 formulas.

Since DMG seismology staff determined that the Geomatrix 1991 formula appeared more appropriate than the Joyner and Boore 1988 formula for this rock site analysis, DMG re-evaluated HLA's recommended spectrum against PSHA results based on the Geomatrix 1991 formula and DMG's source model. The comparison, as given in Table 3 and Figure 3, shows much less discrepancy between DMG's revised PSHA results and HLA's recommendation. The differences are greatest at the short-period end of the spectrum. These findings were immediately reported to OSHPD and the BSB, to determine whether the differences were significant to a structural engineering analysis. DMG understands that OSHPD concurs with the project structural engineer's conclusion that the differences are not significant, and that it was no longer necessary for the County to appeal the DMG findings. This conclusion was communicated to the project architect (copies to DMG and OSHPD) by Mr. Bill Dasher of DASSE Design in a letter dated August 20, 1993.

DMG's analysis of ground motion attenuation dispersion included the data and curves of Boore, et al., 1993. Their curve, however, was not considered for the particular site under consideration here. The Boore, et al., 1993 analyses included a variety of site characteristics. Rock sites similar to the San Mateo Hospital site were few in number. The overall conclusion presented in Attachment 1 may not be applicable to a specific site type. Also, the USGS Open File Report is a recent, interim report. It has not yet undergone extensive peer review and may change in the near future.



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Sadigh, K., as reported in Joyner, W.B. and Boore, D.M., 1988, Measurement, characterization, and prediction of strong ground motion: in Proceedings of Earthquake Engineering & Soil Dynamics II GT Div/ASCE, Park City, Utah.

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Working Group on California Earthquake Probabilities, 1990, Probabilities of large earthquakes in the San Francisco Bay region, California. U.S. Geological Survey Circular 1053, 51 pp.

## FIGURES AND TABLES

Figure 1. Comparison of HLA MPM recommendation (1/29/93) using Joyner and Boore 1988 with results calculated by DMG for 4/23/93 review memorandum using Joyner and Boore.

Table 1. Handwritten revisions to Table A1 of HLA's 1/29/93 report as supplied to DMG on July 20, 1993 by Ms. Beng Hwee Koh representing HLA.

Table 2. Comparison of HLA 1/29/93 spectrum with DMG's efforts to replicate these values from submitted data, and DMG's own estimates (based on the historic seismic record). The variation in spectral results shows the effects of source model assumptions and attenuation formula.

Figure 2. Comparison of HLA, Pyke, and DMG MPM estimates using various source models and attenuation functions.

Table 3. Comparison of HLA and DMG analytical results (August 18).

Figure 3. Comparison of HLA recommended Maximum Probable Ground Motion with results calculated by DMG using the attenuation relationship of Geomatrix 1991.

## ATTACHMENT

Attachment 1. Analysis of Dispersion of Ground Motion of Selected Published Attenuation Curves (Reichle and Petersen)

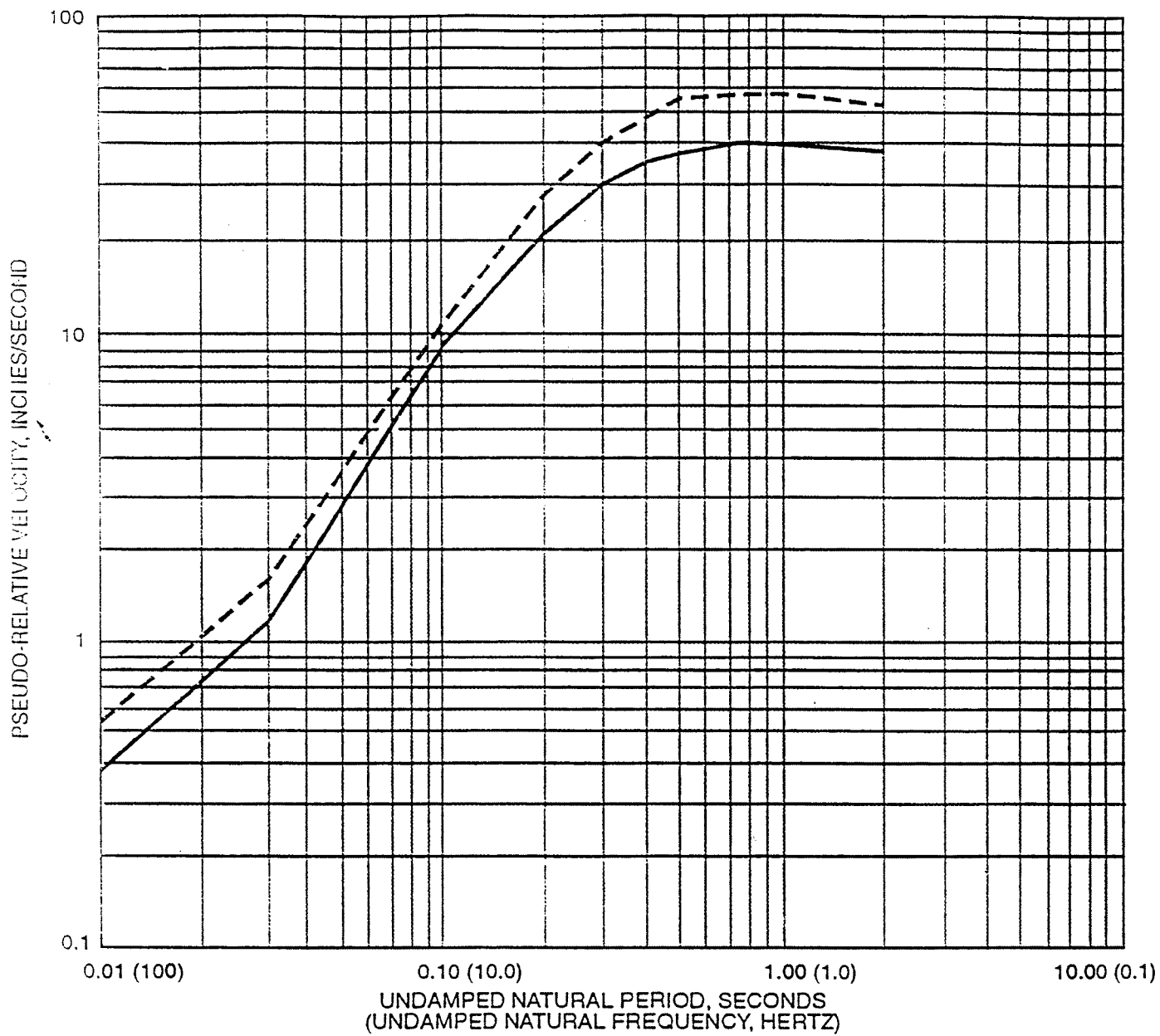


Figure 1. Comparison of HLA MPGM recommendation (1/29/93) using Joyner and Boore with results calculated by DMG for 4/23/93 review memorandum using Joyner and Boore.

#### EXPLANATION

- HLA recommended
- - - DMG models w/ J-B

Table 1. Handwritten revisions to Table A1 of HLA's 1/29/93 report as supplied to DMG on July 20, 1993 by Ms. Beng Hwee Koh representing HLA.

Harding Lawson Associates

\* Data transmitted to DMG 7/20/93, *KEH*  
(input parameters used in 6/21/93 letter)

Table A1. Characteristics of Significant Faults

Fault	Closest Distance to Site (km**)	Magnitude of Maximum <u>Credible Earthquake</u> Richter Moment	a*	b*	Length of Fault (km**)
San Andreas*** - North Coast	13 (5)	8.3 $M_{min} = 7.5$ 7.9	3.28 3.16	0.70 0.70	460 (extended to San Juan Bautista)
San Andreas*** - Peninsular	5	7.5 $M_{min} = 6.5$ 7.0	2.79	0.70	61
Hayward*** - Southern East Bay	25	7.5 $M_{min} = 6.5$ 7.0	2.12	0.62	32
Hayward*** - Northern East Bay	32	7.5 $M_{min} = 6.5$ 7.0	2.12	0.62	50
Healdsburg*** - Rodgers Creek	72	7.5 $M_{min} = 6.5$ 7.0	2.90	0.75	50
Concord	51	6.5 $M_{min} = 5.0$ 6.5	2.97	0.90	25
Calaveras	36	7.5 $M_{min} = 5.0$ 7.0	2.29	0.62	124
Vaca-Antioch	65	6.5 $M_{min} = 5.0$ 6.5	1.35	0.70	59
San Gregorio	16	7.5 $M_{min} = 5.0$ 7.0	2.42	0.90	180
Green Valley	61	7.0 $M_{min} = 5.0$ 7.0	3.35	0.75	45

\* a and b are coefficients used in the Gutenberg-Richter magnitude-frequency relationship (1954).

\*\* km = kilometers.

\*\*\* Fault parameters derived from the U.S.G.S. Circular 1053 (1990).

Table 2. Comparison of HLA 1/29/93 spectrum with DMG's efforts to replicate these values from submitted data, DMG's own estimates (based on the historic seismic record), and Dr. Pyke's analyses submitted after 7/20/93. The variation in spectral results shows the effects of source model assumptions and attenuation formula.

Period (sec)	5%-damped Response Spectral Values					
	Analysis					
	1	2	3	4	5	6
[PGA]	.60g	.84g	.94g	.73g	.66g	.75g
0.1	9.2 ips	10.5 ips	11.7 ips	9.6 ips	9.7 ips	11.0 ips
0.2	21	27.8	32.1	23.4	21.1	23.6
0.3	30	40.1	47.5	32.8	28.0	30.5
0.4	34	47.8	57.8	n.a.	n.a.	n.a.
0.5	37	54.7	66.8	41.3	34.7	37.8
0.75	40	55.6	67.5	n.a.	n.a.	n.a.
1.0	40	57.5	69.4	43.1	35.5	39.0
2.0	38	51.7	61.7	35.6	29.2	32.8

PGA: Peak ground acceleration

g: Acceleration relative to earth gravity

ips: Velocity in inches per second

sec: seconds

Boldface indicates result higher than HLA recommendations.

#### EXPLANATION

#### Analysis

#### Details

- |   |  |
|---|--|
| 1 | HLA "recommended design values" (1/29/93 report and 6/21/93 response)                        |
| 2 | DMG San Andreas model based on historic seismicity (1855-1989) using Joyner and Boore (1988) |
| 3 | DMG interpretation of HLA source model data and Joyner & Boore (1988)                        |
| 4 | DMG interpretation of HLA source model data and Sadigh (1988)                                |
| 5 | Pyke results using Sadigh 1988 formula   |
| 6 | Pyke results using Geomatrix (1991)  |

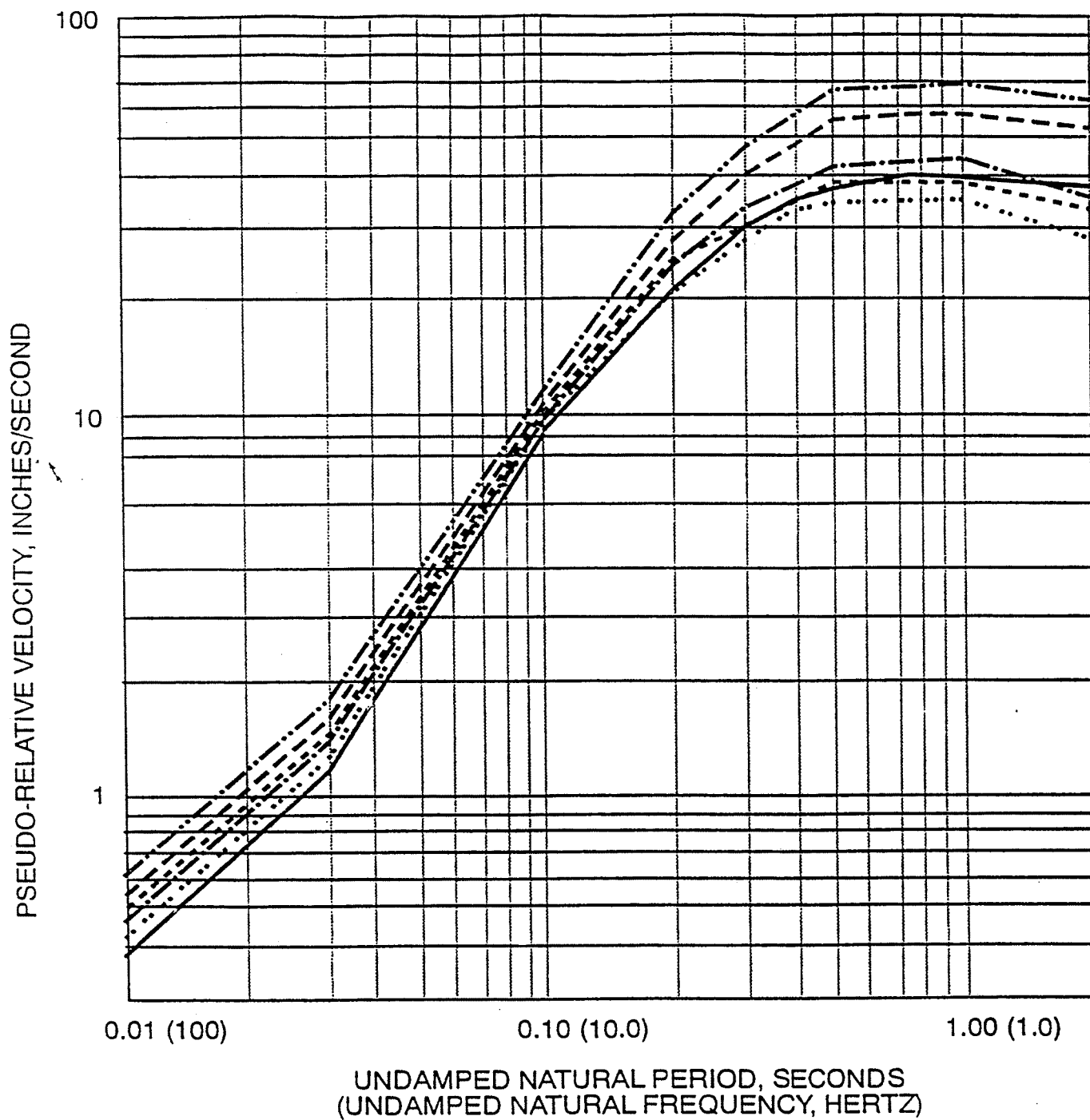


Figure 2. Comparison of HLA, Pyke, and DMG MPGM estimates using various source models and attenuation functions. Tabulated information appears in Table 2.

#### EXPLANATION

- HLA recommended
- - - DMG models w/ J-B
- · - HLA model w/ J-B
- - - HLA models w/ Sadigh
- - - Pyke analysis w/ Geomatrix
- · · Pyke analysis w/ Sadigh

Table 3. Comparison of HLA and DMG Analytical results as of August 18, 1993.

Period (sec)	5%-damped Response Spectral Values	
	Analysis	1 2
[PGA]	.60g	.74g
0.1	9.2 ips	7.1 ips
0.2	21	<b>21.7</b>
0.3	30	<b>30.5</b>
0.4	34	<b>36.4</b>
0.5	37	<b>39.1</b>
0.75	40	<b>41.6</b>
1.0	40	<b>42.3</b>
2.0	38	37.6

PGA: peak ground acceleration

g: acceleration relative to earth gravity

ips: Velocity in inches per second

sec: seconds

**Boldface** indicates result higher than HLA recommendation.

#### EXPLANATION

#### Analysis

#### Details

- 
- |   |   |
|---|---|
| 1 | HLA "recommended design values" (1/29/93 report and 6/21/93 response)                 |
| 2 | DMG San Andreas model based on historic seismicity (1855-1989) using Geomatrix (1991) |

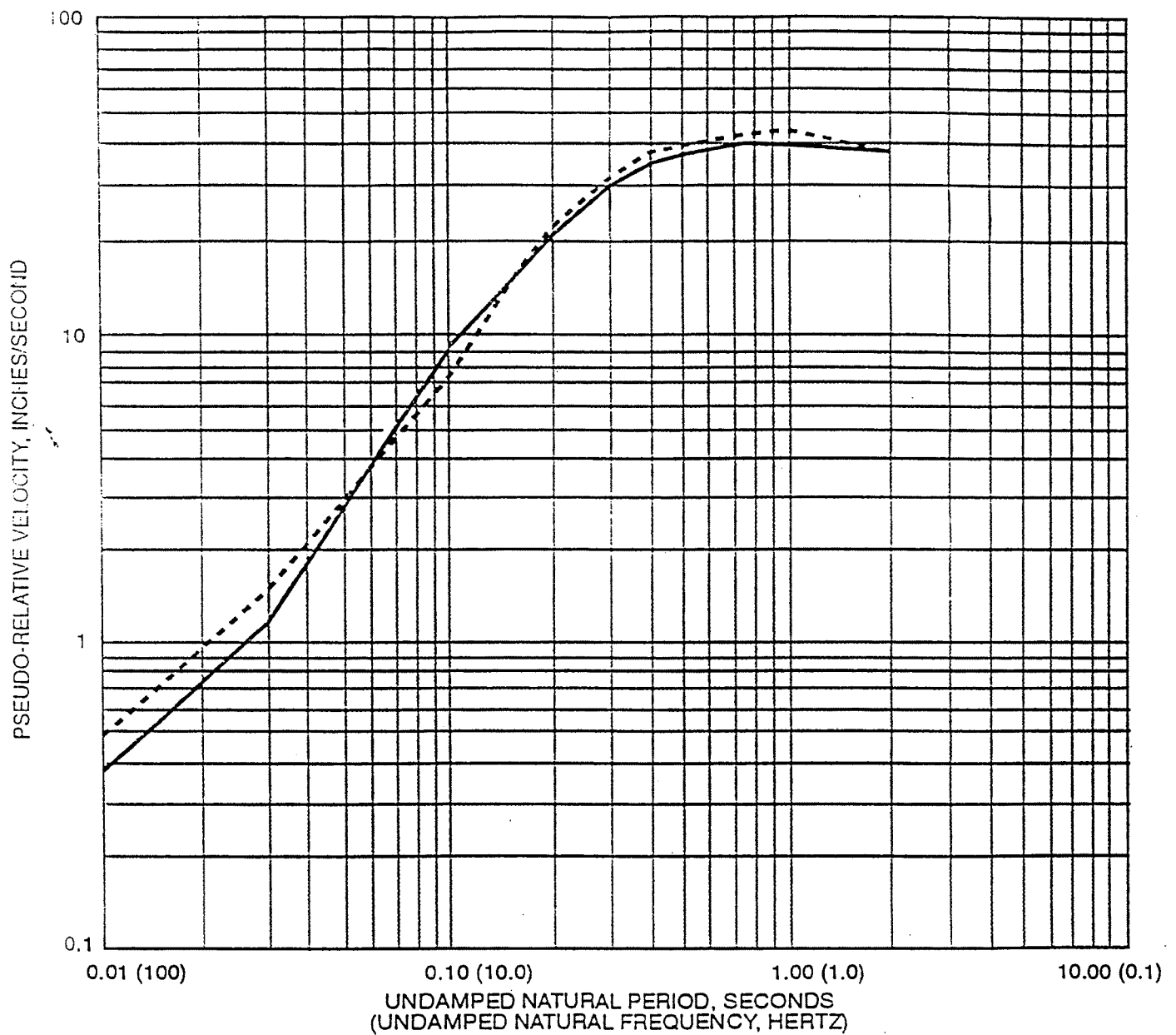


Figure 3. Comparison of HLA recommended Maximum Probable Ground Motion with results calculated by DMG using the attenuation relationship of Geomatrix (1991).

EXPLANATION

— HLA recommended

- - - DMG models w/ Geomatrix



**ATTACHMENT 1**

## ANALYSIS OF DISPERSION OF GROUND MOTION OF SELECTED PUBLISHED ATTENUATION CURVES<sup>1</sup>

### PROBLEM ADDRESSED AND APPROACH

An important element of seismic hazard analysis is the choice of a ground motion attenuation equation. Several attenuation equations have been recently revised or updated. As part of a hospital site-report review, DMG has undertaken to review the standard deviation of several ground motion attenuation curves to determine their appropriateness for use in determining maximum probable ground motion for hospital sites on rock.

We compared the following published peak ground acceleration attenuation curves and standard deviation values:

- a) Sadigh (Joyner and Boore, 1988),
- b) Joyner and Boore, 1988 (as published in Joyner and Boore, 1988), used as the standard of review by DMG for hospital site review,
- c) Geomatrix, 1991, an update of Sadigh's formula, and
- d) Boore, et al., 1993, an interim revision of the 1988 Joyner & Boore analysis.

Only the Sadigh and the Joyner and Boore curves were issues in the site-report review. The Geomatrix and Boore, et al., curves were included as updates of the other two. No other attenuation curves were examined. Therefore, our conclusions should not be taken as referring to any other published or proprietary attenuation relation or to any site condition other than rock.

We compared the median attenuation curves with each other, but not with published data. We also examined the standard deviations in comparison with the data of Sadigh (as published in the Long Term Seismic Project Final Report) and Boore, et al., 1993. Because of time constraints, we have not developed our own ground motion database. Therefore, we have concluded whether or not the published standard deviation appears consistent with published California earthquake data. We cannot say, however, that we have "validated" any curve.

### COMPARISON OF MEDIAN CURVES

Figures 1 and 2 compare the four median peak ground acceleration (pga) curves, assuming an earthquake of magnitude 6.5. In figure 1, pga is plotted on a logarithmic scale. In figure 2, the scale is linear. The large differences between the Joyner and Boore and the Sadigh/Geomatrix curves at short distances results from differences in the analyses, including assumptions regarding the form of the attenuation curve and ground motion saturation at high magnitudes and close distances, whether or not style of faulting was a variable, and how distance was defined. The newer curve of Boore, et al., is considerably lower at short distances, and higher at larger distances.

### COMPARISON OF STANDARD DEVIATIONS

We compare the published standard deviation values with standard deviations calculated from individual earthquakes. Two different data sets were examined. First, the rock-site data published by the Long-Term Seismic Project (PG&E, 1988), which is part of the data used by Sadigh in formulating his attenuation relation. Second, the data used by Boore, et al., 1993, in their analysis, which includes data from rock and soil sites. In each case, the predicted pga was calculated using the formula published for that data set. Corrections for site geology and source

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Michael Reichle, Supervising Geologist, and Mark Petersen, Associate Seismologist, Division of Mines and Geology.

mechanism were made as appropriate. Residuals were calculated for each recording (difference in  $\log[\text{pga}]$ ). For each earthquake, the standard deviation of the residuals were then calculated. These standard deviations are plotted as a function of magnitude (since the Sadigh and Geomatrix standard deviations are magnitude dependent) in figures 3 and 4.

We then calculated the residual (departure from prediction) standard deviation of the residuals for each earthquake. That is, we subtract the predicted standard deviation from the calculated values (giving one value for each earthquake and each prediction method). The resulting numbers are residuals (or differences) for each earthquake in the standard deviations of individual station residuals. These are plotted in figures 5 and 6. (Note that this definition of residual — predicted minus observed — is the negative of the more normal definition. This permits a more direct comparison of figures 5 and 6 with 3 and 4. In both cases, the less conservative predicted standard deviations have lower values and the more conservative, higher values.)

Figure 3 compares the published standard deviation values with 10 events published by and used in the analysis of Boore, et al., 1993. Events not included were either located outside of California or had fewer than four pga data. (Several of the events, including the highest standard deviation value at M5.2, had only four or five ground motion data and should be considered less reliable than those based on larger data sets.) In general, the Joyner & Boore, 1988, standard deviation overestimates, and the Sadigh standard deviation relation underestimates this data set. Both the Boore, et al., 1993, (which was based on this data) and the Geomatrix, 1991, relations appear to be consistent with this subset of California strong motion data.

Figure 4 compares the published standard deviation values with 19 events published by PG&E for the Long-Term Seismic Project. Again, events located outside of California or with fewer than four data are not included in the figure. There is considerable scatter in the data. However, nine of the points shown were calculated from only four or five data. Those nine include all the four lowest points and the two highest. Considering the uncertainty resulting from few data points, the Sadigh formula does not appear to be as consistent with the data as is the newer curve from Geomatrix.

The residual standard deviation results are shown in figure 5 for the Boore, et al., data and in figure 6 for the LTSM data. In the figures, positive residual standard deviation results from a predicted value larger than the actual earthquake data. That is, positive residual standard deviation overestimates. Negative standard deviation results from a predicted standard deviation that is less than the actual earthquake data. The standard deviation estimates of Joyner & Boore are connected with a dashed line to clarify their relation to one another and to the rest of the data, but not to imply that they occur in some sequence. Similarly for the estimates using the formula of Sadigh.

In both figures 5 and 6, residuals using the Sadigh, 1988, standard deviation prediction are generally negative and lower than all others. That is, they are less conservative relative to the available data. The residuals using Joyner & Boore, 1988, are generally larger than the others, since their standard deviation is the largest of those examined. The average residual for Joyner and Boore is  $+0.074$ , or 20% higher than the average of the data. The residual standard deviations resulting from use of the Boore et al., 1993, and Geomatrix, 1991, results are generally between the two extremes and generally positive, that is, slightly conservative relative to the available data.

## CONCLUSIONS

Both the Boore, et al., 1993 (mixed rock and soil sites) and Geomatrix, 1991, (rock sites only) standard deviations appear generally consistent with the published subsets of California strong motion data. The Joyner and Boore, 1988, (mixed sites) standard deviation appears to be higher than most data considered, while the standard deviation formula of Sadigh (rock sites) appears to be less conservative, relative to the data considered.

## REFERENCES

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Long-Term Seismic Project, 1989, Responses to Questions 4, 5, 6, 7, 8, 9, 19, 11, and 12. Pacific Gas and Electric Company.

Sadigh, K., 1988, formula referenced in Joyner and Boore, 1988.

- Figure 1. Comparison of peak ground acceleration median attenuation curves. Curves are identified as accjb (Joyner and Boore, 1988), accjb93 (Joyner, et al., 1993), accsdg88 (Sadigh, 1988), and acgmtrxl65 (Geomatrix, 1991). Distance is in kilometers. Acceleration is in g.
- Figure 2. Same as figure 1, except acceleration plotted on a linear scale.
- Figure 3. Comparison of standard deviations calculated for California earthquakes published by Boore, et al., 1993, with published standard deviation formulas.
- Figure 4. Comparison of standard deviations calculated for California earthquakes published by the Long-Term Seismic Project, 1989, with published standard deviation formulas.
- Figure 5. Residual standard deviations of residuals for Boore, et al., 1993, data and four published standard deviation formulas. JB88 = Joyner and Boore, 1988, SDGH88 = Sadigh, 1988, BJE93 = Boore, et al., 1993, and GMTRX91 = Geomatrix, 1991.
- Figure 6. Same as Figure 5, but comparison made for Long-Term Seismic Project, 1989, data.

Figure 6

Predicted st.dev. - LTSP data

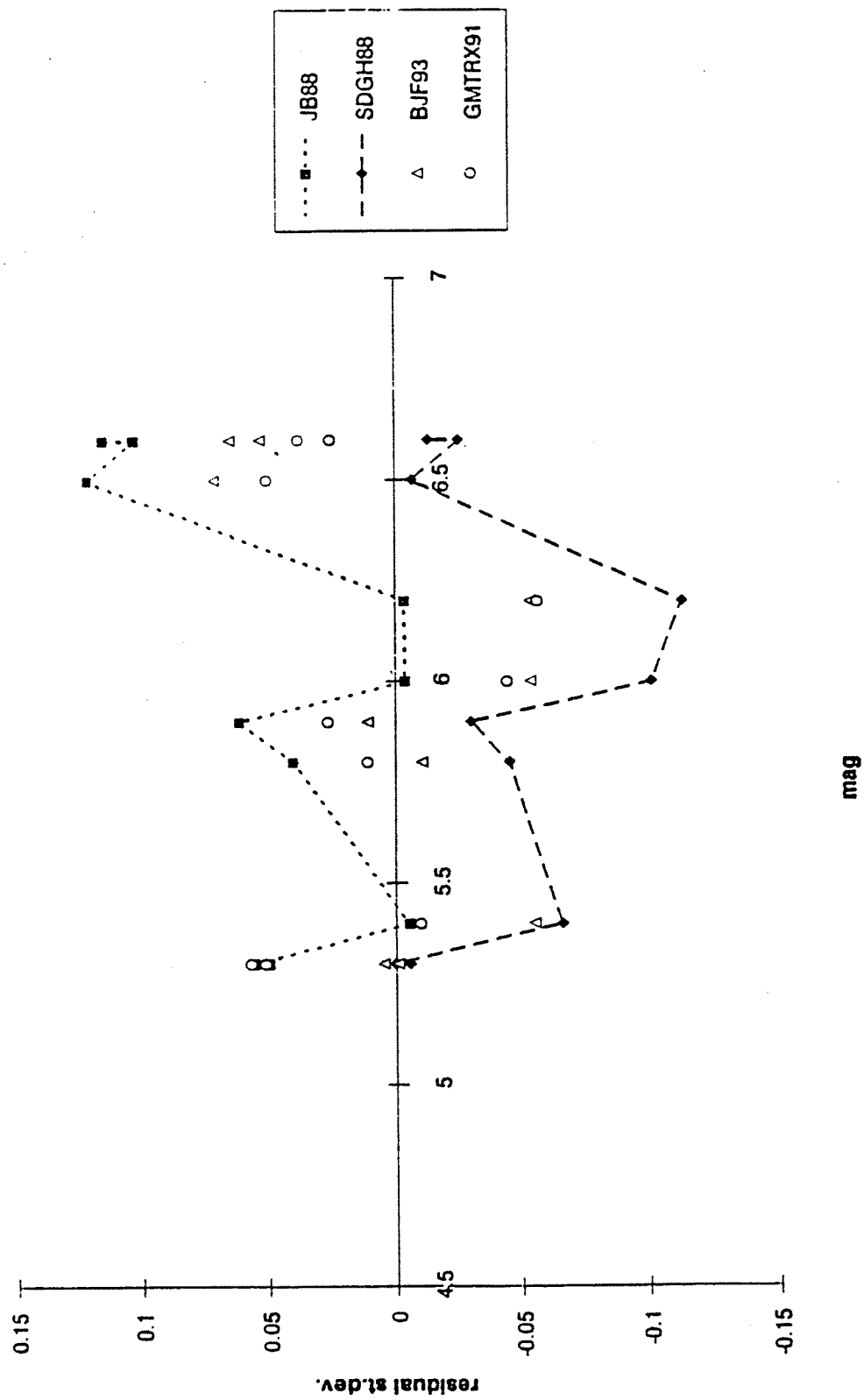


Figure 5

Predicted st.dev. - BJF93 Data

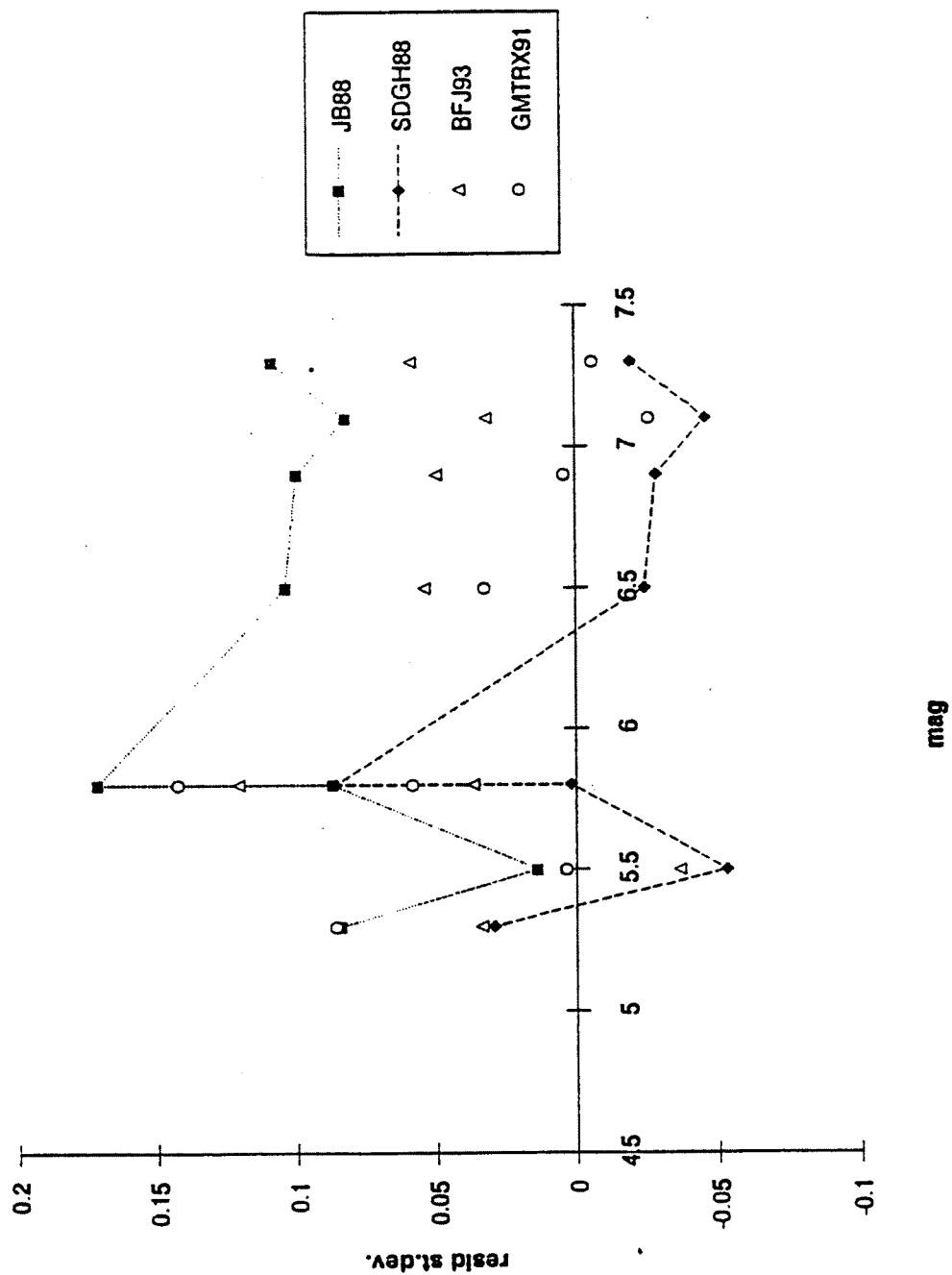


Figure 4

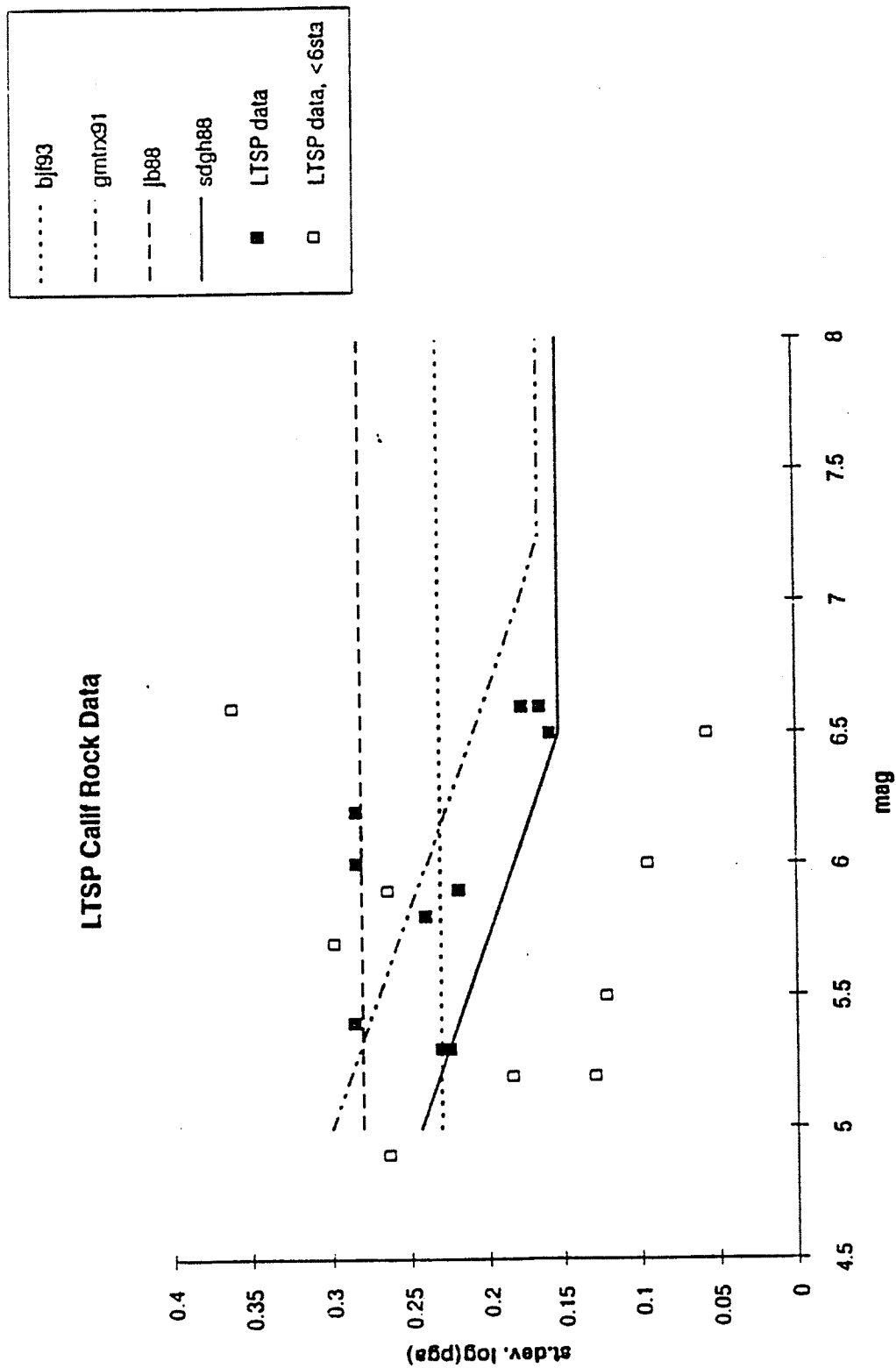
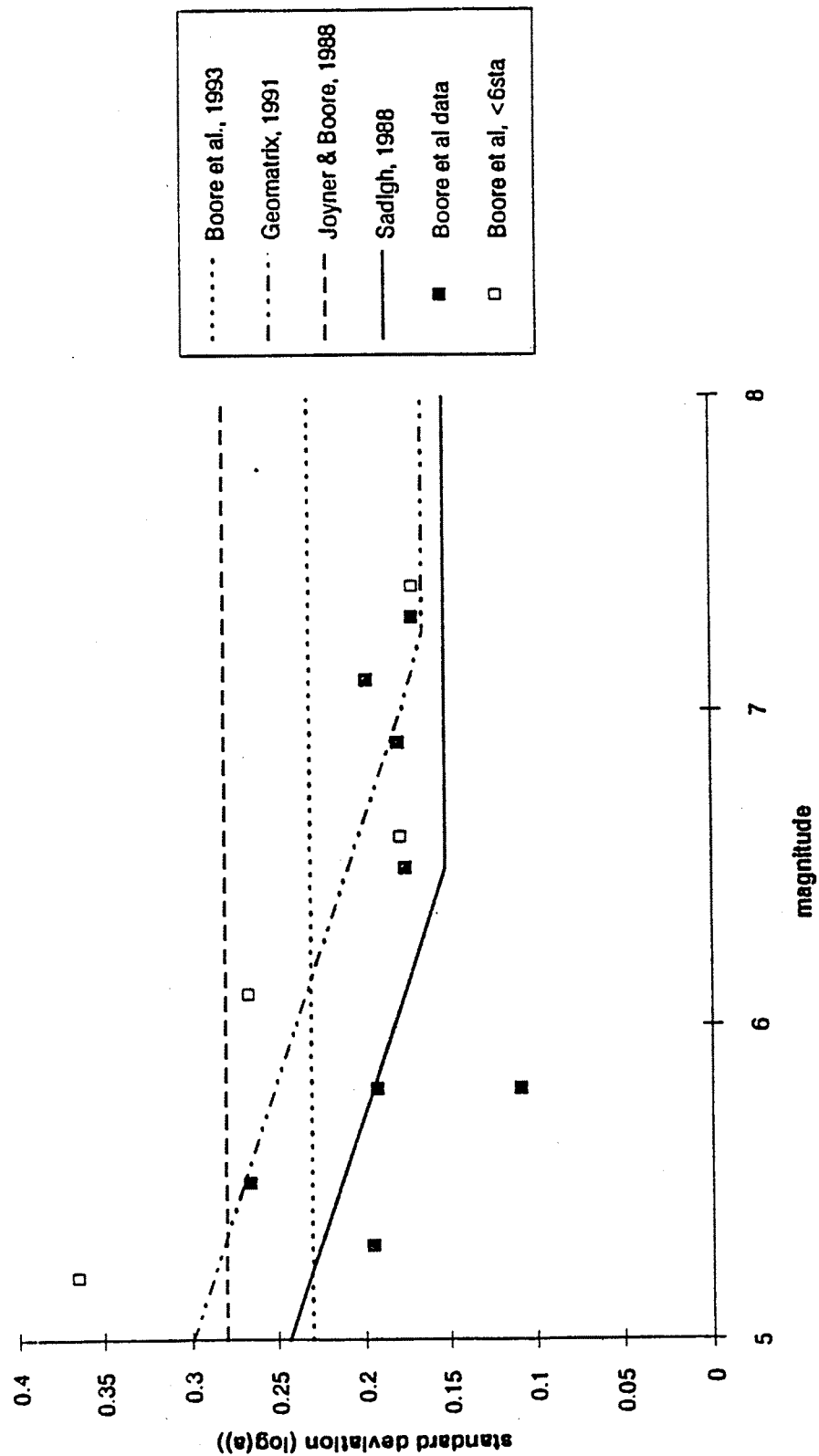




Figure 3

Boore, et al., 1993, data



1 ie 2

mag = 6.5

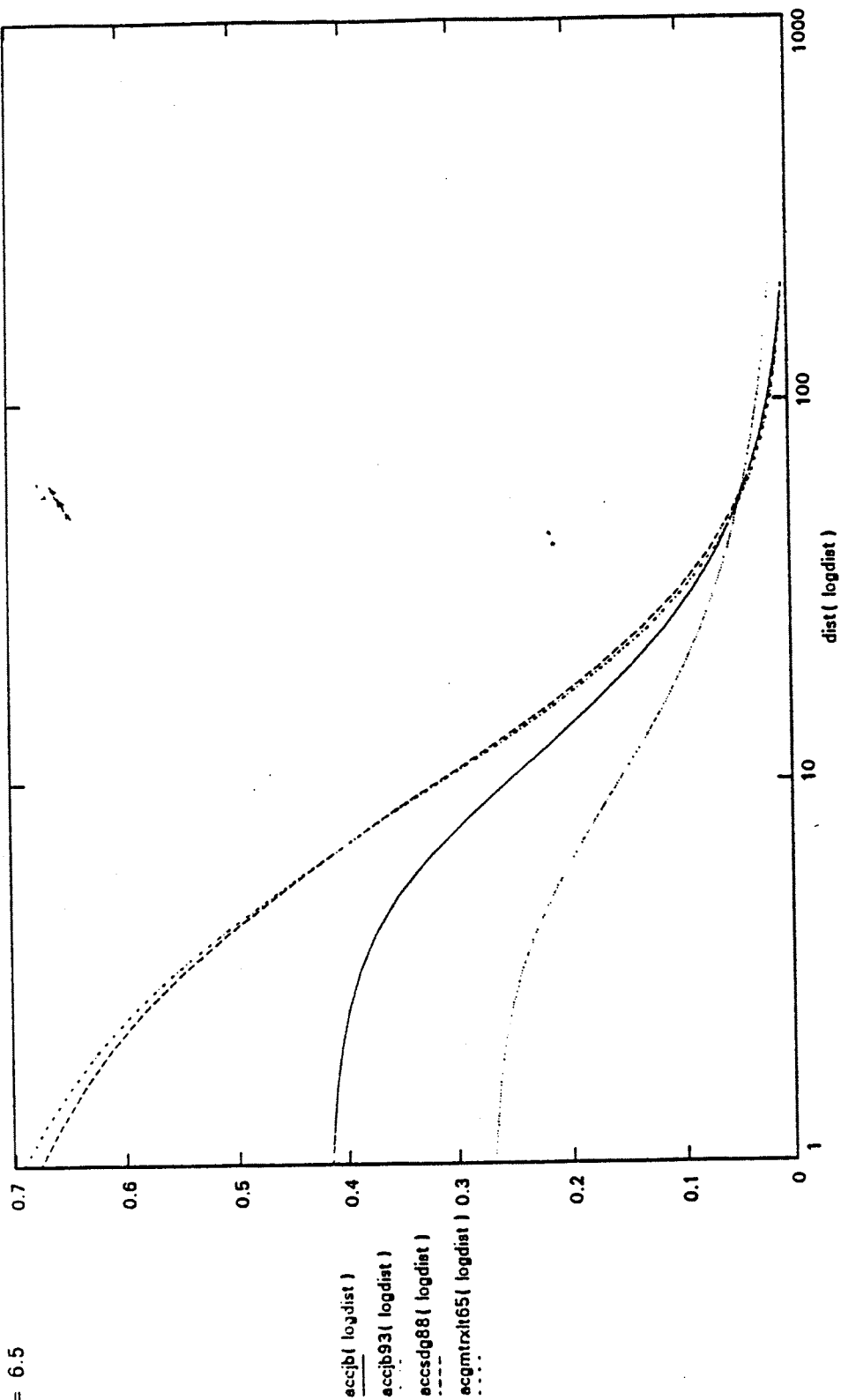
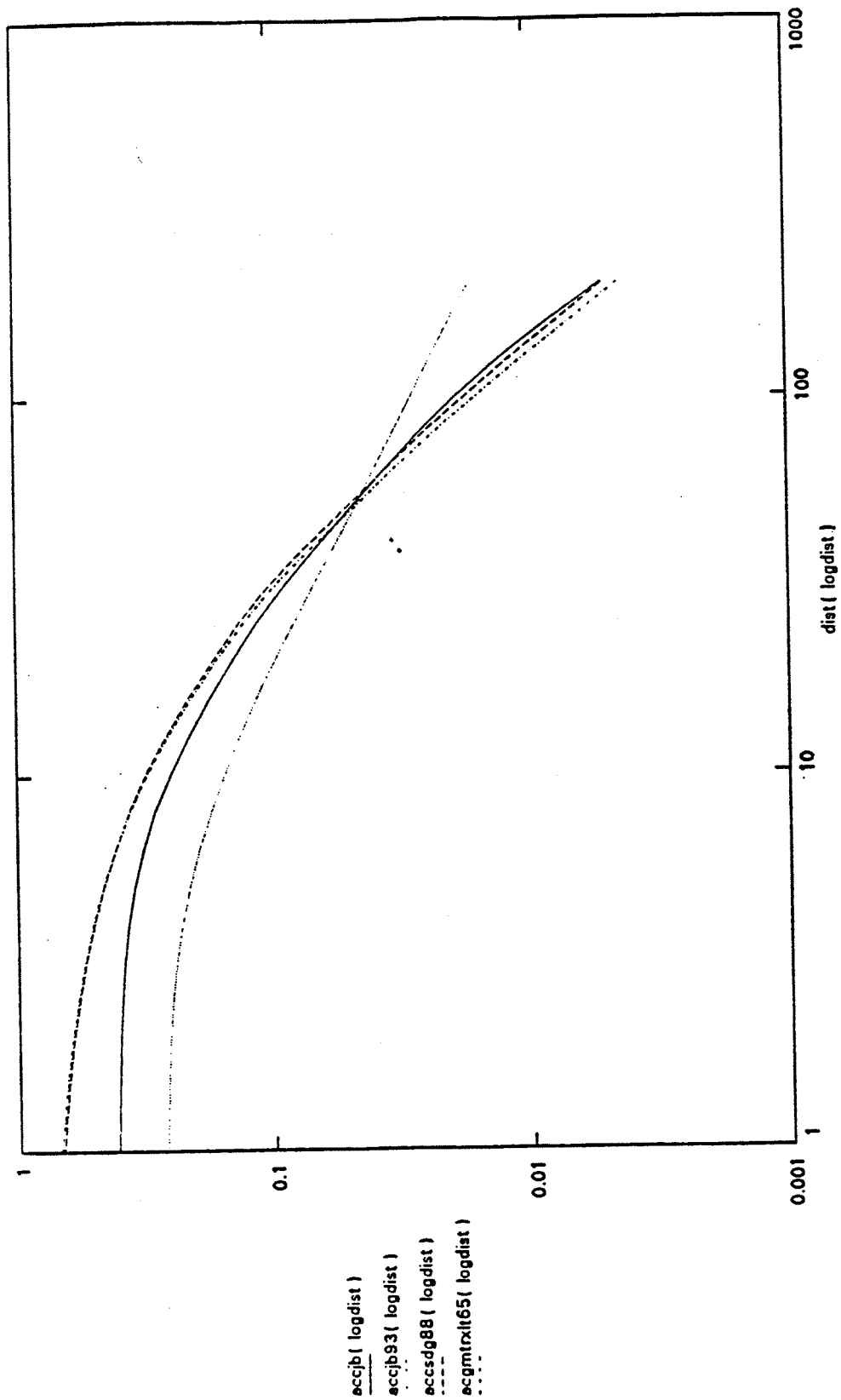
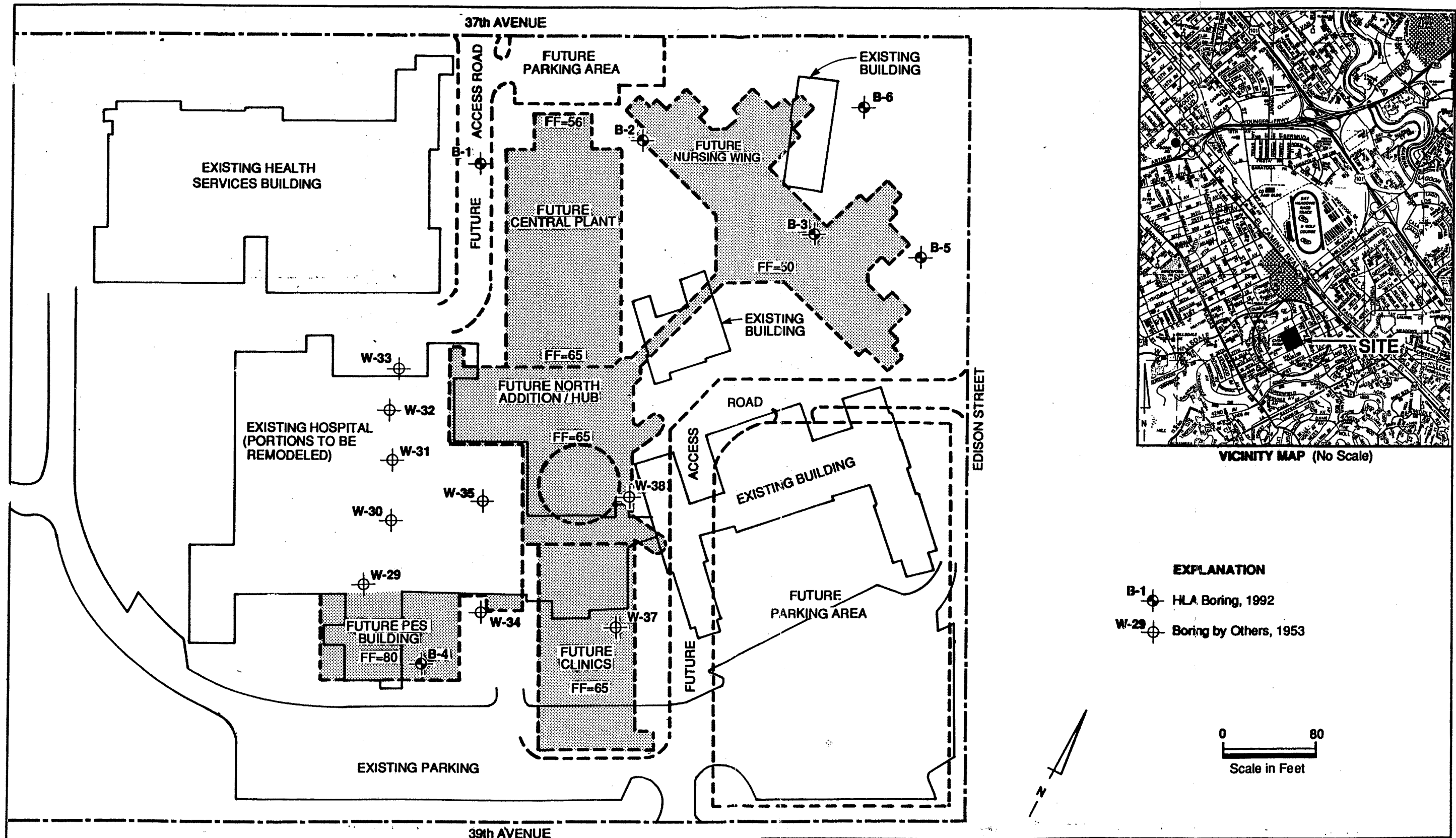


Figure 1

mag = 6.5





References: 1. Boundary and Topographic Survey, San Mateo County General Hospital, prepared by Acres Consulting Engineers, dated January 1992, and  
 2. Site Plan, Schematic Design, San Mateo County Health Center, prepared by The Ratcliff Architects, dated December 1992.



**Harding Lawson Associates**  
 Engineering and  
 Environmental Services

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 22823-1.0

**Site Plan**  
**San Mateo County General Hospital Additions**  
**San Mateo, California**

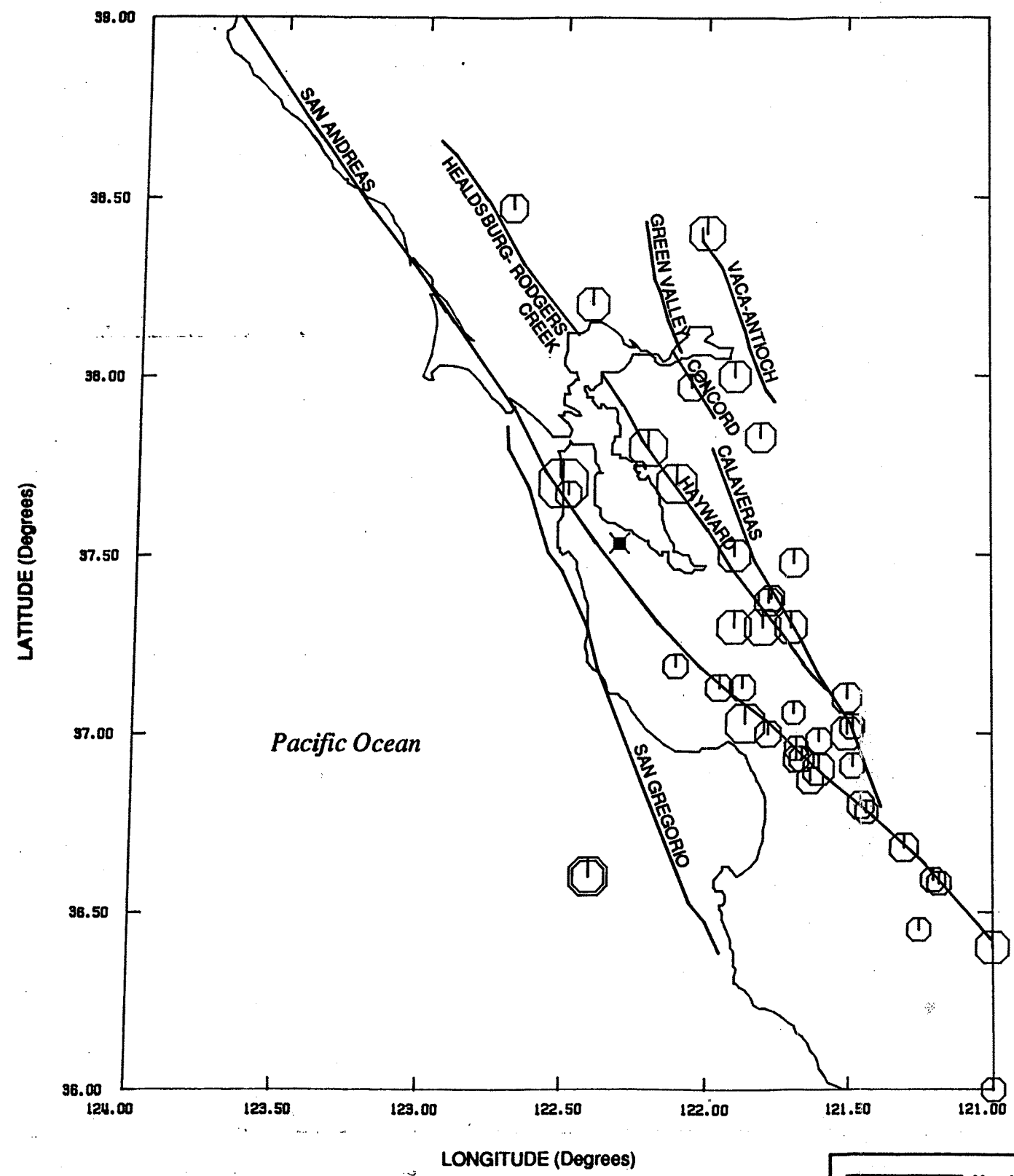
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PLATE

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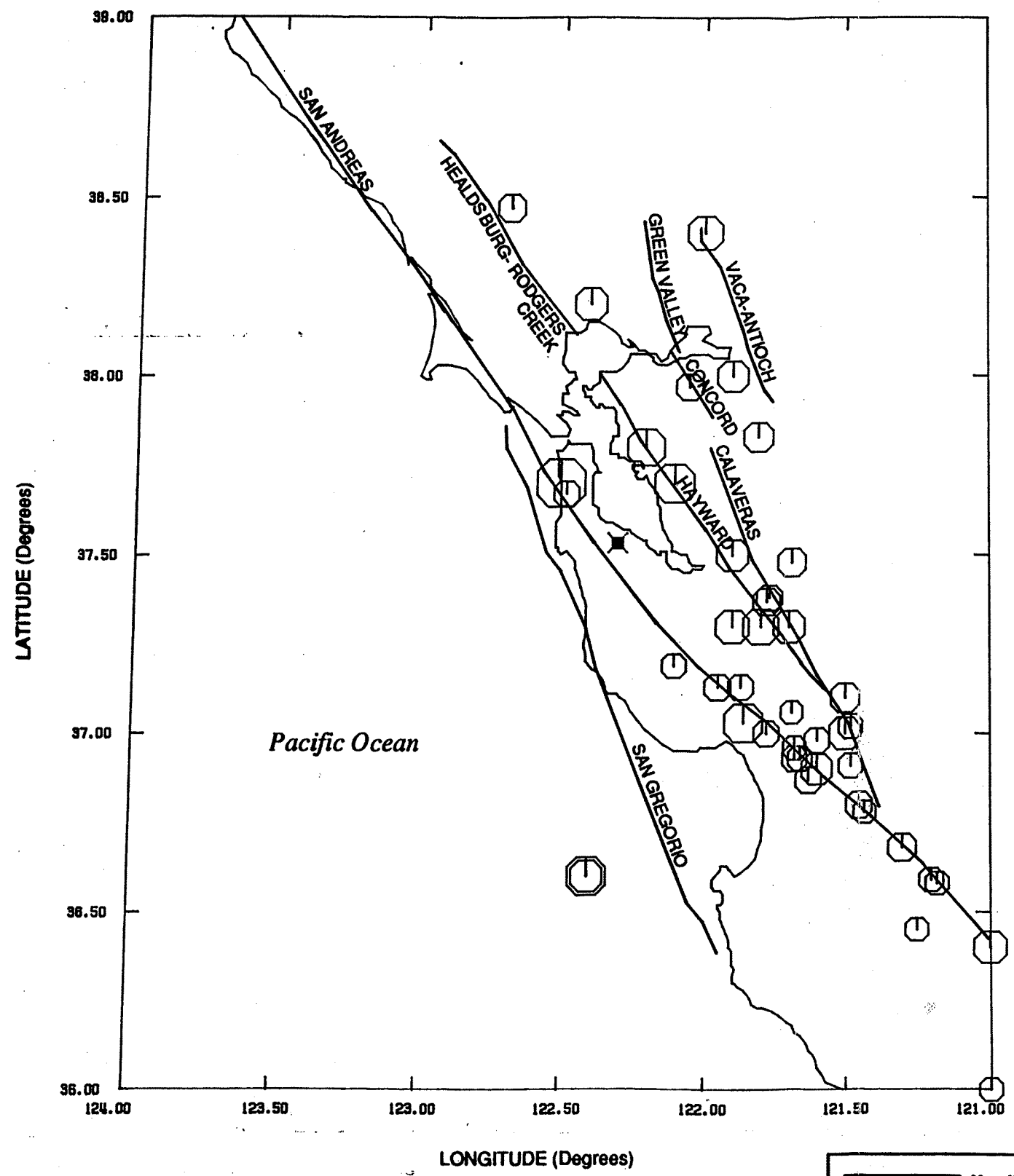
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1852 - 1991

-  Mag = 5
-  Mag = 6
-  Mag = 7
-  Mag = 8
-  Site






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km

	<b>Harding Lawson Associates</b> Engineering and Environmental Services		<b>Fault Map and Epicenters of Historical Earthquakes with Magnitude 5 and Greater</b> San Mateo County General Hospital Additions San Mateo, California		PLATE <b>A1</b>
	DRAWN AM	JOB NUMBER 22825-1	APPROVED 	DATE 1/93	REVISED DATE



# REGIONAL SEISMICITY

1852 - 1991

-  Mag = 5
-  Mag = 6
-  Mag = 7
-  Mag = 8
-  Site

0 30  
km



**Harding Lawson Associates**  
Engineering and  
Environmental Services

**Fault Map and Epicenters of Historical Earthquakes**  
**with Magnitude 5 and Greater**  
**San Mateo County General Hospital Additions**  
**San Mateo, California**

PLATE

**A1**

DRAWN AM	JOB NUMBER 22825-1	APPROVED <i>J.E. Akemi</i>	DATE 1/93	REVISED DATE
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A Report Prepared for

Department of General Services  
County of San Mateo  
590 Hamilton Street  
Redwood City, California 94063

**GEOTECHNICAL INVESTIGATION  
SAN MATEO COUNTY GENERAL HOSPITAL ADDITIONS  
SAN MATEO, CALIFORNIA**

HLA Job No. 22823-1.0

by

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January 29, 1993

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- B CORROSION POTENTIAL EVALUATION

## DISTRIBUTION

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## 1.0 INTRODUCTION

This report presents the results of the geotechnical investigation performed by Harding Lawson Associates (HLA) for new additions to the San Mateo County General Hospital in San Mateo, California. The hospital is at the northwest corner of Edison Street and 39th Avenue, as shown on the Vicinity Map on Plate 1. We previously performed a geohazards evaluation for the new additions and presented our conclusions in letters dated January 16, 1992 and December 21, 1992.

In addition to this geotechnical investigation, we currently are performing a hazardous materials assessment of the project site. The results of this assessment will be presented in a separate letter.

### 1.1 Project Description

Six new facilities will be constructed at the hospital at the locations shown on the Site Plan, Plate 1. These structures are:

1. A four-story steel-frame nursing wing: This irregularly shaped building will be about 325 feet long and will vary between 60 and 125 feet wide. The lowest floor level will be at about Elevation 50 feet (City of San Mateo datum). Existing grade in the area ranges from about Elevation 49 feet to 63 feet; therefore, the back of the structure will be as much as 13 feet below grade. According to the project structural engineer, DASSE Design, Inc. (DASSE), column dead loads will be as high as 213 kips, and live loads as high as 163 kips.
2. A single-story steel-frame central plant building: This structure will be about 190 feet long by 100 feet wide. The floor will be stepped from about Elevation 65 feet at the southern end to Elevation 56 feet at the northern end. Existing grade in the area ranges from Elevation 68 to 54 feet. According to DASSE, interior column dead loads will be as high as 110 kips, and live loads will be as high as 13 kips. Braced-frame columns will need to support 50 kips of dead-plus-live load, and to resist 41 kips of uplift.
3. A 2-1/2-story steel-frame north addition/hub building: This structure will be immediately adjacent to the existing main hospital building, portions of which will be demolished so that the new building can be constructed. The lowest floor level will be at about Elevation 65 feet.

Existing grade in the area is at about Elevation 67 feet, which also is the elevation of the existing floor in the portion of the building to be demolished. According to DASSE, column dead loads will be as high as 99 kips, and live loads as high as 58 kips.

4. A three-story steel-frame clinics building: About half of this structure also will be within the footprint of the existing main hospital building. The new building will be about 180 feet long and 80 feet wide. The lowest floor will be at about Elevation 65 feet. The existing floor of the portion of the building to be demolished is at about Elevation 67 feet. The existing grade over the other half of the new building area ranges from about Elevation 67 to 77 feet. Therefore, the lowest floor will be as much as 10 feet below existing grade. According to DASSE, column dead loads will be as high as 158 kips, and live loads as high as 117 kips.
5. A single-story steel-frame building, hereafter referred to as the PES building: This structure will be about 120 feet long and 75 feet wide. The floor will be at about Elevation 80 feet, which also is the approximate elevation of existing grade in the area. The floor of an existing building in the area, which will need to be demolished, also is at about Elevation 80 feet. According to DASSE, column dead loads will be as high as 45 kips, and live loads as high as 15 kips.
6. Asphalt-paved surface parking areas and access roads: A large parking area, about 335 feet by 205 feet in plan dimensions, will be constructed in the southeast corner of the site, and a small parking area will be constructed in the northwest corner. Approximately 700 feet of access roads also will be constructed near these new parking areas. The site of the new large parking area is also the site for future additions to the health center.

## 1.2 Scope of Services

Our geotechnical investigation was performed in accordance with our agreement dated December 21, 1992, with the County of San Mateo. Our scope of services included reviewing previous geotechnical reports,\* drilling test borings, performing laboratory tests, and performing engineering analyses to develop conclusions and recommendations regarding the following:

\* *Foundation Investigation for the Proposed San Mateo County Community Hospital, San Mateo, California*, prepared by Woodward, Clyde & Associates, dated June 4, 1953.

*Geologic Hazards Study and Geotechnical Investigation for Proposed Emergency Department Renovations - Chope Community Hospital, San Mateo, California*, prepared by Kaldveer Associates, dated June 2, 1988.

1. Site preparation and grading.
2. Appropriate foundation type(s) for the structures.
3. Design criteria for the recommended foundation type(s).
4. Estimates of foundation settlement (short and long-term).
5. Subgrade preparation for slabs-on-grade and demolished areas.
6. Lateral pressures for retaining walls.
7. Suitability of the onsite soil for use as backfill.
8. Recommendations for earthworks.
9. Flexible pavement design for automobile parking areas by the State of California R-value design method.
10. Suitable temporary shoring systems and design criteria.
11. Mitigation of expansive soils, if applicable.
12. Impact of groundwater on design and construction.
13. Excavation characteristics of rock at the site.
14. Corrosivity of soil at the site.
15. Site soil coefficient per 1991 Uniform Building Code, Table 23J.
16. Design ground motions.
17. Design elastic response spectra.

## **2.0 FIELD EXPLORATION AND LABORATORY TESTING**

### **2.1 Test Borings**

We explored the project site in December 1992 by drilling six test borings 8 to 20 feet deep. The borings were drilled using truck-mounted hollow-stem augers. Our field engineer logged the borings and obtained samples for visual classification and laboratory testing. The boring logs are presented on Plates 2 through 5. The soil encountered was classified using the ASTM D2487 soil classification system described on Plate 6, and the physical properties of the soils were described using the criteria presented on Plate 7. The criteria used to describe rock samples are presented on Plate 8.

Soil and rock samples were obtained using a 3-inch-outside diameter Sprague and Henwood (S&H) sampler and a 2-inch-outside diameter Standard Penetration Test (SPT) sampler. Both samplers were driven by blows from a 140-pound automatic hammer falling about 30 inches. The blow counts observed during the driving of the S&H sampler were converted to SPT N-values\* by multiplying them by the factor noted on Plate 2. The pseudo SPT N-values and the SPT blow counts are presented on the boring logs.

After drilling, the borings were backfilled with soil cuttings. The asphalt concrete was patched where borings were drilled through pavement.

### **2.2 Laboratory Testing**

We reexamined the samples in our laboratory to confirm field classifications and to select representative samples for testing. Laboratory tests were performed to determine moisture content, dry density, Atterberg limits, and triaxial shear strength.

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\* The SPT N-value is defined as the number of blows of a 140-pound hammer, falling freely through the height of 30 inches, required to drive a standard split-barrel sampler (2-inch outside diameter, 1-3/8-inch shoe inside diameter, and 1-1/2-inch tube inside diameter) the last 12 inches of an 18-inch drive. For SPT procedures, see ASTM D1586-84.

The results of these tests are presented on the boring logs in the manner described on the Key to Test Data, Plate 6. Detailed results of the Atterberg limits tests and the strength test are presented on Plates 9 and 10.

To assess the corrosion potential of the soil and rock, we sent two samples to Corrosion Engineering and Research Company (CERCO) for chemical analysis, which included resistivity, conductivity, pH, and chlorides, sulfates and sulfides contents. One sample was of the sandstone in Boring B-2 at a depth of 2.75 feet, and the other was of the clay soil in Boring B-6 at a depth of 2.5 feet. The test results are presented in Appendix B, along with CERCO's evaluation of the soil's corrosion potential.



### 3.0 REGIONAL GEOLOGY AND FAULTING

The City of San Mateo lies within the seismically active California Coast Ranges geomorphic province, which is characterized by a series of northwest-trending, subparallel, and generally linear mountain belts and valleys underlain by a complex series of faulted and folded rocks. According to geologic mapping of the area published by the U.S. Geological Survey,\* the site vicinity lies on a geologic contact between unconsolidated alluvium underlying the San Francisco Bay plains to the east and consolidated bedrock of the Franciscan formation underlying the foothills of the Santa Cruz Mountains to the west. Stratigraphically, the alluvium thins and pinches out along the contact.

Several active\*\* and potentially active\*\*\* northwest-trending, strike-slip faults are present in the vicinity of San Mateo. These faults include the San Andreas fault, approximately 5 kilometers (km) west of the site; the Hayward fault, approximately 25 km east of the site; the Healdsburg-Rodgers Creek fault, approximately 72 km northwest of the site; the Calaveras fault, approximately 36 km southeast of the site; the Concord-Green Valley fault zone approximately 51 to 61 km northeast of the site; the San Gregorio fault, approximately 16 km west of the site; and the Vaca-Antioch fault, approximately 65 km northeast of the site. These faults are shown on Plate A1 in Appendix A. There are no known active faults within the project site.

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\* Brabb, E.E., and Pampeyan, E.H., 1983, Geological Map of San Mateo County, California; U.S. Geological Survey Map I-1257-A.

\*\* Active faults are defined as those exhibiting either surface ruptures, topographic features created by faulting, surface displacements of geologically recent (younger than about 11,000 years old) deposits, tectonic creep along fault lines, and/or close proximity to linear concentrations or trends of earthquake epicenters.

\*\*\* Potentially active faults are those that have evidence of displacement of deposits of Quaternary age (the last 2 to 3 million years).

#### 4.0 SITE CONDITIONS

##### 4.1 Surface Conditions

The site for the new additions slopes from about Elevation 86 feet in the southwest corner to about Elevation 42 feet in the northeast corner. The largest structure on the site is an old wing of the hospital that was built before 1953. This structure, which has a basement, lies mostly within the planned footprint of the new surface parking area. Because this area is also the site for future additions, the structure, including the basement, should be demolished and the below-grade walls and footings removed.

The existing main hospital building lies at the west edge of the site for the new additions. We understand that portions of this building also will be demolished, as will two small structures that lie within the planned footprint of the nursing wing.

The site topographic survey map, which was prepared by Acres Consulting Engineers, indicates that a transformer, underground vaults, a repair garage, gasoline pump, and various underground utility lines also are onsite. Based on discussions with hospital personnel, we understand that a gasoline tank onsite was replaced recently, and that soil around the old tank was removed during the new tank installation. Also, there is a diesel fuel tank onsite, and there was an incinerator onsite. The incinerator was removed previously, and the building that housed it will be removed during this project.

In addition to the existing buildings, a large portion of the site is paved with asphalt concrete for surface parking, and the remainder is either covered by exterior concrete slabs or is landscaped.

##### 4.2 Subsurface Conditions

Our borings and the borings drilled during previous investigations indicate that the project site is covered by a thin layer of native soil or fill. Fill material was

encountered in borings drilled in paved areas (Borings B-1, B-2, and B-4). This layer ranged from about 3 feet thick in Boring B-1 to about 1-1/2 feet thick in Boring B-4. The fill material consisted of medium stiff lean clay with sand. The fill in Boring B-1 was underlain by native soil; in Borings B-2 and B-4, the fill was underlain by bedrock.

Our borings in unpaved areas (Borings B-3, B-5, and B-6) and in Boring B-1 encountered a thin layer of native soil consisting mostly of lean clay with sand and sandy clay. These soils typically were medium stiff, except at Boring B-5, where the surface soil was soft and wet. Some fat clay also was encountered in Boring B-5. According to CERCO's evaluation (Appendix B), the soil from B-6 was judged to be "severely corrosive" to iron and steel, and "mildly corrosive" to steel-reinforced concrete.

The native soil was underlain by bedrock in each of our borings. Bedrock was encountered from 1-1/2 to 7 feet below the ground surface. The bedrock consists of siltstone and sandstone of the Franciscan formation. Our borings were terminated 4 to 15 feet into rock. To these depths, the rock is closely to intensely fractured, and deeply to moderately weathered. According to CERCO's evaluation, the sandstone from Boring B-2 was judged to be "corrosive" to iron and steel, and "corrosive" to steel-reinforced concrete based on its sulfate ion content.

No free groundwater was encountered in any of our borings, which were backfilled immediately after drilling. According to the 1953 geotechnical report by others, groundwater generally was encountered in the bedrock. In two of the borings, perched water was encountered in the soil above the bedrock.

## 5.0 DISCUSSION AND CONCLUSIONS

We conclude that the planned new additions to the hospital are feasible from a geotechnical engineering standpoint. The main geotechnical concerns include:

1. The suitability of the onsite material for reuse as fill material.
2. The possible need for overexcavation to found the new footings on uniform materials in order to reduce differential settlement.
3. The likelihood of strong seismic ground shaking during the life of the structure.
4. The presence of potentially corrosive soil onsite.
5. Construction considerations regarding planned excavations, including the rippability of the bedrock, temporary slope inclinations, suitable types of shoring, underpinning existing structures and dewatering.

### 5.1 Suitability of Onsite Soil for Use as Fill Material

Visual classification and Atterberg limits tests performed on the onsite soil and rock indicate that most of these materials are suitable for reuse as fill material from a geotechnical standpoint. The use of some of the onsite soil will need to be restricted to the lower portions of fills, and should be placed at above optimum moisture content because they are moderately to highly expansive. Expansive soil tends to shrink upon drying and swell upon wetting, which could cause distress to structural and pavement elements.

From a hazardous materials standpoint, some of the onsite soil near the garage, the vaults, the diesel tanks, the transformer, and the former incinerator could be contaminated with hazardous materials. Recommendations regarding chemical analysis of soil from these areas will be discussed in our separate hazardous materials assessment.

In addition to excavated soil and rock, construction debris will be generated onsite due to the planned demolition. Concrete debris (recycled concrete) and brick fragments smaller than 3 inches can be mixed into the fill material, but no wood or

other organic material is suitable in fills. Broken asphalt concrete mixed into fill material is suitable from a geotechnical standpoint, but asphalt concrete contains hydrocarbons, and therefore, its acceptability should be based on the hospital's environmental concerns.

## **5.2 Foundation Support and Settlement**

We conclude that the new structures can be supported on spread footings. To mitigate differential settlement between heavily loaded columns, these footings should be bottomed on bedrock. Lightly loaded columns can be bottomed on firm native soil.

Based on the borings and on the planned floor elevations for the new structures, we anticipated that some footings designed to bear on rock may need to be deepened 2 to 4 feet to achieve this. Overexcavations in demolition areas might need to be even deeper if removal of existing footings disturbs the bedrock. Overexcavations for footings on rock can be backfilled with lean or structural concrete, but cannot be backfilled with compacted fill.

Differential settlement is expected in the new paved parking area between areas inside and outside of the former basement. We anticipate that the basement area will be excavated so that the walls and footings can be removed, and that afterward the area will be backfilled. The differential settlement will be less abrupt if there is a gradual transition from backfill to undisturbed rock. Therefore, the upper 3 feet of the excavation should be inclined no steeper than 3:1. Future maintenance of the parking area because of possible minor ponding in this area also should be anticipated.

## **5.3 Seismic Considerations**

The site is in a seismically active region of California, and strong ground shaking due to major earthquakes is expected during the life of the structure. We performed a

seismic risk analysis to estimate the peak ground accelerations (PGA) that could be expected during the design Maximum Probable Earthquake (MPE) and Upper Bound Earthquake (UBE), both of which are defined in Appendix A. Appendix A also presents the details regarding the seismic sources and methodology used in our seismic risk analysis.

The PGA caused by the MPE for this project is estimated to be 0.6g, and the PGA caused by the UBE is estimated to be 0.88g. Design response spectra for both events are presented on Plate A3. We believe that the MPE and UBE spectra envelop the potential seismic activity in the region during the life of the structure. The UBE curve was obtained by enveloping the expected spectra (at mean plus one standard deviation) calculated for all faults using two different attenuation relationships. We judge that the UBE spectrum, governed by a moment magnitude 7.9 event at a distance of 5 km and computed at a mean plus one standard deviation level, is an appropriate estimate of the great 1906 earthquake on the San Andreas fault, which is the equivalent of the definition of the maximum event that may ever be expected at the site within the known geologic framework. Thus we believe that the MPE and UBE spectra satisfy the intent of the State Building Code, Title 24 of the California Code of Regulations.

#### **5.4 Potentially Corrosive Soil**

As discussed previously, tests on two samples of the onsite soil and rock indicate that these materials are potentially corrosive to severely corrosive to iron and steel, and mildly corrosive to corrosive to steel-reinforced concrete. We suggest a corrosion engineer be consulted regarding further testing or mitigation measures.

## **5.5 Excavation Considerations**

We anticipate that new excavations will be as deep as 15 feet in the nursing wing area and as deep as 12 feet at the new clinics building.

### **5.5.1 Bedrock Rippability**

The bedrock encountered in test borings consisted of moderately to deeply weathered sandstone and siltstone of the Franciscan formation. Rock samples were fractured and sheared, and on this basis, we expect that the bedrock onsite can be excavated with large earth-moving equipment with rippers. Excavation will likely become more difficult with depth as the rock becomes less weathered. Hard rock boulders or localized hard zones could be encountered that could require use of jackhammers.

### **5.5.2 Temporary Excavation Slopes**

The contractor should be responsible for the design and maintenance of all temporary construction slopes. For planning purposes, we anticipate that temporary cut slopes in soil and deeply weathered rock should be no steeper than 1:1 (horizontal to vertical). It may be possible to excavate temporary slopes in rock as steeply as 3/4 to 1, depending on the rock bedding. An engineering geologist should evaluate slopes in rock during excavation.

### **5.5.3 Alternative Types of Shoring**

If there is insufficient space for temporary slopes, shoring can be used to support the sides of excavations. The contractor should be responsible for the design and maintenance of shoring. If needed, appropriate types of shoring for this site include a soldier-pile-and-lagging system or soil nailing system. The soldier piles can either be cantilevered or tied back, depending on the height of material to be retained.

#### **5.5.4 Underpinning**

Portions of the existing hospital may need to be underpinned if the new footings adjacent to the hospital will be deeper than the existing footings. If new footings are planned to be constructed at the same elevation as existing footings, underpinning might be needed if overexcavation is necessary to found the new footings on bedrock. The need for underpinning will depend on the lateral and vertical distances between the existing footings and the new footing excavations. Therefore, the need for underpinning will have to be assessed in the field.

#### **5.5.5 Dewatering**

We anticipate that seepage could be encountered in fractures in the bedrock. The rate of seepage entering excavations is expected to be slow enough to control the seepage with sumps and pumps.



## 6.0 RECOMMENDATIONS

### 6.1 Site Preparation and Grading

Site grading will include backfilling the area where an existing basement will be demolished, excavating new basements, backfilling against new basement walls, and preparing subgrade for new building pads and pavements.

#### 6.1.1 Clearing and Stripping

All areas to be graded should be cleared of existing asphalt concrete, concrete slabs and vegetation. The upper few inches of landscaped areas should be stripped to remove soil containing roots and organic matter. Where trees are designated for removal, at least the upper 2 feet of soil in the root area should be removed, along with roots larger than 1 inch in diameter. Soil containing roots should not be used as fill material. Stripped materials should either be removed from the site or be stockpiled for use in new landscaped areas, if acceptable to the landscape architect.

#### 6.1.2 Fill Placement and Compaction

Select onsite soil and rock or imported fill material should be placed in the upper 3 feet below soil subgrade level. This material should contain no rocks larger than 3 inches in maximum dimension, contain no organic material, and have a low expansion potential (liquid limit of 40 percent or less and plasticity index of 15 or less). All select fill material should be approved by the geotechnical engineer.

Select fill material in the upper 3 feet below subgrade should be placed in lifts of 8 inches or less in loose thickness, moisture conditioned to near optimum moisture content, and compacted to at least 95 percent relative compaction.\* If select fill material is used below this zone, it can be placed in lifts of 8 inches or less in loose thickness,

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\* Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557-78 laboratory compaction procedure.

moisture conditioned to near optimum moisture content, and compacted to at least 90 percent relative compaction.

Expansive onsite soil can be used for fill material in the lower portions of fills. This material should not be placed within the upper 3 feet below subgrade. This material should be placed in lifts of 8 inches or less in thickness, moisture conditioned to at least 3 percent over the optimum moisture content, and compacted to at least 90 percent relative compaction.

#### **6.1.3 Wall Backfill**

Precautions should be taken to avoid overstressing new basement walls while placing and compacting backfill adjacent to them. The walls either should be temporarily braced, or light hand-held equipment should be used. Select fill should be compacted to at least 90 percent relative compaction. Where hand-held equipment is used, fill layers might need to be thinner than 8 inches to achieve the recommended relative compaction. If drain rock or sand is used for backfill material, this material should be vibrated into place. It may be necessary to use drain rock or sand where there is insufficient space for compaction equipment, particularly in the lower portions of the backfill.

Particular attention should be paid to compacting backfill behind the stepped walls in the central plant building, where backfill will support portions of the floor slab. In these areas, the select fill material should be compacted to at least 95 percent relative compaction.

#### **6.1.4 Subgrade Preparation**

Where the soil subgrade for building pads and pavements consists of native soil, or existing fill, the upper 6 inches of subgrade should be scarified, moisture conditioned to near optimum moisture content, and compacted to at least 95 percent relative

compaction. Where subgrade consists of bedrock, scarification and recompaction need not be performed, but loose material should be removed.

## 6.2 Foundation Support

### 6.2.1 Spread Footings

The new structures can be supported on spread footings. Heavily loaded footings should be bottomed on undisturbed rock, but lightly loaded footings can be bottomed on firm native soil. Footings should be designed using the following allowable bearing pressures:

Loading Condition	<u>Allowable Bearing Pressure (psf*)</u>	
	on rock	on soil
Dead Load	10,000	3000
Dead plus Live Load	12,000	3600
Total Load, including Wind or Seismic Forces	15,000	4500

\*psf = pounds per square foot

Column or wall footings should be at least 2 feet wide and should be embedded at least 2 feet below the lowest adjacent grade. If footings excavations need to be deepened to expose bedrock, the overexcavated depth should be backfilled with lean or structural concrete, and not with compacted fill. We estimate that structures will settle less than 1/4 inch after construction.

Resistance to lateral loads can be obtained from a combination of friction along the footing base and passive pressure against the footing face using the following design criteria:

Base Friction: 0.4, not to exceed 1500 psf

Passive Pressure: 1000 psf if the concrete is placed neat against rock  
500 psf if the concrete is placed neat against soil

Both of these values include a factor of safety of at least 1.5. Passive pressure should be neglected in the upper foot, unless the soil or rock is covered by a slab or pavement.

#### **6.2.2 Drilled Piers**

Momentary uplift can be resisted by skin friction along the sides of drilled piers. Drilled piers should be at least 2 feet in diameter and should extend at least 5 feet into rock. Skin friction along the upper 3 feet of the pier should be neglected; therefore, the minimum pier length should be 8 feet. We anticipate that the top of bedrock will be within 3 feet of subgrade in the central plant area. Uplift resistance should be determined using an allowable skin friction of 1000 psf in rock.

If drilled piers also are used to support downward loads, end-bearing can be added to the drilled pier friction capacities. To rely on end-bearing, the geotechnical engineer must be able to closely observe the cleanness of the bottom of the pier shaft. If the piers are less than 10 feet deep, the bottoms can be observed from ground surface. If the piers are deeper than 10 feet, it may be necessary to enter the shafts. Therefore, piers deeper than 10 feet should be at least 2.5 feet in diameter. The contractor should provide the necessary casing and safety equipment to comply with OSHA regulations for entering a confined space. End-bearing capacity can be determined using the allowable bearing pressures provided for shallow footings.

We do not anticipate that casing will be needed if end-bearing is not relied on. Groundwater could be encountered; in which case, the shafts will need to be dewatered or the concrete pumped through a tremie pipe.

### 6.3 Seismic Design Parameters

For seismic design in accordance with the 1991 Uniform Building Code, an S factor of 1.0 should be used, which corresponds to Soil Profile Type S<sub>1</sub>. Our recommended design elastic response spectra are presented on Plate A3 in Appendix A.

### 6.4 Basement Walls

#### 6.4.1 Lateral Loads

Permanent basement walls for the nursing wing and clinics building should be designed to resist at-rest earth pressures because the walls will be confined at the top. If temporary slopes are excavated for construction of the basement walls, then there will be compacted backfill behind the walls. In this case, we recommend that the earth pressures be determined using an equivalent fluid weight of 60 pounds per cubic foot (pcf). Surcharge pressures, for example due to floor pressures at the stepped walls for the central plant, should be determined by multiplying the surcharge pressure by a coefficient of 0.5. Where car parking areas or new access roads will be immediately adjacent to basement walls, traffic surcharge loads can be determined using a uniform pressure of 100 psf over the upper 10 feet of the walls.

If the excavation slopes are shored, and rock lies behind the walls, then the earth pressures can be determined using an equivalent fluid weight of 50 pcf. Surcharge pressures can be determined using a coefficient of 0.4, and traffic loads should be as described above.

Under seismic conditions, basement walls should be designed to resist an active earth pressures of 35 pcf plus a uniform seismic pressure of  $12H$  in psf, where  $H$  equals the wall height below finished grade, in feet. Under seismic conditions, the active earth pressures replace the at-rest pressures.

#### 6.4.2 Back Drainage

Basement walls should be waterproofed, and drains should be installed at the bases of the walls to prevent the buildup of hydrostatic pressure. Wall backdrains should consist of either a 12-inch-thick gravel blanket or a prefabricated drainage panel. The gravel blanket can consist of either 3/4-inch drain rock wrapped in filter fabric, or Class 2 permeable material.\* The backdrain should extend from the base of the wall to within 1 foot of the finished grade, and it should be capped with 1 foot of compacted clayey soil.

Perforated pipe should be installed at the bottom of the gravel blanket or prefabricated panel. The pipe should be at least 4 inches in diameter and sloped to drain by gravity to an appropriate outlet, storm drain or sump for pumping.

#### 6.5 Slab-on-Grade Floors

Slab-on-grade floors should be constructed over a capillary break consisting of at least 4 inches of clean free-draining crushed rock, such as 3/4- by 1/4-inch drain rock. The drain rock beneath basement slabs should be drained, for example by constructing weep hole in the footing stem-walls so that water is carried away by the perforated pipe behind the basement walls. The weep holes should be higher than the pipe so that water from the slab will drain into pipe, but water behind the wall will not drain toward the slab. The weep holes should be at least 3 inches in diameter and spaced at 10 feet or less.

[ If moisture vapor through the slab would be objectionable, a vapor barrier, such as plastic sheeting should be installed over the drain rock. A 2-inch-thick layer of sand can be placed over the plastic sheeting to protect it from puncture and to help cure the concrete. ]

---

\* Caltrans Sandard Specifications, Section 68, July 1991.

## 6.6 Shoring Design

If needed, the design and maintenance of shoring is the responsibility of the contractor. We recommend that the shoring be designed using the following geotechnical parameters.

### 6.6.1 Lateral Earth Pressures

A cantilevered system should be designed to resist a temporary lateral load determined by an equivalent fluid weight of 35 pcf. A tied-back system should be designed to resist a uniform pressure of  $20H$  in psf, where  $H$  is the height of soil retained in feet. In developing these pressures, we assumed that water can drain between the lagging; therefore no hydrostatic pressures are included.

A surcharge load due to equipment within 10 feet of the back of the shoring should be added to the lateral earth pressures presented above. The surcharge load can be determined using a uniform pressure of 200 psf over the upper 10 feet of the shoring.

Lagging between soldier piles can be designed using two-thirds of the above design pressures. If zones of unfractured rock are encountered, lagging may not be necessary, or only wire mesh may be needed. The need for lagging or mesh can be determined in the field during excavation.

### 6.6.2 Soldier Piles

The lateral (passive) resistance for either a cantilevered or tied-back system should be determined using an uniform pressure of 2500 psf. Passive pressure within 2 feet of the bottom of the excavation should be neglected. For soldier piles spaced at least three pile-widths apart, the passive pressure can be assumed to act on a area of two pile widths.

Soldier piles should be installed in drilled shafts and grouted into place. We do not anticipate that casing will be needed for the shafts.

Penetration of the soldier piles must be sufficient to achieve lateral stability and, if tiebacks are used, to resist the downward loading of the tiebacks. Vertical loads can be resisted by skin friction below the bottom of the excavation using a value of 1300 psf (which includes a factor of safety of 1.5). End bearing should be neglected.

#### **6.6.3 Tiebacks**

Tiebacks should derive their load-carrying capacity from soil and rock behind an imaginary line sloping upward from a point  $H/5$  feet away from the bottom of the excavation at 60 degrees from horizontal, where  $H$  is the shoring height in feet. The unbonded length of each tieback should be at least 15 feet. The tiebacks should be inclined at an angle of 10 to 20 degrees down from horizontal to allow proper flow of grout into the bonded length. An allowable skin friction value of 2000 psf can be used to estimate tieback capacities, assuming that the anchors are pressure grouted.

Determination of the length of the tiebacks is the responsibility of the contractor. The computed bond length should be verified by a proof-testing program performed under the observation of an engineer or geologist experienced in this type of work. All tiebacks should be proof-tested to 1.25 times the design load. The lockoff loads should be checked 24 hours after the initial prestressing to check that stress relaxation has not occurred.

During shoring installation, the bottom of the excavation should not extend more than 2 feet below a row of unsecured tiebacks. If any tieback fails to meet proof-loading requirements, additional tiebacks should be installed to provide the necessary total capacity.



#### 6.6.4 Monitoring

During excavation, the shoring system will yield. The contractor should establish survey points at the top of the shoring and on nearby buildings to monitor their possible movement during excavation.

#### 6.7 Preliminary Pavement Thicknesses

We have estimated the required pavement thickness for the parking areas and access roads using the California Highway Design R-value method. For preliminary design, we assumed an R-value of 15 for the clayey soil and siltstone, and a traffic index of 5.5 for access roads and 4.5 for parking areas. Based on these values, we recommend the preliminary flexible pavement sections.

Traffic Index	<u>Pavement Thickness (inches)</u>	
	Asphalt Concrete	Class 2 Aggregate Base*
5.5	3.0	10
4.5	2.5	8

The R-value of the material at pavement subgrade should be determined by laboratory testing during rough grading, and the pavement thickness should be finalized. Pavement subgrade should be proof-rolled to check that the surface is smooth and nonyielding with at least 95 percent relative compaction. Class 2 aggregate base material should be placed in lifts of 6 inches or less in loose thickness, moisture conditioned to near optimum moisture content, and compacted to at least 95 percent relative compaction.

---

\* Caltrans Standard Specifications, Section 26, July 1991.

## 7.0 ADDITIONAL GEOTECHNICAL SERVICES

During the design phase, we should review the grading and foundation plans and specifications to check that they conform with the intent of our recommendations.

During construction, we should observe and/or test the following work:

1. Installation of shoring, including proof-testing of tiebacks.
2. Site grading and fill placement.
3. Preparation of building pad subgrade and footing excavations.
4. Installation of drilled piers.
5. Installation of backdrains, backfilling of retaining walls, and backfilling of utility trenches.
6. Construction of new pavements.

**ILLUSTRATIONS**

Laboratory and  
Field Tests

Moisture  
Content (%)  
Dry  
Density (pcf)

Blows/foot

Depth (ft)

Sample

Logs of Borings B-1

Equipment 8" Hollow Stem Auger

Elevation 56.2 ft\*\* Date 12/23/92

21.5 100

17\*

15.7 116

30\*

48\*/5"

15

2" ASPHALT CONCRETE  
4" BASEROCK  
BROWN LEAN CLAY WITH SAND (CL)  
medium stiff, dry  
YELLOW-BROWN LEAN CLAY  
WITH SAND (CL)  
stiff, moist

FILL

with some rock structure  
BROWN SILTSTONE  
closely fractured, low hardness, weak,  
deeply weathered  
increased drilling resistance at 8 feet

color change to gray  
becomes intensely fractured  
little weathered

Boring was terminated at 10.9 feet.  
No free groundwater was encountered.

Laboratory and  
Field Tests

Moisture  
Content (%)  
Dry  
Density (pcf)

Blows/foot

Depth (ft)

Sample

Logs of Borings B-2

Equipment 8" Hollow Stem Auger

Elevation 55.0 ft\*\* Date 12/23/92

LL=49, PI=26  
See Plate 9

Corrosion tests,  
see Appendix B

\*Field blow counts converted  
to pseudo SPT N-values by  
multiplying the field blow  
counts by a factor of 0.8.

\*\*City of San Mateo Datum.  
Reference: Boundary and  
Topographic Survey, San Mateo  
County General Hospital,  
prepared by Acres Consulting  
Engineers, dated January 1992.

72\*/9"

50/1"

15

1-1/2" ASPHALT CONCRETE  
4" BASEROCK  
YELLOW-BROWN SANDY LEAN CLAY (CL)  
medium stiff, dry  
BROWN SANDSTONE  
closely fractured, low hardness, weak,  
deeply weathered

FILL

becoming gray, strong,  
moderately weathered

Boring was terminated at 8.6 feet.  
No free groundwater was encountered.



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Logs of Borings

San Mateo Hospital Addition  
San Mateo, California

(Sheet 1 of 1)

PLATE

2

DRAWN

JOB NUMBER

22823-1.0

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*J.E. Skemoto*

FILE

16301G23

DATE

REVISED DATE

Laboratory and  
Field Tests

Moisture  
Content (%)  
Dry  
Density (pcf)

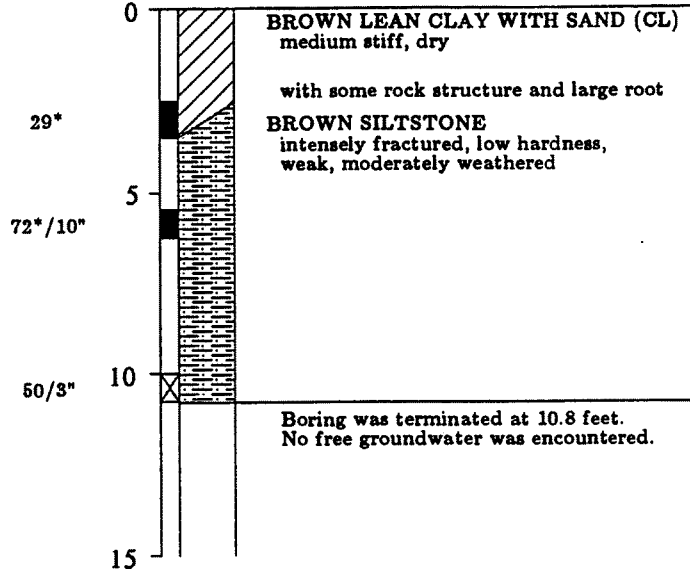
Blows/foot

Depth (ft)  
Sample

### Logs of Borings B-3

Equipment 8" Hollow Stem Auger

Elevation 57.3 ft\*\* Date 12/23/92



Laboratory and  
Field Tests

Moisture  
Content (%)  
Dry  
Density (pcf)

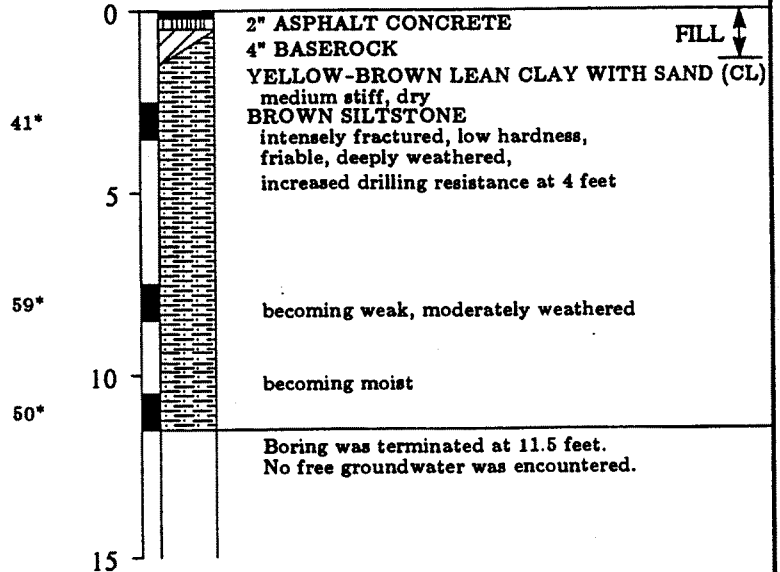
Blows/foot

Depth (ft)  
Sample

### Logs of Borings B-4

Equipment 8" Hollow Stem Auger

Elevation 78.5 ft\*\* Date 12/23/92



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**Logs of Borings**  
San Mateo Hospital Addition  
San Mateo, California

(Sheet 1 of 1)

PLATE

**3**

DRAWN	JOB NUMBER	APPROVED	FILE	DATE	REVISED DATE
	22823-1.0	<i>JE</i>	16301G23		

# Laboratory Tests

LL=67, PI=44  
See Plate 9  
TxUU 963 (300)  
See Plate 10

Moisture  
Content (%)  
Dry  
Density (pcf)

11.2 120

Blows/foot

16\*

54\*

63\*/11"

60\*/11"

Depth (ft)

0

5

10

15

20

25

30

35

40

Sample

Equipment 8" Hollow Stem Auger

Elevation 55.0 ft\*\* Date 12/23/92

BROWN LEAN CLAY WITH SAND (CL)  
soft, wet, with roots

BROWN FAT CLAY WITH SAND (CH)  
medium stiff, moist, with shale fragments

GRAY AND BROWN SILTSTONE  
intensely fractured, low hardness,  
weak, moderately weathered

color changes to gray  
becoming crushed, friable

becoming soft, plastic (apparent gauge zone)  
Boring was terminated at 14.5 feet.  
No free groundwater was encountered.



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Log of Boring B-5  
San Mateo Hospital Addition  
San Mateo, California

(Sheet 1 of 1)

PLATE

4

DRAWN	JOB NUMBER	APPROVED	FILE	DATE	REVISED DATE
	22823-1.0	<i>g. E. [signature]</i>	16301G23		

Laboratory Tests

Corrosion tests,  
See Appendix B

Moisture  
Content (%)  
Dry  
Density (pcf)

14.8 102

9.1 113

Blows/foot

14\*

48\*

59\*

44\*

40\*/4"

Depth (ft)  
Sample

0

5

10

15

20

25

30

35

40

Equipment 8" Hollow Stem Auger

Elevation 46.8 ft\*\* Date 12/23/92

**BROWN LEAN CLAY WITH SAND (CL)**  
medium stiff, moist, with roots

**GRAY SILTSTONE**  
intensely fractured, low hardness,  
friable, deeply weathered

becoming weak, moderately weathered

**GRAY SHALE**  
crushed, low hardness, weak,  
little weathered, with fat clay gauge

**GRAY AND BROWN SILTSTONE**  
intensely fractured, low hardness,  
friable, deeply weathered

Boring was terminated at 19.8 feet.  
No free groundwater was encountered.



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**Log of Boring B-6**  
San Mateo Hospital Addition  
San Mateo, California
















(Sheet 1 of 1)

PLATE

**5**

DRAWN	JOB NUMBER	APPROVED	FILE	DATE	REVISED DATE
	22823-1.0	<i>[Signature]</i>	16301G23		

# UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487-85)

MAJOR DIVISIONS			GROUP NAMES	
COARSE-GRAINED SOILS More than 50% retained on the No. 200 sieve	GRAVELS  More than 50% of coarse fraction retained on No. 4 sieve	Clean gravels less than 5% fines	GW	 WELL-GRADED GRAVEL, WELL-GRADED GRAVEL WITH SAND
			GP	 POORLY-GRADED GRAVEL, POORLY-GRADED GRAVEL WITH SAND
		Gravels with more than 12% fines	GM	 SILTY GRAVEL, SILTY GRAVEL WITH SAND
			GC	 CLAYEY GRAVEL, CLAYEY GRAVEL WITH SAND
	SANDS  50% or more of coarse fraction passes No. 4 sieve	Clean Sand less than 5% fines	SW	 WELL-GRADED SAND, WELL-GRADED SAND WITH GRAVEL
			SP	 POORLY-GRADED SAND, POORLY-GRADED SAND WITH GRAVEL
		Sands with more than 12% fines	SM	 SILTY SAND, SILTY SAND WITH GRAVEL
			SC	 CLAYEY SAND, CLAYEY SAND WITH GRAVEL
FINE-GRAINED SOILS 50% or more passes the No. 200 sieve	SILTS AND CLAYS Liquid limit less than 50%	ML	 SILT, SILT WITH SAND OR GRAVEL, SANDY OR GRAVELLY SILT	
		CL	 LEAN CLAY, LEAN CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY LEAN CLAY	
		OL	 ORGANIC SILT OR CLAY, ORGANIC SILT OR CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY ORGANIC SILT OR CLAY	
	SILTS AND CLAYS Liquid Limit 50% or more	MH	 ELASTIC SILT, ELASTIC SILT WITH SAND OR GRAVEL, SANDY OR GRAVELLY ELASTIC SILT	
		CH	 FAT CLAY, FAT CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY FAT CLAY	
		OH	 ORGANIC SILT OR CLAY, ORGANIC SILT OR CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY ORGANIC SILT OR CLAY	
		HIGHLY ORGANIC SOILS	Pt	 PEAT

For definition of dual and borderline symbols, see ASTM D2487-85.

## KEY TO TEST DATA

		Shear Strength (psf)	Confining Pressure
Perm	- Permeability	TxUU 3200 (2600)	- Unconsolidated-Undrained Triaxial Shear
Consol	- Consolidation	TxCU 3200 (2600)	- Consolidated-Undrained Triaxial Shear
LL	- Liquid Limit	TxCD 3200 (2600)	- Consolidated-Drained Triaxial Shear
PI	- Plasticity Index (%)	SSCU 3200 (2600)	- Consolidated-Undrained Simple Shear
Gs	- Specific Gravity	SSCD 3200 (2600)	- Consolidated-Drained Simple Shear
MA	- Particle Size Analysis	DSCD 2700 (2000)	- Consolidated-Drained Direct Shear
-200	- Percent Passing No. 200 Sieve	UC 470	- Unconfined Compression
■	- "Undisturbed" Sample	LVS 700	- Laboratory Vane Shear
☒	- Bulk or Classification Sample	FV 300	- Field Vane Shear
□	- Lost Sample	TV 800	- Torvane Shear
		PP 400	- Pocket Penetrometer (actual reading divided by 2)



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**Soil Classification Chart  
and Key to Test Data**

**San Mateo County General Hospital Additions  
San Mateo, California**

PLATE

**6**

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### Relative Density of Coarse-Grained Soils

Relative Density	Standard Penetration Test Blow Count (blows per foot)
very loose	<4
loose	4 - 10
medium dense	10 - 30
dense	30 - 50
very dense	>50

### Consistency of Fine-Grained Soils

Consistency	Identification Procedure	Approximate Shear Strength (psf)
Very soft	Easily penetrated several inches with fist	less than 250
Soft	Easily penetrated several inches with thumb	250-500
Medium stiff	Penetrated several inches by thumb with moderate effort	500 - 1000
Stiff	Readily indented by thumb, but penetrated only with great effort	1000 - 2000
Very Stiff	Readily indented by thumb nail	2000 - 4000
Hard	Indented with difficulty by thumb nail	greater than 4000

### Natural Moisture Content \*

Dry -	Requires considerable moisture to obtain optimum moisture content* for compaction
Moist -	Near the optimum moisture content for compaction
Wet -	Requires drying to obtain optimum moisture content for compaction
Saturated -	Near or below the water table, from capillarity, or from perched or ponded water

\* Optimum moisture content as determined in accordance with ASTM Test Method D1557-78.

Where laboratory data are not available, the above field classifications provide a general indication of material properties; the classifications may require modification if laboratory tests are subsequently conducted.



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**Physical Properties Criteria  
for Soil Classifications**  
San Mateo County General Hospital Additions  
San Mateo, California

PLATE

**7**

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**I CONSOLIDATION OF SEDIMENTARY ROCKS;** usually determined from unweathered samples. Largely dependent on cementation.

U = unconsolidated  
P = poorly consolidated  
M = moderately consolidated  
W = well consolidated

**II BEDDING OF SEDIMENTARY ROCKS**

<u>Splitting Property</u>	<u>Thickness (feet)</u>	<u>Stratification</u>
Massive	Greater than 4.0	Very thick bedded
Blocky	2.0 to 4.0	Thick bedded
Slabby	0.2 to 2.0	Thin bedded
Flaggy	0.05 to 0.2	Very thin bedded
Shaly or platy	0.01 to 0.05	Laminated
Papery	Less than 0.01	Thinly laminated

**III FRACTURING**

<u>Intensity</u>	<u>Size of Pieces (Feet)</u>
Very little fractured	Greater than 4.0
Occasionally fractured	1.0 to 4.0
Moderately fractured	0.5 to 1.0
Closely fractured	0.1 to 0.5
Intensely fractured	0.05 to 0.1
Crushed	Less than 0.05

**IV HARDNESS**

1. Soft - Reserved for plastic material alone.
2. Low hardness - Can be gouged deeply or carved easily with a knife blade.
3. Moderately hard - Can be readily scratched by a knife blade; scratch leaves a heavy trace of dust and is readily visible after the powder has been blown away.
4. Hard - Can be scratched with difficulty; scratch produces little powder and is often faintly visible.
5. Very hard - Cannot be scratched with knife blade; leaves a metallic streak.

**V STRENGTH**

1. Plastic or very low strength.
2. Friable - Crumbles easily by rubbing with fingers.
3. Weak - An unfractured specimen of such material will crumble under light hammer blows.
4. Moderately strong - Specimen will withstand a few heavy hammer blows before breaking.
5. Strong - Specimen will withstand a few heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments.
6. Very strong - Specimen will resist heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments.

**VI WEATHERING** - The physical and chemical disintegration and decomposition of rocks and minerals by natural processes such as oxidation, reduction, hydration, solution, carbonation, and freezing and thawing.

- D. Deep - Moderate to complete mineral decomposition; extensive disintegration; deep and thorough discoloration; many fractures, all extensively coated or filled with oxides, carbonates, and/or clay or silt.
- M. Moderate - Slight changes or partial decomposition of minerals; little disintegration; cementation little to unaffected; moderate to occasionally intense discoloration; moderately coated fractures.
- L. Little - No megascopic decomposition of minerals; little or no effect on normal cementation; slight and intermittent, or localized discoloration; few stains on fracture surfaces.
- F. Fresh - Unaffected by weathering agents; no disintegration or discoloration; fractures usually less numerous than joints.



ANDESITE,  
BASALT,  
RHYOLITE



GRAYWACKE



SCHIST



SILTSTONE, MUDSTONE  
CLAYSTONE



CHERT



LIMESTONE,  
CORAL



SERPENTINE



TUFF



CONGLOMERATE



SANDSTONE



SHALE



**Harding Lawson Associates**

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**Physical Properties Criteria  
for Rock Classifications**

San Mateo County General Hospital Additions  
San Mateo, California

PLATE

**8**

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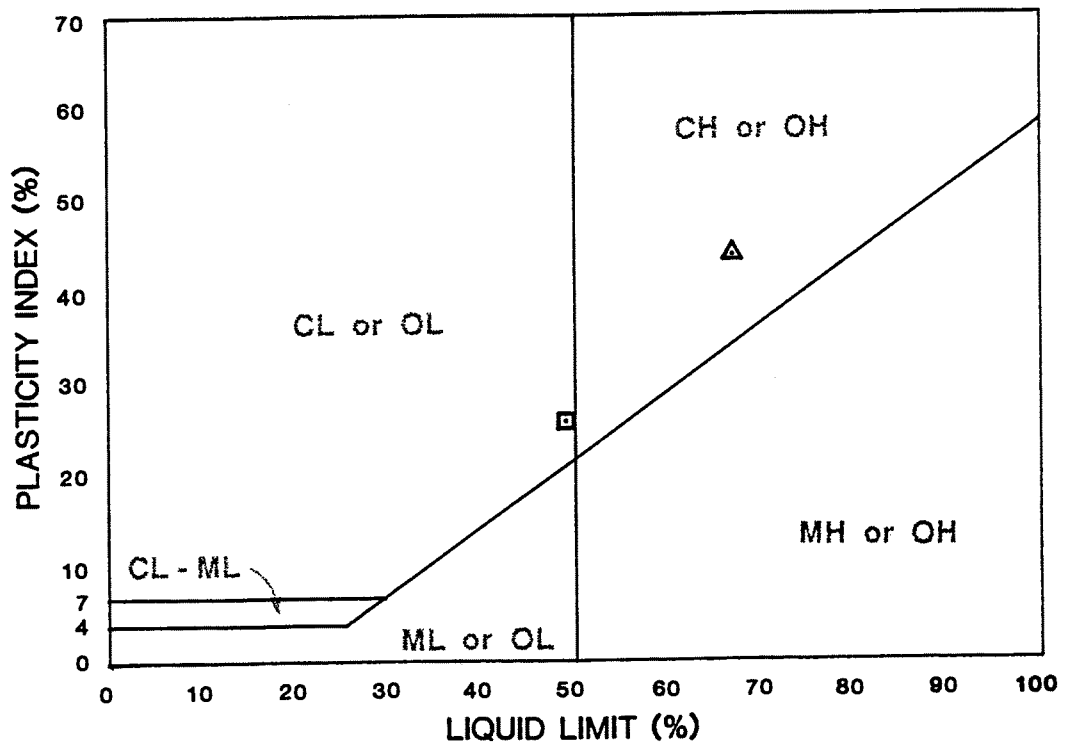
JOB NUMBER  
22823-1.0

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*g. J. J. J.*

DATE  
1/93

REVISED DATE



Reference: ASTM D-4318

SYMBOL	BORING NUMBER	DEPTH (feet)	CLASSIFICATION	LL (%)	PL (%)	PI (%)	MOISTURE CONTENT (%)
□	B-2	1.0	YELLOW-BROWN SANDY LEAN CLAY (CL)	49	23	26	
Δ	B-5	2.5	BROWN FAT CLAY W/ SAND (CH)	67	23	44	



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**Plasticity Chart**  
San Mateo County General Hospital Additions  
San Mateo, California

PLATE

**9**

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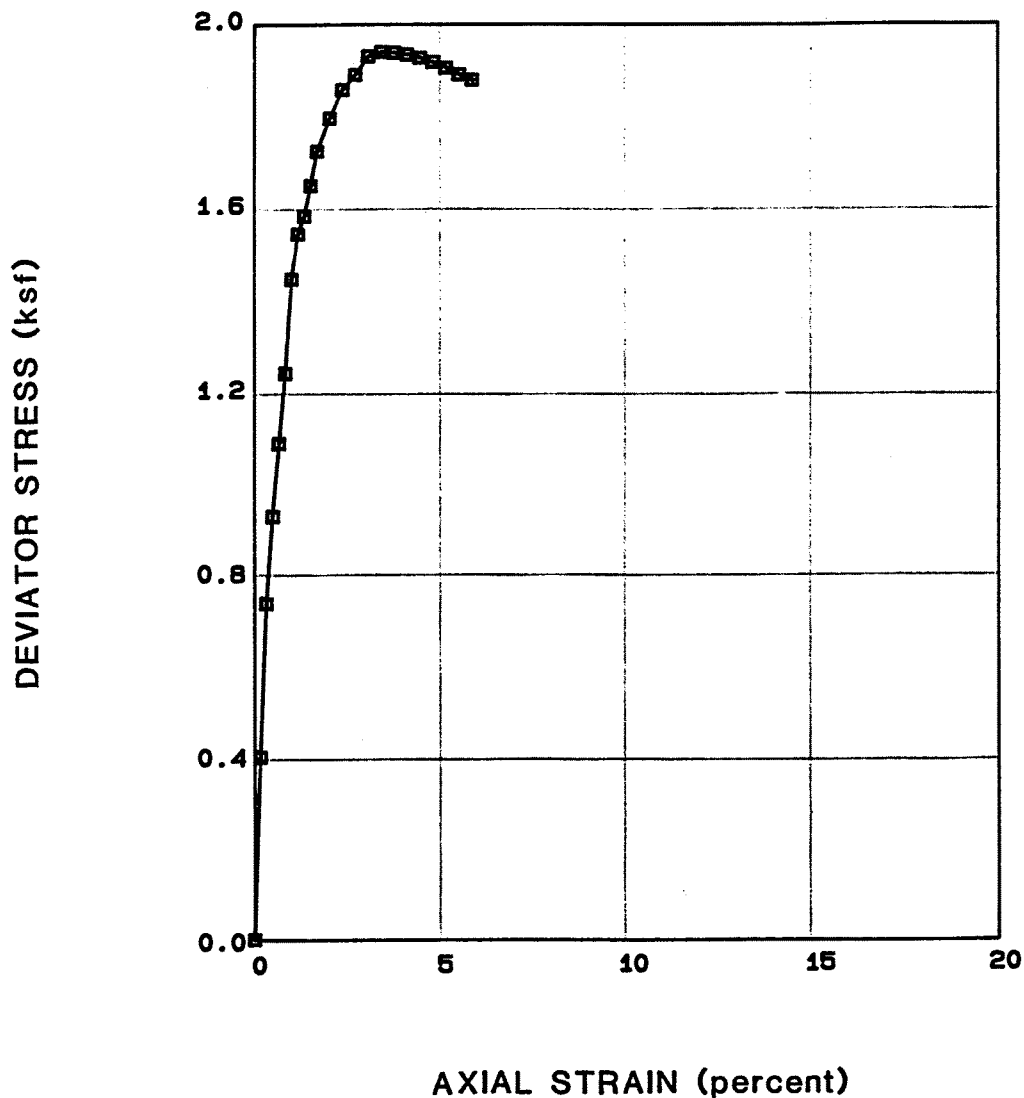
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*HLA*

DATE  
**12-31-1992**

REVISED

DATE



SPECIMEN TYPE	UNDISTURBED		SHEAR STRENGTH	963	psf
DIAMETER (In)	2.43	HEIGHT (In)	5.75	STRAIN AT FAILURE	3.5 %
MOISTURE CONTENT	11.2	%	CONFINING PRESSURE	300	psf
DRY DENSITY	120	pcf	STRAIN RATE	0.60	%/min
CLASSIFICATION	BROWN FAT CLAY W/ SAND (CL)			SOURCEB-5	3.0'



**Harding Lawson Associates**  
Engineers, Geologists  
& Geophysicists

Unconsolidated - Undrained  
Triaxial Compression Test Report  
San Mateo County General Hospital Additions  
San Mateo, California

PLATE

**10**

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KAC

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12-31-1992

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**Appendix A**  
**SEISMIC RISK ANALYSIS**

## APPENDIX A SEISMIC RISK ANALYSIS

### 1.0 REGIONAL FAULTS AND SEISMICITY

The City of San Mateo lies within the seismically active California Coast Ranges geomorphic province, which is characterized by a series of northwest-trending, subparallel, and generally linear mountain belts, valleys and faults. Although there are no known active faults within the project site, several active\* and potentially active\*\* northwest-trending, strike-slip faults are present in the vicinity of San Mateo. These faults are presented on Plate A1, which shows the locations of the faults considered in this study and the epicenters of earthquakes with Richter magnitudes of 5 or greater in the project vicinity. The earthquakes are taken from the Toppozoda (1978, 1981) catalog for historical earthquakes, and from catalogs for instrumentally recorded earthquakes from the University of California at Berkeley and the California Institute of Technology. The characteristics of the major faults in the area are discussed in the following paragraphs.

#### 1.1 San Andreas Fault

The San Andreas fault, which is more than 1100 kilometers (km) long, trends northwestward through the San Francisco Peninsula, approximately 5 km west of the site. The fault is well defined by a zone of seismic anomalies. Several large historical

---

\* Active faults are defined as those exhibiting either surface ruptures, topographic features created by faulting, surface displacements of geologically recent (younger than about 11,000 years old) deposits, tectonic creep along fault lines, and/or close proximity to linear concentrations or trends of earthquake epicenters.

\*\* Potentially active faults are those that have evidence of displacement of deposits of Quaternary age (the last 2 to 3 million years).

earthquakes have occurred along the fault, notably the Richter magnitude 8.3 earthquake in 1906, and the more recent the 7.1-magnitude Loma Prieta earthquake in 1989. Several segments of the fault are presently experiencing creep. The magnitude of the Maximum Credible Earthquake (MCE) of this fault is estimated to be a Richter magnitude of 8.3.

The U.S.G.S. Circular 1053 (The Working Group on California Earthquake Probabilities, 1990) considers four sections of the San Andreas fault in Northern California to be capable of impacting the Bay area. These sections are: 1) the North Coast segment, 2) the Mid-Peninsular segment, 3) the Northern Santa Cruz Mountains segment, and 4) the Southern Santa Cruz Mountains segment. The Mid-Peninsular and Northern Santa Cruz Mountains segments are collectively called the Peninsular segment. In our analysis, we considered the North Coast and Peninsular segments. The Southern Santa Cruz Mountains segment was not considered because of its relatively large distance from the site.

#### **1.1.1 North Coast Segment**

The North Coast segment is 340 km long and capable of a MCE of moment magnitude 8. Based on a slip rate of  $19 \pm 4$  millimeters per year (mm/year), the MCE is judged to have a return period of about  $237 \pm 73$  years. Circular 1053 estimates that the probability of an earthquake with a moment magnitude of 8 occurring on this segment of the San Andreas within the next 30 years is 2 percent.

#### **1.1.2 Peninsular Segment**

Based on a similar slip rate of  $19 \pm 4$  mm/year, a return period of  $128 \pm 38$  years was assigned to the 61-km-long Peninsular segment. The probability of a MCE

(moment magnitude of 7) occurring on this segment within the next 30 years is about 23 percent.

### 1.2 Hayward Fault

The Hayward fault, a 93-km-long active fault trace, is located 25 km east of the site along the eastern margin of San Francisco Bay. This fault has experienced several moderate to large earthquakes during historical times (i.e., Richter magnitudes 6.8 and 7.0 events in 1836 and 1868, respectively). Locally, the fault is undergoing several millimeters of creep per year. The magnitude of the MCE of this fault is estimated to be 7.5 on the Richter scale.

Circular 1053 has divided the Hayward fault into 2 segments: the 32-km-long Southern segment, and the 50-km-long Northern segment. Both segments are judged to be capable of MCEs of moment magnitude 7, with return periods of  $167 \pm 67$  years. Based on slip rates of  $9 \pm 2$  mm/year, the probabilities of MCEs occurring on these segments within the next 30 years are 23 and 28 percent, respectively.

### 1.3 Healdsburg-Rodgers Creek Fault

The approximately 80-km-long Healdsburg-Rodgers Creek fault zone trends northwestward and is about 72 km northwest of the site. This fault corresponds with a well-defined zone of seismic anomalies. Two moderately large earthquakes occurred along this fault in the Santa Rosa area in 1969 with Richter magnitudes of 5.6 and 5.7. The magnitude of the MCE for this fault is estimated to be 7.5 on the Richter scale.

In Circular 1053 a 50-km-long segment of the Healdsburg-Rodgers Creek fault is considered capable of a MCE of moment magnitude 7. Based on a slip rate of



9±2 mm/year, the MCE has a return period of  $222 \pm 74$  years. There is a 22 percent probability that, within the next 30 years, the MCE will occur on this fault.

#### 1.4 Calaveras Fault

This 124-km-long fault is located 36 km southeast of the project site. The fault is experiencing active creep near Hollister and produced a moderate earthquake (magnitude 5.6 on the Richter scale) with surface rupture in 1861 near Dublin. Past earthquakes have included the Hollister, Coyote Lake, and Morgan Hill earthquakes of 1974, 1979, and 1984, respectively, with corresponding magnitudes of 5.2, 5.9, and 6.2. The MCE magnitude (Richter) for this fault is estimated to be 7.25.

#### 1.5 Concord-Green Valley Fault Zone

The Concord-Green Valley fault zone is composed of a 70-km-long series of faults that extend from Walnut Creek in the southeast, terminating at the north and south coasts of Suisun Bay, and continuing to Leoma Lakes in the northwest. The site is located about 51 km and 61 km southwest of the Concord and Green Valley faults, respectively. This fault zone is associated with well-defined seismic anomalies along its entire length. The magnitudes of the MCE for the Concord and Green Valley faults are estimated to be 6.5 and 7 on the Richter scale, respectively. Well documented historical creep has occurred along this fault zone during historic times.

#### 1.6 San Gregorio Fault

The San Gregorio fault trends in a southeast direction along the west coast of California. It is approximately 3 km wide, nearly 320 km long, and much of it lies just offshore, approximately 16 km west of the project site. A 180-km-long segment was modelled in our analysis.

Two earthquakes with magnitudes of 6 occurred on this fault during October 1926. They were located somewhere in Monterey Bay (Mitchell, 1928). The Richter magnitude of the MCE for this fault is estimated to be 7.0.

**1.7 Vaca-Antioch Fault**

The 59-km-long Vaca-Antioch fault trends northwestward through the town of Antioch, approximately 65 km northeast of the site. North of Antioch, the fault has not been mapped at the surface because mapping is complicated by the low marshy topography. The northward projection of the fault along the western flank of the Montezuma Hills coincides with a zone of well-defined seismic activity. Numerous earthquakes have occurred in historic time in the Antioch area, including one in May of 1889, which caused major structural damage in Antioch and in the town of Collinsville on the western edge of the Montezuma Hills. The Richter magnitude of the MCE for this fault is estimated to be 6.5.

## 2.0 SEISMIC DESIGN CRITERIA

Our scope of work for developing the seismic design criteria in compliance with requirements of the 1991 edition of the State Building Code, Title 24 of the California Code of Regulations (CCR), consisted of the following:

1. Analysis of seismic risk to estimate the probability of occurrence of various levels of ground acceleration during the life of the structure.
2. Evaluation of two levels of design ground motions as defined in the 1991 edition of Title 24 of the CCR: a maximum probable earthquake (MPE) with a 10 percent probability of being exceeded during 50 years, and an upper bound earthquake (UBE) defined as the maximum event which may ever be expected at the site within the known geological framework or one having a 10 percent probability of being exceeded in a 250-year period.
3. Preparation of site-specific, elastic design response spectra with two levels of damping for the UBE and MPE.

### 2.1 Maximum Probable Earthquake (MPE)

To assess the seismic risk at the site and to determine probable earthquake motions in accordance with the guidelines provided by Title 24 of the 1991 edition of the CCR, we performed analyses using the basic approach outlined by Cornell (1968).

The active faults considered in our seismic risk analysis are listed on Table A1. Maximum credible earthquakes were assigned to these faults based on their lengths. We used the relationships between the length of the surface fault rupture and the earthquake magnitude developed by Bonilla (1967), Albee and Smith (1967), Greensfelder (1974), Slemmons (1982) and recommendations developed by the Working Group on California Earthquake Probabilities presented in USGS Circular 1053.

Table A1. Characteristics of Significant Faults

Fault	Closest Distance to Site (km <sup>**</sup> )	Magnitude of Maximum <u>Credible Earthquake</u>		a*	b*	Length of Fault (km <sup>**</sup> )
		Richter	Moment			
San Andreas <sup>***</sup> - North Coast	13	8.3	7.9	3.16	0.70	340
San Andreas <sup>***</sup> - Peninsular	5	7.5	7.0	2.79	0.70	61
Hayward <sup>***</sup> - Southern East Bay	25	7.5	7.0	2.12	0.62	32
Hayward <sup>***</sup> - Northern East Bay	32	7.5	7.0	2.12	0.62	50
Healdsburg <sup>***</sup> - Rodgers Creek	72	7.5	7.0	2.90	0.75	50
Concord	51	6.5	6.5	2.97	0.90	25
Calaveras	36	7.5	7.0	2.29	0.62	124
Vaca-Antioch	65	6.5	6.5	1.35	0.70	59
San Gregorio	16	7.5	7.0	2.42	0.90	180
Green Valley	61	7.0	7.0	3.35	0.75	45

\* a and b are coefficients used in the Gutenberg-Richter magnitude-frequency relationship (1954).

\*\* km = kilometers.

\*\*\* Fault parameters derived from the U.S.G.S. Circular 1053 (1990).

The probability of earthquake occurrence on various seismic sources was established using a magnitude-frequency relationship based on the seismicity catalog, fault activity, and slip rate. The probability of earthquake occurrence was modelled as a truncated form of the Gutenberg-Richter (1954) magnitude-frequency relation given by:

$$\log N = a - bM$$

where N is the cumulative number of earthquakes with magnitudes greater than or equal to M. The relation is truncated at the maximum credible earthquake. The maximum likelihood of the a- and b-values were estimated for each seismic source on the basis of seismic activity.

The probability of exceedance,  $P_e(Z)$  at a given level of ground motion, Z, at the site within a specified time period, T, is given as

$$P_e(Z) = 1 - e^{-V(Z)T}$$

where V(Z) is the mean annual rate of exceedance of ground-motion level Z. We used the ground motion attenuation relation applicable to rock/stiff soil sites developed by Joyner and Boore (1982) in our analysis.

In the Joyner and Boore relationship, the peak bedrock accelerations (PBAs) were assumed to be log-normally distributed about the mean, with a constant standard error of 0.28 on the logarithm of PBAs for all magnitudes and distances. From the results of our probabilistic analysis, the PBA corresponding to the MPE was estimated to be about 0.6 gravity (g). The corresponding peak ground acceleration (PGA) was estimated to equal the PBA at 0.6g (Plate A2).

The attenuation relationship given by Joyner and Boore (1982) applicable to rock/stiff soil site conditions was used to model the dependence of spectral acceleration on magnitude and distance. The spectral values were developed for 5 percent damping. The spectral values were assumed to be log-normally distributed about the mean, with a standard error that is dependent on period, but independent of magnitude and distance. Spectral shape of equal probability was developed at 5 percent damping and is presented on Plate A3.

## 2.2 Upper Bound Earthquake (UBE)

To establish ground motion parameters for the UBE, we used published attenuation relations describing the dependence of PBA and spectral acceleration on earthquake magnitude, the distance from the site, and local soil conditions.

The dependence of PBA and spectral acceleration on magnitude and distance for the active faults were modelled by the use of two attenuation relations (at a mean plus one standard deviation condition) developed by: 1) Idriss (1985, 1987), and 2) Sadigh, et al (1986). The Joyner and Boore (1982) attenuation relation was not used because *"For distances less than 40 km from earthquakes with M greater than 6.6, the prediction equations are not constrained by data, and the results should be treated with caution....We do not propose use of the prediction equations beyond the magnitude limits of the data set, 7.7 for peak acceleration and 7.4 for peak velocity..."*(Joyner and Boore, 1981). The site was characterized as shallow, stiff soil/rock condition. The PBAs derived deterministically from the attenuation relations are presented in Table A2. The PBA and PGA corresponding to the UBE is estimated to be 0.88g.

Table A2. Peak Bedrock Accelerations

Fault	Peak Bedrock Acceleration (gravity) (mean + one standard deviation)	
	Idriss (1987)	Sadigh, et al (1986)
San Andreas	0.88	0.83
Hayward	0.34	0.27
Healdsburg-Rodgers Creek	0.12	0.07
Calaveras	0.24	0.17
Concord	0.09	0.07
Green Valley	0.10	0.08
San Gregorio	0.45	0.38
Vaca-Antioch	0.06	0.05

The response spectra for each fault listed above were computed at mean plus one standard deviation condition using the two attenuation curves. The governing event considers a moment magnitude 7.9 earthquake epicentered at a distance of 5 km. The adjusted curves were enveloped, and the results, at 5 percent damping, are presented on Plate A3.

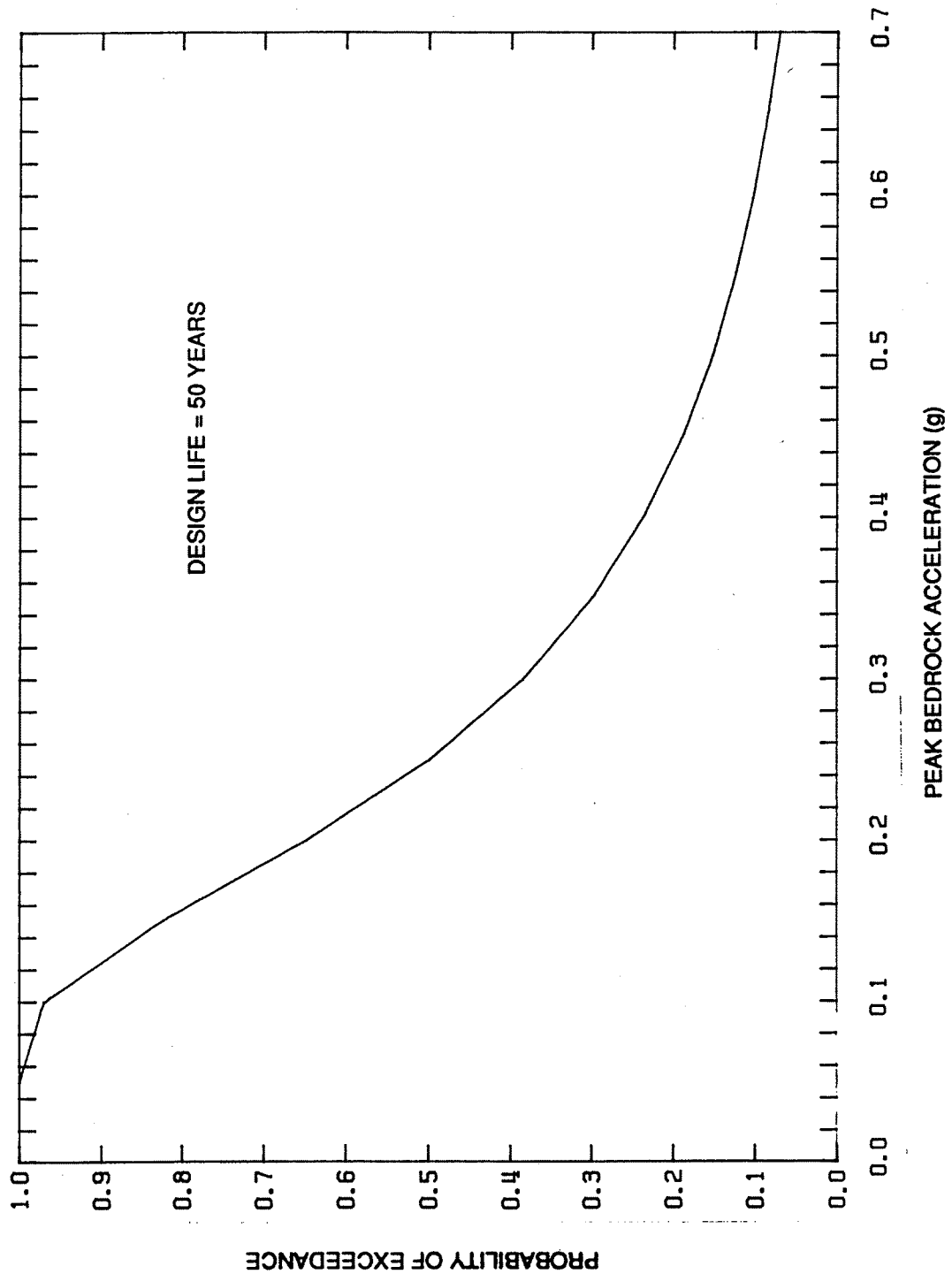
### 3.0 DISCUSSION

We believe that the MPE and UBE spectra presented on Plate A3 envelope the potential seismic activity in the region during the life of the structure. The UBE curve was obtained by enveloping the expected spectra (at mean plus one standard deviation) calculated for all faults using two different attenuation relationships. We judge that the UBE spectrum, governed by a moment magnitude 7.9 event at a distance of 5 km and computed at a mean plus one standard deviation level, is an appropriate estimate of the great 1906 earthquake on the San Andreas fault, which is the equivalent of the definition of the maximum event that may ever be expected at the site within the known geologic framework. Thus, we believe that the MPE and UBE spectra satisfy the intent of the CCR definition of the MPE and UBE.



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**Harding Lawson Associates**  
Engineering and  
Environmental Services

**Probability of Exceedance vs.  
Peak Bedrock Acceleration**  
San Mateo County General Hospital Additions  
San Mateo, California

PLATE

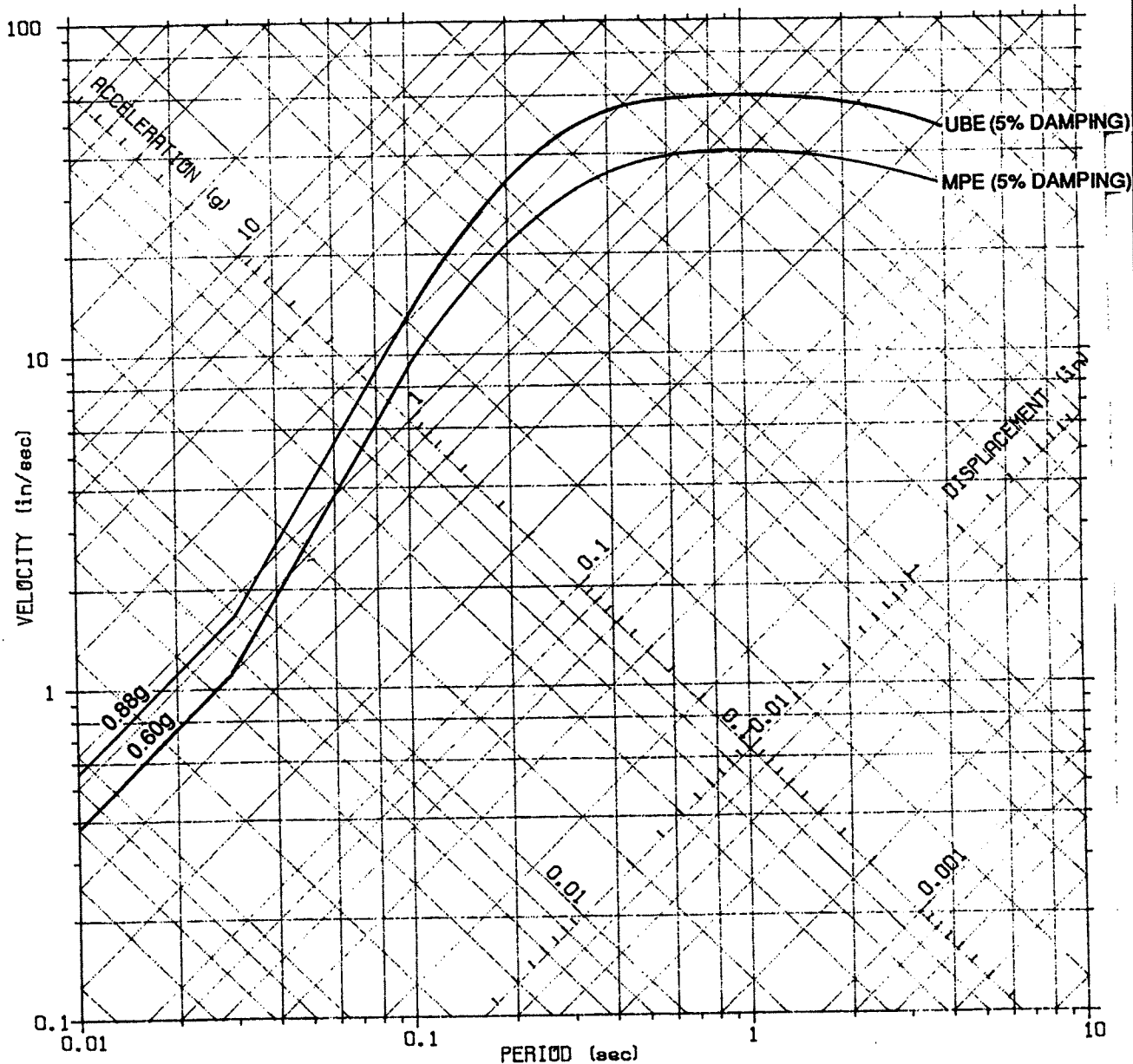
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DRAWN AM JOB NUMBER 22825-1

APPROVED *JE Skunkto*

DATE 1/93

REVISED DATE



**Harding Lawson Associates**  
Engineering and  
Environmental Services

**Design Elastic Response Spectra -  
MPE & UPE**

**San Mateo County General Hospital Additions  
San Mateo, California**

PLATE

**A3**

DRAWN  
AM

JOB NUMBER  
22825-1

APPROVED

*g. e. [signature]*

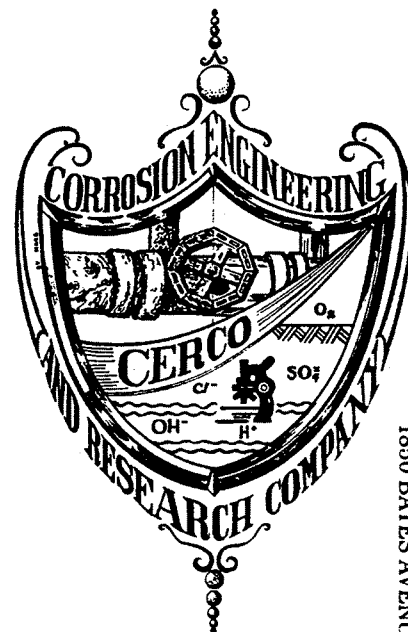
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1/93

REVISED DATE

**Appendix B**  
**CORROSION POTENTIAL EVALUATION**

January 6, 1993

CERCO No. 92122



1850 BATES AVENUE • SUITE D • CONCORD, CALIFORNIA • 94520

Harding Lawson Associates  
1850 Bates Avenue, Suite G  
Concord, California 94520

ATTENTION: Ms. Julie Ikemoto  
Project Manager

SUBJECT: San Mateo County Hospital  
Project No. 22823-1.0  
Soil Analysis

In accordance with your request, we have analyzed the soil samples furnished by your office and have evaluated them for corrosivity. The results are listed in Table I attached to this letter.

Based on the saturated resistivity values, sample B-2 is classified as "Corrosive." Sample B-6 is classified as "Severely Corrosive." All buried iron, steel, ductile iron, dielectric coated steel or iron, and galvanized steel, located in these soils, should be properly protected against corrosion depending on the critical nature of the structure.

Based on chloride ion concentration lower than 300 ppm, both samples are classified as "Mildly Corrosive." Sample B-2, having a sulfate ion concentration in the range of 150-1000 ppm, is classified as "Corrosive." Sample B-6 is classified as "Mildly Corrosive" based on having a sulfate ion concentration less than 150 ppm. Steel reinforced concrete structures and cement mortar coated steel structures in contact with soil from which sample B-2 was removed should be properly protected against corrosion depending upon the critical nature of the structure.

Harding Lawson Associates

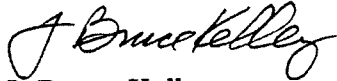
-2-

January 6, 1993

We appreciate the opportunity of working with you on this project. Should you have any questions or if you require any additional information, please contact us.

Very truly yours,

**CORROSION ENGINEERING AND RESEARCH COMPANY**

A handwritten signature in cursive script, reading "J. Bruce Kelley".

J. Bruce Kelley  
Project Engineer

JBK/cm

**TABLE I\***  
**SOIL ANALYSIS**

**SAN MATEO COUNTY HOSPITAL**

December 1992

<u>Sample Number</u>	<u>Saturated Resistivity (ohm-cm)</u>	<u>Conductivity (micromhos/cm)</u>	<u>pH</u>	<u>Chlorides (ppm)</u>	<u>Sulfates (ppm)</u>	<u>Sulfides (ppm)</u>
B-2	910	1100	7.6	<5	190	<10
B-6	2440	410	7.1	<5	100	<10

**\* TEST METHODS**

Conductivity	ASTM D-1125
Chloride	ASTM D-512
Sulfate	ASTM D-516
Sulfide	EPA 376.1
pH	ASTM D-2976

**DISTRIBUTION**

10 copies:      Department of General Services  
County of San Mateo  
590 Hamilton Street  
Redwood City, California 94063  
Attention: Mr. Fred Countryman

JEI/HJY/dm/B16386-R105

QUALITY CONTROL REVIEWER

 FOR

Keith H. Bergman  
Geotechnical Engineer





## **Geotechnical Investigation**

San Mateo County Medical Center Upgrade Projects - Phase 1  
San Mateo, California

San Mateo County Project Development Unit

**GHD** | 4080 Plaza Goldorado Circle Suite B Cameron Park CA 95682 USA  
11151125 | November 2017



November 14, 2017

Paul Hundal  
Capital Project Manager  
Project Development Unit  
1402 Maple Street  
Redwood City, California 94063

RE: Geotechnical Investigation, San Mateo Medical Center Campus Upgrade Projects - Phase I

Dear Mr. Hundal,

GHD Inc (GHD) is pleased to present the attached report containing the results of our geotechnical investigation for the proposed San Mateo Medical Center Campus Upgrade Projects - Phase I in San Mateo, California. It is our understanding that improvements are planned for the San Mateo Medical Center Nursing Tower ground floor and Central Plant area as part of Phase 1 of the overall campus upgrades. Proposed Phase 1 improvements include construction of loading docks and associated canopies and site walls/retaining walls between 8 and 14 feet high.

The accompanying report presents our findings, conclusions (Section 4), and recommendations (Section 5) developed from our geotechnical investigation. Contained in the report are geotechnical design criteria and recommendations for design and construction of the proposed improvements, as well as limited earthwork recommendations. The results of the subsurface exploration and laboratory testing programs, which form the basis of our recommendations, are also included in the report. On the basis of our investigation, the site is suitable, from a geotechnical perspective, to receive the planned improvements provided the recommendations included in the report are adhered to. A geologic hazards will be submitted under separate cover.

If you have any questions regarding the information contained in this report, or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,  
GHD

A handwritten signature in blue ink, appearing to read "A. Quintrall", written over a light blue horizontal line.

Anthony Quintrall, P.E.  
Senior Project Engineer

A handwritten signature in blue ink, appearing to read "Christopher D. Trumbull", written over a light blue horizontal line.

Christopher D. Trumbull, P.E., G.E., D.GE  
Senior Geotechnical Engineer





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Appendix D	Geotechnical Laboratory Test Results



## **Distribution**

**To: San Mateo County Project Development Unit**

Paul Hundal  
Capital Project Manager  
Project Development Unit  
1402 Maple Street  
Redwood City, California 94063

**From: GHD**

Christopher Trumbull, P.E., G.E., D.GE  
Anthony Quintrall, P.E.  
4080 Plaza Goldorado Circle, Suite B  
Cameron Park, CA 95682



# **1. Introduction**

This report presents the findings, conclusions, and recommendations developed from our geotechnical engineering investigation. The investigation was conducted in accordance with the Agreement with Independent Contractor dated September 15, 2017.

## **1.1 Project Description**

The San Mateo Medical Center is located at 222 West 39<sup>th</sup> Avenue, San Mateo, California 94403 as shown on Figure A-1, Vicinity Map. It is our understanding that improvements are planned for the San Mateo Medical Center Nursing Tower ground floor and Central Plant area as part of Phase 1 of the overall campus upgrades. The proposed Phase 1 improvements include construction of loading docks and associated canopies, site walls/retaining walls between 8 and 14 feet high, and parking lot improvements, which is the focus of this investigation.

## **1.2 Purpose and Scope of Work**

The purpose of this investigation was to evaluate the suitability of the project site, from a geotechnical perspective, for the proposed improvements. The main objectives of the investigation were to characterize the subsurface materials, perform engineering analyses, develop geotechnical recommendations and criteria to be used for design and construction, and document findings, conclusions, and recommendations in this report.

The scope of the geotechnical investigation included the following:

- A review of published geologic and geotechnical material pertaining to the site vicinity
- A field exploration program consisting of three exploratory borings drilled to a maximum depth of 10 feet within the site to characterize the subsurface conditions
- Geotechnical laboratory testing program on select soil samples collected from the borings
- Engineering analyses to develop geotechnical design criteria and recommendations for the proposed project
- Preparation of this Geotechnical Investigation Report
- Preparation of Geologic Hazard Report (submitted under separate cover)

# **2. Field Exploration and Laboratory Testing**

## **2.1 Field Exploration**

Three borings were drilled on September 25, 2017 at the approximate locations shown in Figure A-2 in Appendix A. The borings were located in the field based on estimated distances from the existing structures. The borings were drilled to a maximum depth of approximately 10½ feet



under the supervision of Alex Fiorilli of GHD utilizing a truck-mounted CME-55 drill rig equipped with an automatic hammer with a weight of 140 pounds and a drop of 30 inches.

The number of blows required for each 6-inch increment of drive were recorded and the cumulative blow count for the 12 inches of drive (following the first 6 inches of "seating" drive), or fraction thereof where resistance was encountered, is presented in the logs of borings. The blow counts presented in the logs are uncorrected and shown as they were recorded in the field. Both the samples and drill cuttings were visually classified in the field based on the Unified Soil Classification System (USCS) in general accordance with ASTM D2488.

Previous borings by others in the project vicinity include two borings by Harding Lawson Associates completed in 1992, drilled to a maximum depth of 20 feet within the site.

The subsurface conditions encountered are summarized in Section 3.2. Logs of the borings were prepared based on the field logging, visual examination of the soil samples in the laboratory and the results of laboratory testing. The soil boring key, rock description key, and the logs of borings are presented in Appendix B. Logs of previous borings by others as well as laboratory test results are presented in Appendix C.

## **2.2 Geotechnical Laboratory Testing**

Laboratory testing was conducted on disturbed soil samples recovered during the site investigation. Tests conducted include the following:

- Standard Test Method for Particle-Size Analysis of Soils (ASTM D422)
- Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils (ASTM D4318)
- Method For Determining The Resistance "R" Value Of Treated And Untreated Bases, Subbases, And Basement Soils By The Stabilometer (CTM 301);
- Method of Testing Soil and Waters for Sulfate Content (CTM 417)
- Method of Testing Soil and Waters for Chloride Content (CTM 422)
- Method for Estimating the Service Life of Steel Culverts (CTM 643)
- Redox Potential ASTM G-200
- Sulfate Reducing Bacteria AWWA C105/A25.5

Geotechnical laboratory test results are presented in Appendix D.

# **3. Geologic and Subsurface Conditions**

## **3.1 Site Conditions**

At the time of our exploration, the project site consisted of existing buildings including the hospital, central plant, health administration, and nursing wing. The parking lot and drive isles were bordered with sidewalks and planter boxes. Borings were completed within the parking lot on the north side of



the building and near the cargo loading area, as shown on Figure A-2. The boring locations were covered with asphalt concrete pavement.

### **3.2 General Geology and Faulting**

The site is located in the Coastal Range geomorphic province. The site is mapped as Quaternary (Pliocene to Holocene) alluvium and marine deposits consisting of alluvium, lake, playa, and terrace deposits (Jennings, 1977 updated 2010).

The nearest active fault displaying historic movement is the San Andreas fault zone, Peninsula section approximately 3 miles to the east. The site is classified as being in an area of high seismicity but is not in an Alquist-Priolo Special Studies Zone.

### **3.3 Subsurface Materials and Groundwater**

Based on the results of our field mapping and subsurface exploration, a pavement section consisting of 3 inches of asphalt over 3 to 9 inches of aggregate base was encountered. The subsurface materials below the pavement section in Borings B-1 and B-2 generally consisted of fill material comprised of stiff brown sandy CLAY and loose silty SAND overlying sandy SILT to depths of 1½ to 5 feet below ground surface (bgs). The placement of the fill material is undocumented and is considered compressible. Below the pavement section in Boring B-3 and below the fill material in Borings B-1 and B-2, stiff to hard SILT and medium dense silty SAND were encountered to depths of 4½ to 8½ feet. Below the silt and sand, SILTSTONE was encountered to the maximum depth explored of 10½ feet. Detailed descriptions of the materials encountered in the borings are presented in the logs of borings in Appendix B. The subsurface conditions encountered by others are in general agreement with the subsurface conditions encountered in the GHD borings.

Groundwater was not encountered during the field investigation. The depth of groundwater is expected to vary over time due to seasonal variations and other factors such as changes to site drainage.

## **4. Conclusions**

On the basis of our investigation, the site is suitable, from a geotechnical perspective, to receive the planned improvements provided the recommendations presented in the report are incorporated into the design and construction of the project.

### **4.1 Existing Fill Material**

Existing fill material was encountered up to about 5 feet bgs within the project area in Borings B-1 and B-2. The fill material is undocumented, may potentially be weak and compressible, and should not support foundations.





## **4.2 Expansion Potential**

Expansive soils are defined as soils that undergo large volume changes (shrink or swell) due to variations in moisture content. Such volume changes may cause damaging settlement and/or heave of foundations, slabs-on-grade, pavements, etc.; however, no evidence of expansive soils was discovered during the subsurface exploration for this project. The fine-grained soil encountered has a low expansion potential. Should any expansive soils be encountered during construction, it is recommended that GHD be contacted to further assess the potential for damage.

## **4.3 Ground Shaking**

The site vicinity is located in an area generally characterized as having high seismicity. Using the beta version of the online USGS Seismic Design Maps incorporating ASCE 7-16/NEHRP 15 and Type C soils, the Peak Ground Acceleration (PGA) is 0.83 g. Significant ground shaking should be expected at the site during an earthquake.

## **4.4 Liquefaction/Seismic Settlement Analysis**

Seismic liquefaction occurs when excess pore pressures are generated in loose, saturated, generally cohesionless soil during earthquake shaking, causing the soil to experience a partial to complete loss of shear strength. Such a loss of shear strength can result in settlement and/or horizontal movement (lateral spreading) of the soil mass.

Based on groundwater not being encountered in the exploratory borings, siltstone encountered shallower than 10 feet bgs, and the soil above the siltstone found to be stiff to very stiff, and fines content of the subsurface materials at the site, the risk of liquefaction is considered to be low and seismic settlement is not expected.

## **4.5 Slope Stability**

No slopes were observed at the site during the field investigation and the site is not mapped in a landslide area. Based on the existing site topography, the risk of landsliding is considered to be low and a detailed slope stability analysis, including the determination of strength parameters, determination of pseudo-static coefficient, identification of failure surfaces, site response analysis, and mitigation options, is not applicable.

## **4.6 Corrosion**

A soils corrosivity analysis is important for estimating and mitigating the deterioration of buried ferrous metals and concrete. We performed corrosion testing on a sample from Boring B-2. Test results are summarized below in Table 4.1 and presented in detail in Appendix C.



**Table 4.1 Soil Corrosion Results**

Sample No.	Depth (ft)	pH	Minimum Resistivity (ohm-cm)	Water Soluble Sulfates (ppm)	Water Soluble Chlorides (ppm)	Redox Potential (mV)	Points
B-2	1.5	8.30	1,740	211.8	28.1	(+) 168.00	8

According to ACI 318, a sulfate concentration less than 1,000 parts per million is considered “not applicable” (i.e., no mitigation required). A water soluble chloride content of less than 500 ppm is generally non-corrosive to reinforced concrete.

To evaluate the potential for external corrosion potential on ductile iron pipe from soil, the 10-point system in C105/A21.5 (ANSI/AWWA, 1999) was used, which resulted in eight points for B-2. The long life of historical unprotected pipe in soil with less than 10 points indicates a non-corrosive environment (AWWA 2005).

The provided corrosion test results are only an indicator of potential soil corrosivity for the sample tested at the selected depth interval. It is possible that corrosion potential can vary by sample location and depth. Based on the results of the tested samples, the soil may be generally characterized as non-corrosive.

Our scope of services does not include corrosion engineering; therefore, a detailed analysis of the corrosion test results is not included in this report.

## **5. Recommendations**

### **5.1 Site Preparation and Earthwork**

#### **5.1.1 Site Preparation**

General site preparation should include removal of the existing pavement section as well as the stripping of surface vegetation, including the root zone.

Fill material was encountered in Borings B-1 and B-2 to depths of about 1½ to 5 feet and is considered weak and compressible. If foundations are planned above this fill material, it should be removed and replaced with engineered fill below the footings and 2 feet beyond (laterally). Alternatively, if foundations are extended through the fill material, fill removal may not be required. Where new pavements are planned, the existing fill material should be removed to 1 foot below proposed subgrade and replaced with engineered fill.

Any other fill material encountered below proposed foundations should be removed and replaced with engineered fill, placed and compacted as recommended in this report. Voids or depressions created by the removal of buried objects should be cleaned of all loose soil and debris and backfilled with engineered fill, placed and compacted as described below.



## 5.1.2 Earthwork

### 5.1.2.1 General Subgrade Preparation

To provide uniform support for the proposed improvements, the subgrade in all areas to receive structural improvements, including engineered fill and retaining structures, should be scarified to a depth of at least 8 inches, moisture conditioned as necessary, and compacted as engineered fill. Any soft or loose areas should be excavated to firm, native material and replaced with engineered fill. Upon completion of subgrade preparation, engineered fill should be placed as described below.

#### 5.1.2.2 Engineered Fill

Engineered fill should consist of a homogenous mixture of soil and rock free of vegetation, organic material, rubbish, and/or rubble. Highly plastic or organic soils should not be used for engineered fill but may be placed in landscape areas. It is anticipated that most of the soil generated from onsite excavations should be suitable for use as engineered fill. The existing pavement materials may be reused as engineered fill, provided they meet the specifications in Table 5.1 below.

Imported materials from offsite to be used as engineered fill should meet the specifications listed below in Table 5.1. GHD should be provided test results and observe and approve import fill submittal in writing prior to the material being brought on site.

**Table 5.1 Import Fill Specifications**

R-Value	Atterberg Limits (ASTM D4318)	Particle Size (ASTM C136 or D422)
>10	PI < 15 LL < 40	100% passing the 6-inch sieve minimum of 85% passing the 2-1/2 inch sieve maximum of 30% passing the #200 sieve

#### 5.1.2.3 Compaction

Engineered fill should be moisture conditioned as necessary, placed in horizontal loose lifts not exceeding 8 inches in thickness, and compacted to a minimum of 90 percent of the maximum dry density as determined by ASTM D1557 for fills less than 5 feet in thickness. For fills thicker than 5 feet, fill should be compacted to 95 percent of the maximum dry density as determined by ASTM D1557. Placement of fill material should be verified by a GHD representative on a continuous basis. Nuclear density testing should be performed at a frequency of one per 5,000 cubic yards. Trench backfill should be tested every lift at a frequency of 300 linear feet. Retaining wall backfill should be tested every lift at a frequency of 100 linear feet.

#### 5.1.2.4 Trench Backfill and Pipe Bedding

Trench backfill should meet the engineered fill specifications detailed above. Trench backfill should be placed in lifts not exceeding 12 inches in thickness and compacted to 95 percent of ASTM D1557 by mechanical means only (no jetting). Pipe bedding should conform to the pipe manufacturer's recommendations.



#### **5.1.2.5 Temporary Slopes/Shoring**

Temporary slopes and shoring should conform to OSHA standards. Shored excavations should be constructed from the top down in cuts not exceeding 5 vertical feet in depth. Excavation of subsequent cuts should not be performed until shoring of the adjacent upper cut has been completed. Protection of workers and adjacent structures, shoring design, and the stability of all temporary slopes should be contractually established as solely the responsibility of the contractor.

Foundation excavations for new structures may be near existing foundations. In order to minimize impacts on the existing facilities during excavation, it is recommended that trenching be located outside an imaginary 1.5:1 (H:V) plane from the base of the existing foundation in firm native undisturbed soil. In the event that this recommendation is not practical, the designer should incorporate trench shoring or structural improvements such as sheet piling to protect the existing adjacent foundations. Trench support shall be designed by a Professional Engineer registered in the State of California and shall consider adjacent surcharge.

### **5.2 Foundations**

Provided herein are the foundation recommendations to be used for the design of foundations. Fill material that is considered weak and compressible was encountered in Borings B-1 and B-2 and should not support new retaining wall foundations. The weak fill material should be removed and replaced with engineered fill below proposed foundations (and 2 feet beyond, laterally), as explained above under Section 5.1.1 or the foundations can be deepened to extend through the fill material.

#### **5.2.1 Bearing Capacity**

The proposed retaining walls may be supported on footings that bear on engineered fill or extend through the existing weak fill, with a minimum depth of 18 inches bgs. The foundation should be designed using allowable bearing capacities of 2,000 pounds per square foot (psf) for dead loads and 3,000 psf for dead plus live loads if founded on soil. The allowable bearing capacity can be increased by 1/3 for all loads including wind and seismic. Adjacent foundations or parallel utility trenches should be located such that the bottom of the foundations are below an imaginary 2:1 (H:V) plane projected up from the bottom of adjacent foundations or trenches.

For foundations and subgrade designed and prepared as recommended in this report, differential settlements are expected to be on the order of ¼ inch, over 20 feet. Total settlements on the order of ½ inch are anticipated.

GHD geotechnical staff should observe the footing excavations prior to placing reinforcing steel or concrete to verify that the footings are founded on the appropriate materials.

#### **5.2.2 Passive Resistance**

Passive earth resistance or passive earth pressure is the amount of resistance provided by the soil in response to a movement of a structure resulting in a compressive force upon the soil. A passive earth pressure of 300 pounds per cubic foot (pcf) should be used if the upper foot of soils is ignored. A friction coefficient of 0.3 is recommended. If the foundation is poured against neatly excavated



soil without the use of forms, both the friction coefficient and the passive resistance may be used in design. Passive earth pressures provided herein assume that the zone of interest is above groundwater table and on a relatively level surface. If these conditions are not met in any of the foundation locations, GHD should be contacted to provide a reduced passive earth pressure value.

If a structure is above a 2:1 slope projected from the bottom of the footing, the passive pressure will be translated to the structure.

### 5.3 Seismic Design

The seismic design criteria for the site (37.531 lat, -122.299 lon), listed in the table below, were developed in accordance with the beta version of the online USGS Seismic Design Maps incorporating ASCE 7-16/NEHRP 15. Analysis was completed using data obtained from the geotechnical investigation.

**Table 5.2 Seismic Design Criteria**

Parameter	Recommended Value	Reference (ASCE/SEI7-10)
Site Class	C	Table 20.3-1
Mapped MCE spectral response at short period ( $S_S$ )	1.933 g	Figure 22-1
Mapped MCE spectral response at 1 sec period ( $S_1$ )	0.795 g	Figure 22-2
Site coefficient ( $F_a$ )	1.2	Table 11.4-1
Site coefficient ( $F_v$ )	1.4	Table 11.4-2
MCE spectral response acceleration for short period ( $S_{MS}$ )	2.319 g	Equation 11.4-1
MCE spectral response acceleration for 1 sec period ( $S_{M1}$ )	1.113 g	Equation 11.4-2
Design Spectral Acceleration for short period ( $S_{DS}$ )	1.546 g	Equation 11.4-3
Design Spectral Acceleration for 1 sec period ( $S_{D1}$ )	0.742 g	Equation 11.4-4

### 5.4 Retaining Walls

#### 5.4.1 Restrained Walls

Restrained walls with drainage should be designed for an equivalent fluid pressure (EFP) of 65 pcf. If drainage is not included, undrained at-rest walls should be designed for an EFP of 95 pounds pcf. The proposed walls should also be analyzed for a seismic condition, where the increment of total seismic pressure of 18 pcf should be added to the at-rest pressure in a triangular (non-inverted) configuration.

Lateral load resistance for the walls can be developed in accordance with the recommendations presented above under Section 5.2.2.

#### 5.4.2 Unrestrained Walls

Unrestrained walls with drainage should be designed for an EFP of 45 pcf. If drainage is not included, undrained active walls should be designed with an EFP of 85 pcf. The proposed unrestrained walls should also be analyzed for a seismic condition, where the increment of seismic



pressure of 14 pcf should be added to the static EFP in a standard triangular (non-inverted) configuration.

#### **5.4.3 Surcharge Loading on Walls**

Surcharge loading on walls will occur from vehicle loading and soil loading. Vehicle loading should be taken as the equivalent of 2 feet of soil (soil unit weight is 125 pcf) which is equal to a 250 psf surcharge. Depending on the type of wall (restrained or unrestrained), the vertical surcharge is translated to a uniform horizontal surcharge on the wall by multiplying the earth pressure coefficient by the vertical pressure; coefficients are presented in the table below.

**Table 5.3 Earth Pressure Coefficients**

Wall Type	Earth Pressure Coefficient, K
Restrained	0.55
Unrestrained	0.37

### **5.5 Pavement**

Fill material was encountered in Borings B-1 and B-2 to depths of about 1½ to 5 feet and is considered weak and compressible. Where new pavements are planned, the existing fill material should be removed to 1 foot below proposed subgrade and replaced with engineered fill.

#### **5.5.1 Flexible Pavement**

An R-Value was performed on a bulk sample collected from the site and the test results indicate an R-Value of 10. A Traffic Index (TI) of 6 was assumed for the site based on anticipated truck loading. A two part pavement section consisting of 12 inches of ¾ inch Class 2 aggregate base overlain by 4 inches of asphalt is recommended.

#### **5.5.2 Rigid Pavement**

The analytical procedure used in our design of the rigid vehicular concrete pavements was the method published by the American Concrete Pavement Association. The corresponding modulus of subgrade reaction of 100 pounds per square inch per inch was assigned to represent a reworked, onsite subgrade underlain by 6 inches of aggregate base. The modulus of rupture for concrete was assumed to be 550 pounds per square inch, which would require a 28-day compressive strength of at least 3,700 psi. Based on our analysis, we recommend a rigid pavement section of 6 inches of concrete over 6 inches of Caltrans Class 2 AB for a 20-year pavement life. Reinforcing steel is not necessary for geotechnical reasons, however, #4 dowels should be placed at a maximum spacing of 18 inches at cold joints. In addition, the concrete should be scored at least 1/3 the slab thickness every 10 feet on center each way.

### **5.6 Surface Drainage and Erosion Control**

Drainage around foundations, structures, and pavements should be constructed in a way such that soils near the structures or pavements do not become saturated. In general, all construction surfaces should be graded to drain to prevent water from ponding.



Erosion control measures should be implemented for exposed surfaces potentially subject to soil erosion. Best Management Practices to reduce erosion and transport of soil particles or turbid water into the drainage course flowing from the construction site must be employed. All conditions of existing water quality regulatory agency permits must be adhered to.

## **5.7 Plan Review and Construction Observation**

GHD geotechnical staff should review the project plans and specifications during the construction document phase to evaluate if they are consistent with the recommendations presented herein.

Our conclusions and recommendations are contingent upon GHD being retained to provide intermittent observation and appropriate field and laboratory testing during site preparation to evaluate if the subsurface conditions are as anticipated. If the subsurface conditions are observed to be different from those described in this report, we should be notified immediately so that the changed conditions can be evaluated and our recommendations revised, if appropriate. The recommendations in this report are contingent upon our notification and review of changed conditions. The services proposed above would be performed on an as-needed basis under a supplemental task order.

## **6. References**

American Concrete Pavement Association. 2006 "Design of Concrete Pavement for Streets and Roads."

American Concrete Institute. 2014. "ACI 318-14 Building Code Requirements for Structural Concrete and Commentary."

American Society of Civil Engineers. 2017. "ASCE Standard ASCE/SEI 7-16."

ANSI/AWWA. 1999. "C105/A21.5, American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems."

AWWA. Bonds et al. 2005. "Corrosion and Corrosion Control of Iron Pipe, AWWA Journal 97.6."

California Building Standards Commission. 2016. "California Building Code."

California Department of Transportation. 2012. "Highway Design Manual, Chapter 600 Pavement Engineering."

Jennings, Charles W. 1977. "Geologic Map of California: California Division of Mines and Geology, scale 1:750,000."

Jennings, Charles W. 2010. "Fault Activity Map of California and Adjacent Areas, California Geologic Survey, 1:750,000 scale."

Pampeyan, E.H. 1994, "Geologic map of the Montara Mountain and San Mateo 7.5' quadrangles, San Mateo County, California"

U.S. Geologic Survey. June 12, 2014. U.S. Seismic Design Maps.

<http://earthquake.usgs.gov/designmaps/us/application.php>



## 7. Limitations

This Geotechnical Investigation ("Report"):

- Has been prepared by GHD for the County of San Mateo under the professional supervision of those senior partners and/or senior staff whose seals and signatures appear herein
- May only be used and relied on by the County of San Mateo, which is responsible to ensure that all relevant parties to the project, including designers, contractors, subcontractors, etc., are made aware of this report in its entirety
- Must not be copied to, used by, or relied on by any person other than the County of San Mateo without the prior written consent of GHD
- May only be used for the purpose of engineering design of the proposed structures at the project site described in this report (and must not be used for any other purpose)

GHD and its servants, employees and officers otherwise expressly disclaim responsibility to any person other than the County of San Mateo arising from or in connection with this Report.

To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by GHD and the Report are excluded unless they are expressly stated to apply in this Report.

The services undertaken by GHD in connection with preparing this Report:

- In regard to site exploration and testing:
  - Site exploration and testing characterizes subsurface conditions only at the locations where the explorations or tests are performed; actual subsurface conditions between explorations may be different than those described in this report. Variations of subsurface conditions from those analyzed or characterized in this report are not uncommon and may become evident during construction. In addition, changes in the condition of the site can occur over time as a result of either natural processes (such as earthquakes, flooding, or changes in ground water levels) or human activity (such as construction adjacent to the site, dumping of fill, or excavating). If changes to the site's surface or subsurface conditions occur since the performance of the field work described in this report, or if differing subsurface conditions are encountered, we should be contacted immediately to evaluate the differing conditions to assess if the opinions, conclusions, and recommendations provided in this report are still applicable or should be amended.
- In regard to limitations:
  - Our scope of services was limited to the proposed work described in this report, and did not address other items or areas.
  - The geotechnical investigation upon which this report is based was conducted for the proposed structures at the project site described in this report. The conclusions and recommendations contained in this report are not valid for other structures and/or project sites. If the proposed project is modified or relocated, or if the subsurface conditions found during construction differ from those described in this report, GHD should be provided the





opportunity to review the new information or changed conditions to determine if our conclusions and recommendations need revision.

- Did not include evaluation or investigation of the presence or absence of wetlands
- Did not include a landslide evaluation
- Did not include a fault investigation

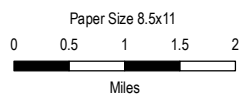
GHD expressly disclaims responsibility for any error in, or omission from, this Report arising from or in connection with any of the Assumptions being incorrect. There is no warranty, either expressed or implied. GHD accepts no liability regarding completeness or accuracy of the information presented and/or provided to us, or any conclusions and decisions which may be made by the client or others regarding the subject site/project. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observations of construction.

Subject to the paragraphs in this section of the Report, the interpretations of data, findings, conclusions, recommendations and professional opinions in this Report are based on the information reviewed, site conditions encountered, and samples collected during our field exploration and were developed in accordance with generally accepted geotechnical engineering principles and practices and as prescribed by the client. This Report is considered valid for the proposed project for a period of two years from the report date provided that the site conditions and development plans remain unchanged. With the passage of time, changes in the conditions of a property can occur due to natural processes or the works of man on this or adjacent properties. Legislation or the broadening of knowledge may result in changes in applicable standards. Depending on the magnitude of any changes, GHD may require that additional studies (at additional cost) be performed and that an updated report be issued. Additional studies may disclose information which may significantly modify the findings of this report. GHD will retain untested samples collected during our field investigation for a period not to exceed 60 days unless other arrangements are made with the client. After a period of two years from the report date, GHD expressly disclaims responsibility for any error in, or omission from, this Report arising from or in connection with those opinions, conclusions and any recommendations.

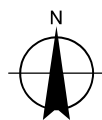


# **Appendix A**

## **Figures**



Map Projection: Mercator Auxiliary Sphere  
Horizontal Datum: WGS 1984  
Grid: WGS 1984 Web Mercator Auxiliary Sphere



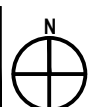
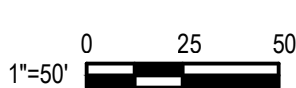
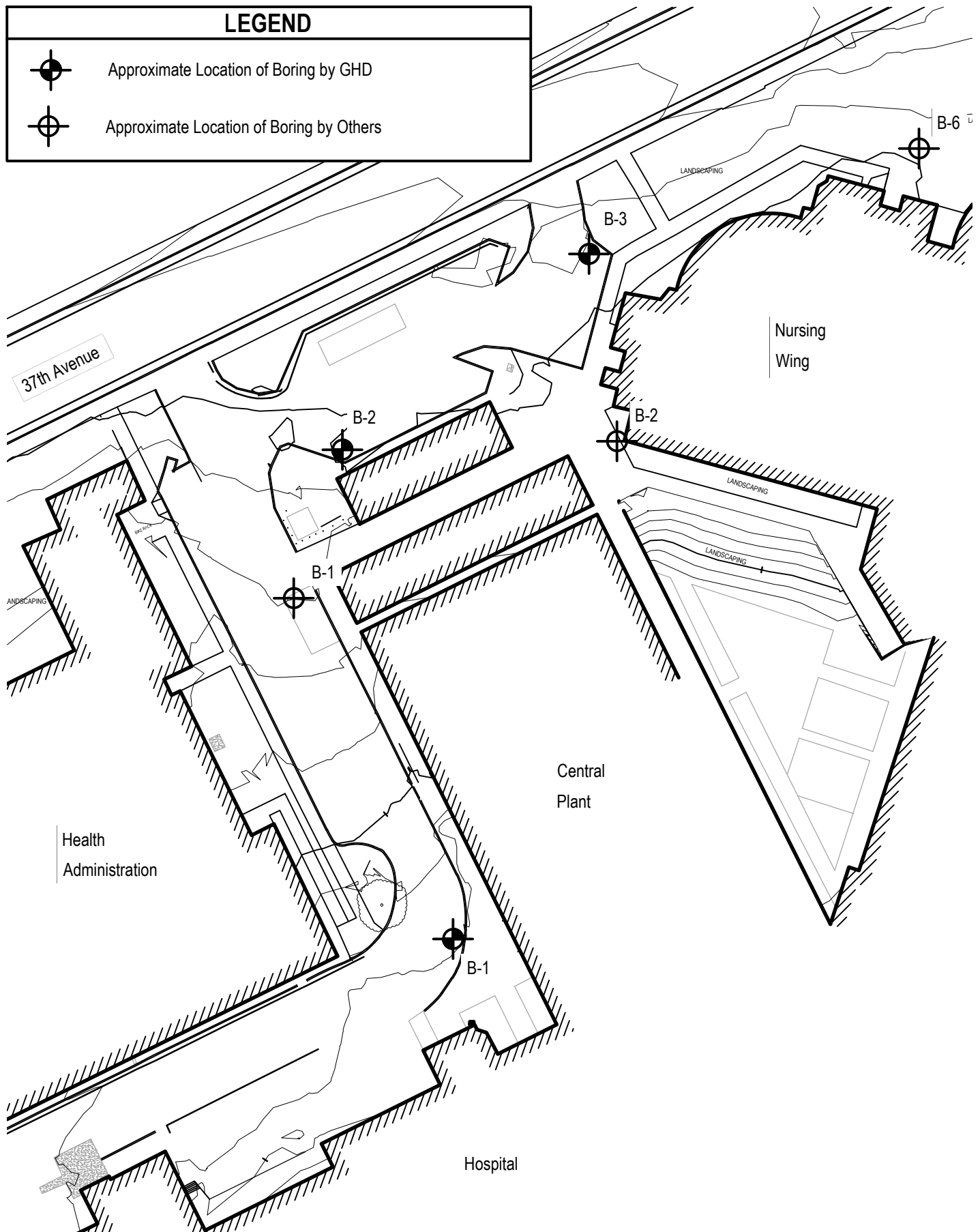
County of San Mateo  
San Mateo County Medical Center  
San Mateo, CA

Vicinity Map

Project No. 11151125  
Revision No. 0  
Date 11/03/2017

**Figure A-1**

LEGEND	
	Approximate Location of Boring by GHD
	Approximate Location of Boring by Others



County of San Mateo  
San Mateo Medical Center  
San Mateo, CA

Project No. 11151125  
Revision No. 01  
Date 10/17/2017

Exploration Map

Figure A-2



## **Appendix B**

### **Logs of Borings**


















# EMPIRICAL CORRELATIONS WITH STANDARD PENETRATION RESISTANCE N VALUES\*

	N Value * (Blows/ft)	Consistency	Unconfined Compressive Strength (tons/sq ft)		N Value * (Blows/ft)	Relative Density
FINE GRAINED SOIL	0 - 2	Very Soft	<0.25	COARSE GRAINED SOIL	0 - 4	Very Loose
	3 - 4	Soft	0.25 - 0.50		5 - 10	Loose
	5 - 8	Medium Stiff	0.50 - 1.00		11 - 30	Medium Dense
	9 - 15	Stiff	1.00 - 2.00		31 - 50	Dense
	16 - 30	Very Stiff	2.00 - 4.00		>50	Very Dense
	>30	Hard	>4.00			

\*ASTM D 1586; number of blows of 140 pound hammer falling 30 inches to drive a 2-inch-O.D., 1.4-inch-I.D. sampler one foot.

## UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

MAJOR DIVISIONS			SYMBOLS	DESCRIPTIONS	
COARSE GRAINED SOIL	GRAVEL AND GRAVELLY SOIL	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		LITTLE OR NO FINES		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		APPRECIABLE AMOUNT OF FINES		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOIL	CLEAN SANDS		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		LITTLE OR NO FINES		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES		SM	SILTY SANDS, SAND - SILT MIXTURES
		APPRECIABLE AMOUNT OF FINES		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOIL	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
			HIGHLY ORGANIC SOIL		

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

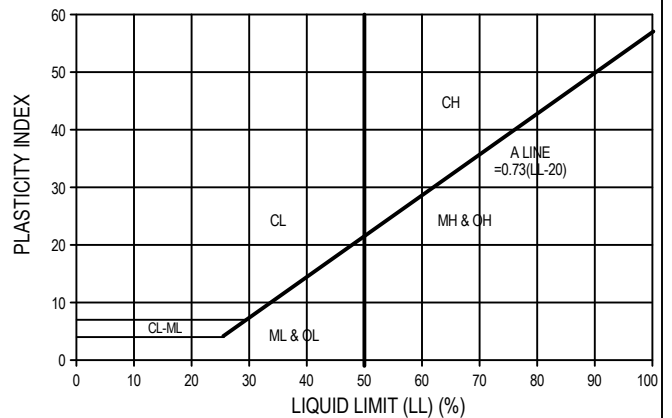
## PARTICLE SIZE IDENTIFICATION

BOULDERS	>12 in
COBBLES	3 - 12 in
GRAVEL: COARSE	3/4 - 3 in
GRAVEL: FINE	No.4 - 3/4 in
SAND: COARSE	No.10 - No.4
SAND: MEDIUM	No.40 - No.10
SAND: FINE	No.200 - No.40
SILT	0.002 mm - No.200
CLAY	<0.002 mm

WELL GRADED - HAVING WIDE RANGE OF GRAIN SIZES AND APPRECIABLE AMOUNTS OF ALL INTERMEDIATE PARTICLE SIZES

POORLY GRADED - PREDOMINATELY ONE GRAIN SIZE, OR HAVING A RANGE OF SIZES WITH SOME INTERMEDIATE SIZES MISSING

## PLASTICITY CHART



## SAMPLE SYMBOLS

## WELL SYMBOLS

## WATER LEVEL SYMBOLS



SPT  
(1.375 I.D.)



California  
(2.0-inch I.D.)



California Modified  
(2.5-inch I.D.)



No Recovery



Shelby Tube



Auger Sample



Cement Grout



Bentonite



Filter Sand



Screen in filter sand



Slough



RX (Bedrock)



Water level at time of drilling.



Water level measured at a specified time after drilling and sampling or well completion.

## GENERAL NOTES

- Soil classifications are based on the Unified Soil Classification System. Soil descriptions and stratum lines are interpretive, and actual changes may be gradual. Field descriptions may have been modified to reflect results of laboratory tests.
- Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations.
- Abbreviations:  
 CD = TX-CD  
 CN = Consolidation  
 CR = Corrosivity  
 CU = TX-CU  
 DS = Direct Shear  
 EI = Expansion Index  
 MDD = Maximum Density  
 NR = No Recovery  
 PR = Permeability  
 RV = R-Value  
 TC = Cyclic Triaxial  
 UC = Unconfined Compression  
 UU = TX-UU (quick)  
 ATD = At Time of Drilling

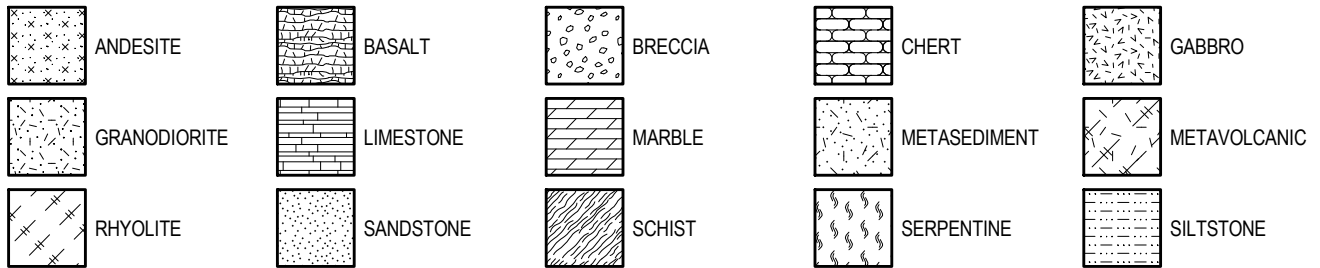


County of San Mateo  
San Mateo County Medical Center  
San Mateo, CA

Project No. 11151125  
Revision No. 0  
Date 10/16/2017

## Soil Boring Key

# COMMON ROCK SYMBOLS



**Description:** Lithologic description in this order: rock type, color, texture, grain size, foliation, weathering, strength, and other features followed by discontinuity descriptions A-H

## KEY TO DESCRIPTIVE TERMS USED FOR ROCK

### ROCK WEATHERING / ALTERATION

Description	Recognition
Residual Soil	Original minerals of rock have been entirely decomposed to secondary minerals, and original rock fabric is not apparent; material can be easily broken by hand.
Completely Weathered/Altered	Original minerals of rock have been almost entirely decomposed to secondary minerals, although original fabric may be intact; material can be granulated by hand.
Highly Weathered/Altered	More than half of the rock is decomposed; rock is weakened so that a minimum 2-inch-diameter sample can be broken readily by hand across rock fabric.
Moderately Weathered/Altered	Rock is discolored and noticeably weakened, but less than half is decomposed; a minimum 2-inch-diameter sample cannot be broken readily by hand across rock fabric.
Slightly Weathered/Altered	Rock is slightly discolored, but not noticeably lower in strength than fresh rock.
Fresh	Rock shows no discoloration, loss of strength, or other effect of weathering/alteration.

### ROCK STRENGTH

Description	Recognition	Approximate Uniaxial Compressive Strength (psi)
Extremely Weak Rock	Can be indented by thumbnail.	35 - 150
Very Weak Rock	Can be peeled by pocket knife.	150 - 700
Weak Rock	Can be peeled with difficulty by pocket knife.	700 - 3,500
Medium Strong Rock	Can be indented 5 mm with sharp end of pick.	3,500 - 7,200
Strong Rock	Requires one hammer blow to fracture.	7,200 - 14,500
Very Strong Rock	Requires many hammer blows to fracture.	14,500 - 35,000
Extremely Strong Rock	Can only be chipped with hammer blows.	>35,000

### DISCONTINUITY DESCRIPTIONS

<b>a</b>	Dip of fracture surface measured relative to horizontal.		
<b>b</b>	<b>Discontinuity Type:</b> F - Fault J - Joint Sh - Shear Fo - Foliation V - Vein B - Bedding	<b>e</b>	<b>Amount of Infilling:</b> Su - Surface Stain Sp - Spotty Pa - Partially Filled Fi - Filled No - None
<b>c</b>	<b>Discontinuity Width (Inches):</b> W - Wide (0.5-2.0) MW - Moderately Wide (0.1-0.5) N - Narrow (0.05-0.1) VN - Very Narrow (<0.05) T - Tight (0)	<b>f</b>	<b>Surface Shape of Joint:</b> Wa - Wavy Pl - Planar St - Stepped Ir - Irregular
<b>d</b>	<b>Type of Infilling:</b> Ch - Chlorite Fe - Iron Oxide Fld - Feldspar No - None Mn - Manganese Py - Pyrite Qz - Quartz Sd - Sand	<b>g</b>	<b>Roughness of Surface:</b> Slk - Slickensided (surface has smooth, glassy finish with visual evidence of striations) S - Smooth (Surface appears smooth and feels so to the touch) SR - Slightly Rough (asperities on the discontinuity surfaces are distinguishable and can be felt) R - Rough (some ridges and side-angle steps are evident; asperities are clearly visible, and discontinuity surface feels very abrasive) VR - Very Rough (near-vertical steps and ridges occur on the discontinuity surface)
		<b>h</b>	<b>Discontinuity Spacing (feet):</b> EW - Extremely Wide (>6) W - Wide (2-6) M - Moderate (0.7-2) C - Close (0.2-0.7) VC - Very Close (<0.2)  <b>Lab Testing</b> CI - Cerchar Index UC - Unconfined Compression Test PL - Point Load Index BS - Brazilian Splitting Test



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Project No. 11151125  
Revision No. 0  
Date 10/16/2017

### Rock Description Key

Start Date: <b>9/25/17</b>			Total Depth Drilled (ft bgs): <b>9.5</b>	
Drilling Method: <b>4-inch Flight Auger</b>		Drilling Contractor: <b>Taber Drilling</b>		Arbitrary Ground Surface Elevation (ft MSL): <b>64</b>
Drill Rig: <b>CME-55</b>		Hammer Type/ Efficiency: <b>Automatic Trip/ 80%</b>		Hammer Weight / Drop: <b>140# / 30"</b>
Logged By: <b>Alex Fiorilli</b>	Reviewed By: <b>K. Jermstad</b>	Borehole Backfill: <b>cuttings</b>		Groundwater Depth (ft): <b>Not Encountered ATD</b>

Remarks:

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Type	Sample/Run No.	Blows/6"	N <sub>60</sub>	% Passing No. 4 Sieve	% Passing No. 200 Sieve	Liquid Limit	Plasticity Index
		3" Asphalt									
		6" Aggregate Base									
63	1	FILL: Brown sandy CLAY (CL), low plasticity, fine-grained sand, trace gravel, stiff, moist.									
62	2			SPT	B1-1	5 6 3	11			25	10
61	3	FILL: Brown silty SAND (SM) with gravel, fine- to coarse-grained sand, loose.									
60	4										
59	5	Brown sandy SILT (ML), stiff, moist.		SPT	B1-2	2 3 4	8	78	25		
58	6										
57	7			SPT	B1-3	3 3 7	12				
56	8										
55	9	SILTSTONE, brown, weathered		SPT	B1-4	9 34 27	74				
54	10	Boring terminated at 9.5 ft bgs									
53	11										
52	12										
51	13										
50	14										



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Project No. 11151125  
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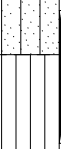
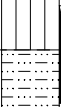

Log of Boring

B-1



Start Date: <b>9/25/17</b>			Total Depth Drilled (ft bgs): <b>10.5</b>	
Drilling Method: <b>4-inch Flight Auger</b>		Drilling Contractor: <b>Taber Drilling</b>		Arbitrary Ground Surface Elevation (ft MSL): <b>53</b>
Drill Rig: <b>CME-55</b>		Hammer Type/ Efficiency: <b>Automatic Trip/ 80%</b>		Hammer Weight / Drop: <b>140# / 30"</b>
Logged By: <b>Alex Fiorilli</b>	Reviewed By: <b>K. Jermstad</b>	Borehole Backfill: <b>cuttings</b>		Groundwater Depth (ft): <b>Not Encountered ATD</b>

Remarks:

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Type	Sample/Run No.	Blows/6"	N <sub>60</sub>	Other Tests
52	1	3" Asphalt 3" Aggregate Base FILL: Brown silty SAND (SM), trace gravel.						
51	2	Brown SILT (ML), with gravel, trace clay, cemented, moist.		MC	B2-1A B2-1	12 25 50/6"	50+	CR
50	3							
49	4							
48	5							
47	6	SILTSTONE, brown, weathered, weak.		SPT	B2-2	5 5 50/6"	50+	
46	7							
45	8							
44	9							
43	10							
42	11	Boring terminated at 10.5 ft bgs		SPT	B2-3	50/5"	50+	
41	12							
40	13							
39	14							



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Log of Boring

B-2

Start Date: <b>9/25/17</b>			Total Depth Drilled (ft bgs): <b>5.0</b>
Drilling Method: <b>4-inch Flight Auger</b>	Drilling Contractor: <b>Taber Drilling</b>		Arbitrary Ground Surface Elevation (ft MSL): <b>50</b>
Drill Rig: <b>CME-55</b>	Hammer Type/ Efficiency: <b>Automatic Trip/ 80%</b>		Hammer Weight / Drop: <b>140# / 30"</b>
Logged By: <b>Alex Fiorilli</b>	Reviewed By: <b>K. Jermstad</b>	Borehole Backfill: <b>cuttings</b>	Groundwater Depth (ft): <b>Not Encountered ATD</b>

Remarks:

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Type	Sample/Run No.	Blows/6"	N <sub>60</sub>
		3" Asphalt					
		9" Aggregate Base					
49	1	Brown sandy SILT (SM), fine-grained sand, trace gravel, trace clay, very stiff, moist.				7	16
48	2			SPT	B3-1	6	
		Dark brown silty SAND (SM), fine- to medium-grained sand, medium dense, moist.				7	
47	3						
46	4						
		SILTSTONE, brown, weathered, weak.		SPT	B3-2	6	50+
45	5					50/6"	
44	6						
43	7						
42	8						
41	9						
40	10						
39	11						
38	12						
37	13						
36	14						



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Log of Boring

B-3



## **Appendix C**

### **Previous Borings By Others**

Laboratory and  
Field Tests

Moisture  
Content (%)  
Dry  
Density (pcf)

Blows/foot

Depth (ft)

Sample

Logs of Borings B-1

Equipment 8" Hollow Stem Auger

Elevation 56.2 ft\*\* Date 12/23/92

21.5 100

17\*

15.7 116

30\*

48\*/5"

15

2" ASPHALT CONCRETE  
4" BASEROCK  
BROWN LEAN CLAY WITH SAND (CL)  
medium stiff, dry  
YELLOW-BROWN LEAN CLAY  
WITH SAND (CL)  
stiff, moist

FILL

with some rock structure  
BROWN SILTSTONE  
closely fractured, low hardness, weak,  
deeply weathered  
increased drilling resistance at 8 feet

color change to gray  
becomes intensely fractured  
little weathered

Boring was terminated at 10.9 feet.  
No free groundwater was encountered.

Laboratory and  
Field Tests

Moisture  
Content (%)  
Dry  
Density (pcf)

Blows/foot

Depth (ft)

Sample

Logs of Borings B-2

Equipment 8" Hollow Stem Auger

Elevation 55.0 ft\*\* Date 12/23/92

LL=49, PI=26  
See Plate 9

Corrosion tests,  
see Appendix B

\*Field blow counts converted  
to pseudo SPT N-values by  
multiplying the field blow  
counts by a factor of 0.8.

\*\*City of San Mateo Datum.  
Reference: Boundary and  
Topographic Survey, San Mateo  
County General Hospital,  
prepared by Acres Consulting  
Engineers, dated January 1992.

72\*/9"

50/1"

15

1-1/2" ASPHALT CONCRETE  
4" BASEROCK  
YELLOW-BROWN SANDY LEAN CLAY (CL)  
medium stiff, dry  
BROWN SANDSTONE  
closely fractured, low hardness, weak,  
deeply weathered

FILL

becoming gray, strong,  
moderately weathered

Boring was terminated at 8.6 feet.  
No free groundwater was encountered.



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Logs of Borings

San Mateo Hospital Addition  
San Mateo, California

(Sheet 1 of 1)

PLATE

2

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16301G23

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Laboratory Tests

Corrosion tests,  
See Appendix B

Moisture  
Content (%)  
Dry  
Density (pcf)

14.8 102

9.1 113

Blows/foot

14\*

48\*

59\*

44\*

40\*/4"

Depth (ft)  
Sample

0

5

10

15

20

25

30

35

40

Equipment 8" Hollow Stem Auger

Elevation 46.8 ft\*\* Date 12/23/92

BROWN LEAN CLAY WITH SAND (CL)  
medium stiff, moist, with roots

GRAY SILTSTONE  
intensely fractured, low hardness,  
friable, deeply weathered

becoming weak, moderately weathered

GRAY SHALE  
crushed, low hardness, weak,  
little weathered, with fat clay gauge

GRAY AND BROWN SILTSTONE  
intensely fractured, low hardness,  
friable, deeply weathered

Boring was terminated at 19.8 feet.  
No free groundwater was encountered.



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Log of Boring B-6  
San Mateo Hospital Addition  
San Mateo, California

(Sheet 1 of 1)

PLATE

5

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*[Signature]*















FILE

16301G23

DATE

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# UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487-85)

MAJOR DIVISIONS			GROUP NAMES	
COARSE-GRAINED SOILS More than 50% retained on the No. 200 sieve	GRAVELS  More than 50% of coarse fraction retained on No. 4 sieve	Clean gravels less than 5% fines	GW	 WELL-GRADED GRAVEL, WELL-GRADED GRAVEL WITH SAND
			GP	 POORLY-GRADED GRAVEL, POORLY-GRADED GRAVEL WITH SAND
		Gravels with more than 12% fines	GM	 SILTY GRAVEL, SILTY GRAVEL WITH SAND
			GC	 CLAYEY GRAVEL, CLAYEY GRAVEL WITH SAND
	SANDS  50% or more of coarse fraction passes No. 4 sieve	Clean Sand less than 5% fines	SW	 WELL-GRADED SAND, WELL-GRADED SAND WITH GRAVEL
			SP	 POORLY-GRADED SAND, POORLY-GRADED SAND WITH GRAVEL
		Sands with more than 12% fines	SM	 SILTY SAND, SILTY SAND WITH GRAVEL
			SC	 CLAYEY SAND, CLAYEY SAND WITH GRAVEL
FINE-GRAINED SOILS 50% or more passes the No. 200 sieve	SILTS AND CLAYS Liquid limit less than 50%	ML	 SILT, SILT WITH SAND OR GRAVEL, SANDY OR GRAVELLY SILT	
		CL	 LEAN CLAY, LEAN CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY LEAN CLAY	
		OL	 ORGANIC SILT OR CLAY, ORGANIC SILT OR CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY ORGANIC SILT OR CLAY	
	SILTS AND CLAYS Liquid Limit 50% or more	MH	 ELASTIC SILT, ELASTIC SILT WITH SAND OR GRAVEL, SANDY OR GRAVELLY ELASTIC SILT	
		CH	 FAT CLAY, FAT CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY FAT CLAY	
		OH	 ORGANIC SILT OR CLAY, ORGANIC SILT OR CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY ORGANIC SILT OR CLAY	
	HIGHLY ORGANIC SOILS		Pt	PEAT

For definition of dual and borderline symbols, see ASTM D2487-85.

## KEY TO TEST DATA

		Shear Strength (psf)	Confining Pressure
Perm	- Permeability	TxUU 3200 (2600)	- Unconsolidated-Undrained Triaxial Shear
Consol	- Consolidation	TxCU 3200 (2600)	- Consolidated-Undrained Triaxial Shear
LL	- Liquid Limit	TxCD 3200 (2600)	- Consolidated-Drained Triaxial Shear
PI	- Plasticity Index (%)	SSCU 3200 (2600)	- Consolidated-Undrained Simple Shear
Gs	- Specific Gravity	SSCD 3200 (2600)	- Consolidated-Drained Simple Shear
MA	- Particle Size Analysis	DSCD 2700 (2000)	- Consolidated-Drained Direct Shear
-200	- Percent Passing No. 200 Sieve	UC 470	- Unconfined Compression
■	- "Undisturbed" Sample	LVS 700	- Laboratory Vane Shear
☒	- Bulk or Classification Sample	FV 300	- Field Vane Shear
□	- Lost Sample	TV 800	- Torvane Shear
		PP 400	- Pocket Penetrometer (actual reading divided by 2)



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**Soil Classification Chart**

**and Key to Test Data**

**San Mateo County General Hospital Additions**

**San Mateo, California**

PLATE

**6**

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### Relative Density of Coarse-Grained Soils

Relative Density	Standard Penetration Test Blow Count (blows per foot)
very loose	<4
loose	4 - 10
medium dense	10 - 30
dense	30 - 50
very dense	>50

### Consistency of Fine-Grained Soils

Consistency	Identification Procedure	Approximate Shear Strength (psf)
Very soft	Easily penetrated several inches with fist	less than 250
Soft	Easily penetrated several inches with thumb	250-500
Medium stiff	Penetrated several inches by thumb with moderate effort	500 - 1000
Stiff	Readily indented by thumb, but penetrated only with great effort	1000 - 2000
Very Stiff	Readily indented by thumb nail	2000 - 4000
Hard	Indented with difficulty by thumb nail	greater than 4000

### Natural Moisture Content \*

Dry -	Requires considerable moisture to obtain optimum moisture content* for compaction
Moist -	Near the optimum moisture content for compaction
Wet -	Requires drying to obtain optimum moisture content for compaction
Saturated -	Near or below the water table, from capillarity, or from perched or ponded water

\* Optimum moisture content as determined in accordance with ASTM Test Method D1557-78.

Where laboratory data are not available, the above field classifications provide a general indication of material properties; the classifications may require modification if laboratory tests are subsequently conducted.



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**Physical Properties Criteria  
for Soil Classifications**  
San Mateo County General Hospital Additions  
San Mateo, California

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**I CONSOLIDATION OF SEDIMENTARY ROCKS;** usually determined from unweathered samples. Largely dependent on cementation.

U = unconsolidated  
P = poorly consolidated  
M = moderately consolidated  
W = well consolidated

**II BEDDING OF SEDIMENTARY ROCKS**

<u>Splitting Property</u>	<u>Thickness (feet)</u>	<u>Stratification</u>
Massive	Greater than 4.0	Very thick bedded
Blocky	2.0 to 4.0	Thick bedded
Slabby	0.2 to 2.0	Thin bedded
Flaggy	0.05 to 0.2	Very thin bedded
Shaly or platy	0.01 to 0.05	Laminated
Papery	Less than 0.01	Thinly laminated

**III FRACTURING**

<u>Intensity</u>	<u>Size of Pieces (Feet)</u>
Very little fractured	Greater than 4.0
Occasionally fractured	1.0 to 4.0
Moderately fractured	0.5 to 1.0
Closely fractured	0.1 to 0.5
Intensely fractured	0.05 to 0.1
Crushed	Less than 0.05

**IV HARDNESS**

1. Soft - Reserved for plastic material alone.
2. Low hardness - Can be gouged deeply or carved easily with a knife blade.
3. Moderately hard - Can be readily scratched by a knife blade; scratch leaves a heavy trace of dust and is readily visible after the powder has been blown away.
4. Hard - Can be scratched with difficulty; scratch produces little powder and is often faintly visible.
5. Very hard - Cannot be scratched with knife blade; leaves a metallic streak.

**V STRENGTH**

1. Plastic or very low strength.
2. Friable - Crumbles easily by rubbing with fingers.
3. Weak - An unfractured specimen of such material will crumble under light hammer blows.
4. Moderately strong - Specimen will withstand a few heavy hammer blows before breaking.
5. Strong - Specimen will withstand a few heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments.
6. Very strong - Specimen will resist heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments.

**VI WEATHERING** - The physical and chemical disintegration and decomposition of rocks and minerals by natural processes such as oxidation, reduction, hydration, solution, carbonation, and freezing and thawing.

- D. Deep - Moderate to complete mineral decomposition; extensive disintegration; deep and thorough discoloration; many fractures, all extensively coated or filled with oxides, carbonates, and/or clay or silt.
- M. Moderate - Slight changes or partial decomposition of minerals; little disintegration; cementation little to unaffected; moderate to occasionally intense discoloration; moderately coated fractures.
- L. Little - No megascopic decomposition of minerals; little or no effect on normal cementation; slight and intermittent, or localized discoloration; few stains on fracture surfaces.
- F. Fresh - Unaffected by weathering agents; no disintegration or discoloration; fractures usually less numerous than joints.



ANDESITE,  
BASALT,  
RHYOLITE



GRAYWACKE



SCHIST



SILTSTONE, MUDSTONE  
CLAYSTONE



CHERT



LIMESTONE,  
CORAL



SERPENTINE



TUFF



CONGLOMERATE



SANDSTONE



SHALE



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**Physical Properties Criteria  
for Rock Classifications**

San Mateo County General Hospital Additions  
San Mateo, California

PLATE

**8**

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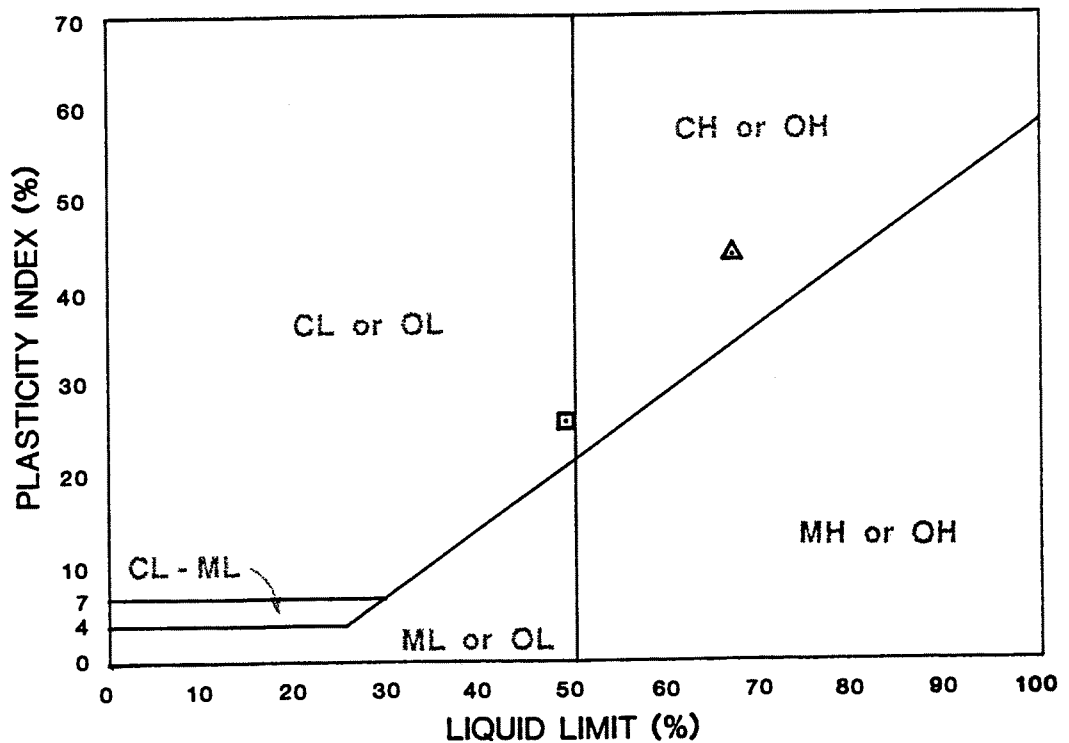
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*g. E. Edwards*

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1/93

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SYMBOL	BORING NUMBER	DEPTH (feet)	CLASSIFICATION	LL (%)	PL (%)	PI (%)	MOISTURE CONTENT (%)
□	B-2	1.0	YELLOW-BROWN SANDY LEAN CLAY (CL)	49	23	26	
△	B-5	2.5	BROWN FAT CLAY W/ SAND (CH)	67	23	44	



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**Plasticity Chart**  
San Mateo County General Hospital Additions  
San Mateo, California

PLATE

**9**

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**22823-1.0**

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*HLA*

DATE  
**12-31-1992**

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## **Appendix D**

# **Geotechnical Laboratory Test Results**

Boring ID	Depth (ft)	Description	Water Content (%)	Dry Density (pcf)	Maximum Size (mm)	%<#200 Sieve	Liquid Limit	Plastic Limit	Plasticity Index	Other Tests
B-1	1.0	Brown sandy CLAY (CL)					25	14	11	
B-1	4.0	Brown silty SAND (SM)			19	25				
B-2	1.5	Brown SILT (ML) with gravel								CR
B-2	2.0	Brown SILT (ML) with gravel								

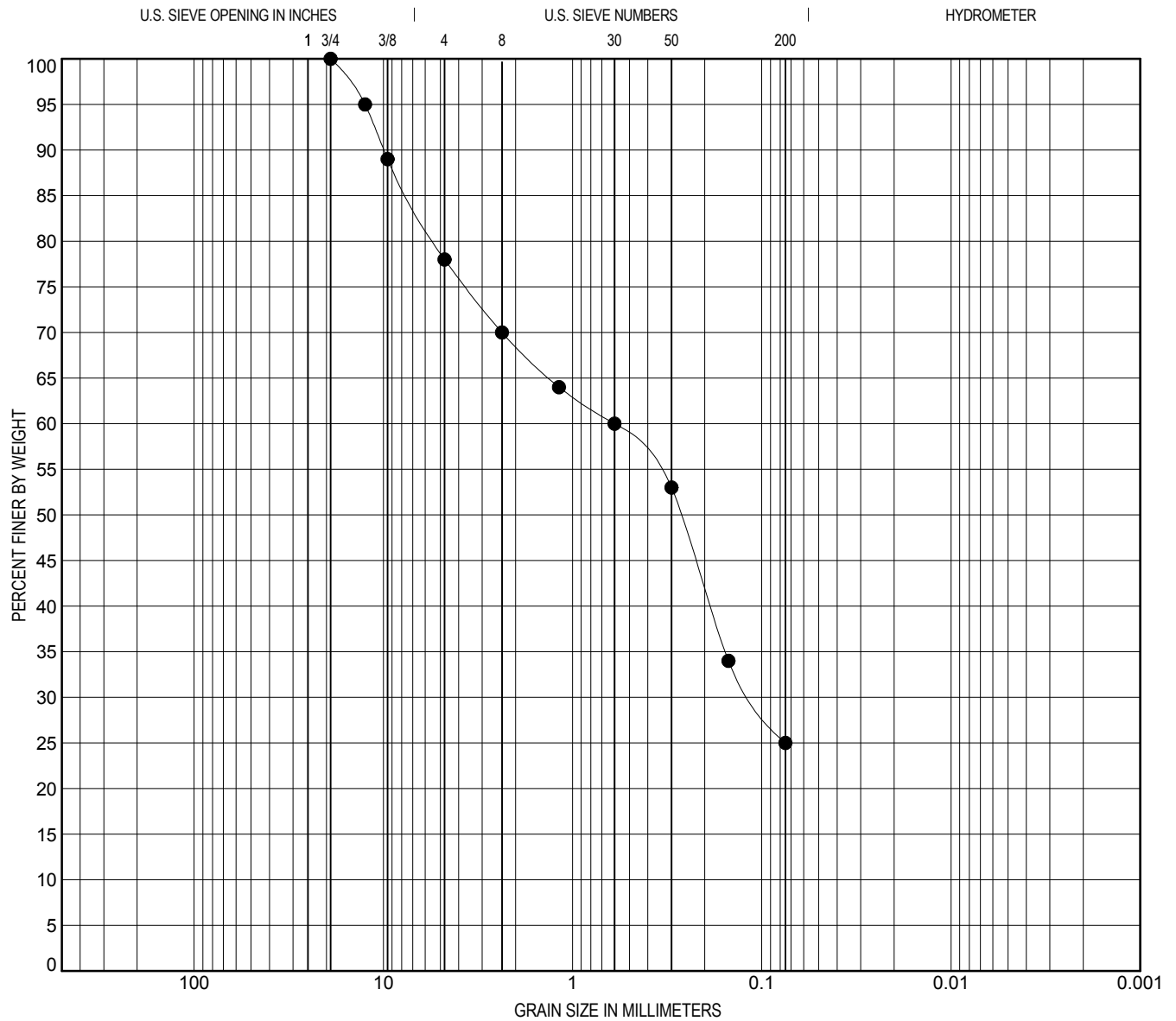


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San Mateo, CA

Project No. 11151125  
Revision No. 0  
Date 10/20/2017

## Summary of Laboratory Results

D-1



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification					LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>
●	B-1	4.0	Brown silty SAND (SM)									
Specimen Identification			D <sub>100</sub>	D <sub>90</sub>	D <sub>85</sub>	D <sub>50</sub>	D <sub>15</sub>	D <sub>10</sub>	%Gravel	%Sand	%Silt	%Clay
●	B-1	4.0	19	9.945	7.383	0.269			22.0	53.0	25.0	



County of San Mateo  
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Project No. 11151125  
Revision No. 0  
Date 10/20/2017

Sieve Analysis

D-2



October 17, 2017

Chad Walker  
Gulf Shore Construction Services, Inc.  
cwalker@gulfshoreservices.com

*R-Value Test Results*

**GULF SHORE MISCELLANEOUS LABORATORY TESTING**

WKA No. 9884.01

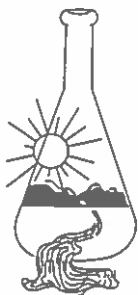
Gulf Shore Project Name:	San Mateo Med Center
Gulf Shore Project No.	17-243
Sample ID:	26942, Bulk Sample
Date Received:	10/09/17
WKA Lab No:	0001503

**RESISTANCE (R) VALUE TEST RESULTS**  
(CTM 301)

Specimen Number	Dry Unit Weight	Moisture @ Compaction	Expansion Pressure	Exudation Pressure	R - Value
	(pcf)	(percent)	(dial)	(psf)	(psi)
1	103	19.6	6	26	161
2	110	17.5	8	35	330
3	113	15.7	47	204	616
<b>R-VALUE @ 300 PSI EXUDATION PRESSURE = 10</b>					

Reviewed by:

  
David T. Hunn, P.E.



## Sunland Analytical

11419 Sunrise Gold Circle, #10  
Rancho Cordova, CA 95742  
(916) 852-8557

Date Reported 10/11/2017  
Date Submitted 10/05/2017

To: Tony Quintrall  
GHD  
4080 Plaza Goldorado Cir. B  
Cameron Park, CA 95682

From: Gene Oliphant, Ph.D. \ Randy Horney  
General Manager \ Lab Manager

The reported analysis was requested for the following location:  
Location : 11151125 Site ID : B2-1A@1.5-2FT.  
Thank you for your business.

\* For future reference to this analysis please use SUN # 75373-157344.

---

### EVALUATION FOR SOIL CORROSION

Soil pH	8.30	
Moisture	8.6	%
Minimum Resistivity	1.74	ohm-cm (x1000)
Chloride	28.1 ppm	00.00281 %
Sulfate	211.8 ppm	00.02118 %
Redox Potential	(+) 168	mv
Sulfate Reducing Bacteria Presence - NEGATIVE		

### METHODS

pH and Min.Resistivity CA DOT Test #643 Mod.(Sm.Cell)  
Sulfate CA DOT Test #417, Chloride CA DOT Test #422  
Redox Potential ASTM D1498m, Sulfate Reducing Bacteria AWWA C105-72

**GHD**

4080 Plaza Goldorado Circle  
Suite B  
Cameron Park, CA 95682 USA  
T: 1 530 677 5515

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## KEYPLAN

[illegible]

FACILITY NAME: **SAN MATEO MEDICAL CENTER**  
FACILITY ADDRESS: **222 W 39TH AVE, SAN MATEO, CA 94403**  
OWNER PROJECT NUMBER: **R072731**  
AUTHORITY HAVING JURISDICTION: **OSHPD**  
AGENCY FACILITY NUMBER: **106410782**  
AGENCY BUILDING NUMBER: **BLD-00856**  
AGENCY PROJECT NUMBER: **####**

**SHEET TITLE** \_\_\_\_\_ **DATE:** 11/06/2017

SHEET NUMBER

**30% SUBMITTAL**

