WINZLER & KELLY
CONSULTING ENGINEERS

MEMORANDUM

TO: Ann Stillman

COMPANY: County of San Mateo-Department of Public Works

FROM: Jay Winzler
Peter Young

DATE: May 1, 2009

RE: Pescadero Fire Flow Analysis

JOB #: 0305608002

REGISTERED PROFESSIONAL ENGINEER
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C 054761
EXP. 12-31-09
CIVIL
STATE OF CALIFORNIA
5-1-09

At the request of the Pescadero Municipal Advisory Council (PMAC) the County of San Mateo (County) has retained Winzler & Kelly to analyze the existing water distribution system including storage capacity to determine the feasibility of adding a fire protection pump to meet the new fire flow requirements in the Commercial District of Pescadero.

EXISTING SYSTEM

Pescadero is an unincorporated community in San Mateo County California approximately 14.4 miles south of Half Moon Bay. The County Department of Public Works maintains and operates the water source and delivery system to the town of Pescadero. The existing water system supplies household water and fire protection to the town of Pescadero and the County Service Area 11 (CSA 11). The California Department of Fire currently operates a station on the outskirts of town and is the sole source of fire protection for the community. The existing water system was designed in 1990 by Winzler & Kelly Consulting Engineers and is comprised of PVC pipe ranging in size from 4-inch to 8-inch in diameter.

At the time of the original water system design, the local fire flow requirement for Pescadero was 1,500 gallons per minute (GPM) for two hours with a residual pressure of 20 pounds per square inch (psig) at the fire hydrant. The originally system was not designed or installed to meet the required fire flow needs of the Commercial District but was considered a vast improvement over the previous lack of any water system. Currently, the water system is capable of providing the residential portion of the system with a suitable fire flow capacity.

In November 2002, CSA 11 renewed the domestic water supply permit issued in 1992 by the County of San Mateo, Division of Environment Health Services to operate a public water supply for the Pescadero Community. Water demands are met by two vertical drilled water wells, each approximately 250 feet deep, identified as Well 1 and Well 2 (Warheit Well). Well 1 is a 7.5 horsepower (hp) Franklin Electric 3-phase pump motor with an approximate capacity of 45

GPM. The Warheit well is a 5 hp Franklin Electric 3-phase pump motor with an approximate capacity of 150 GPM. General water service is provided by Well 1 and the Warheit Well is reserved for emergency use. In March 2002, Todd Engineers completed an evaluation of the source water for the community titled "Assessment of Source Water for the Pescadero Water System-CSA 11" in which it was recommended that "…CSA 11 install a new production well in the vicinity of Wells 1 and 2 or at a lower elevation..." To date, no new production wells have been installed.

Groundwater is currently not treated before being pumped to the community's only water storage facility located at a base elevation of approximately 186.7 feet above sea level (ASL). Water storage is achieved in a single 140,000 gallon, 39 foot diameter cylindrical steel water storage tank. The on/off sequence for the groundwater wells are controlled by the water levels of the tank. At a low water level of 198.3 ft ASL in the tank, the groundwater pumps turn on until water levels in the tank reach approximately 202.3 ft ASL and the pump is shut off.

The existing distribution system is gravity fed from the water storage tank. The distribution piping consists of approximately 190 feet of 4-inch, 2,600 feet of 6-inch and 8,100 feet of 8-inch diameter PVC pipe for a combined total of 10,900 feet of pipeline. According to the original design specifications, all distribution pipe material is PVC "Thickwall" Class 150 pipe meeting the requirements of SDR-18. The customer base consists of residential, commercial and water users.

A site plan identifying the location of the major Pescadero water system facilities is shown on Figure 1.

EVALUATION CRITERIA

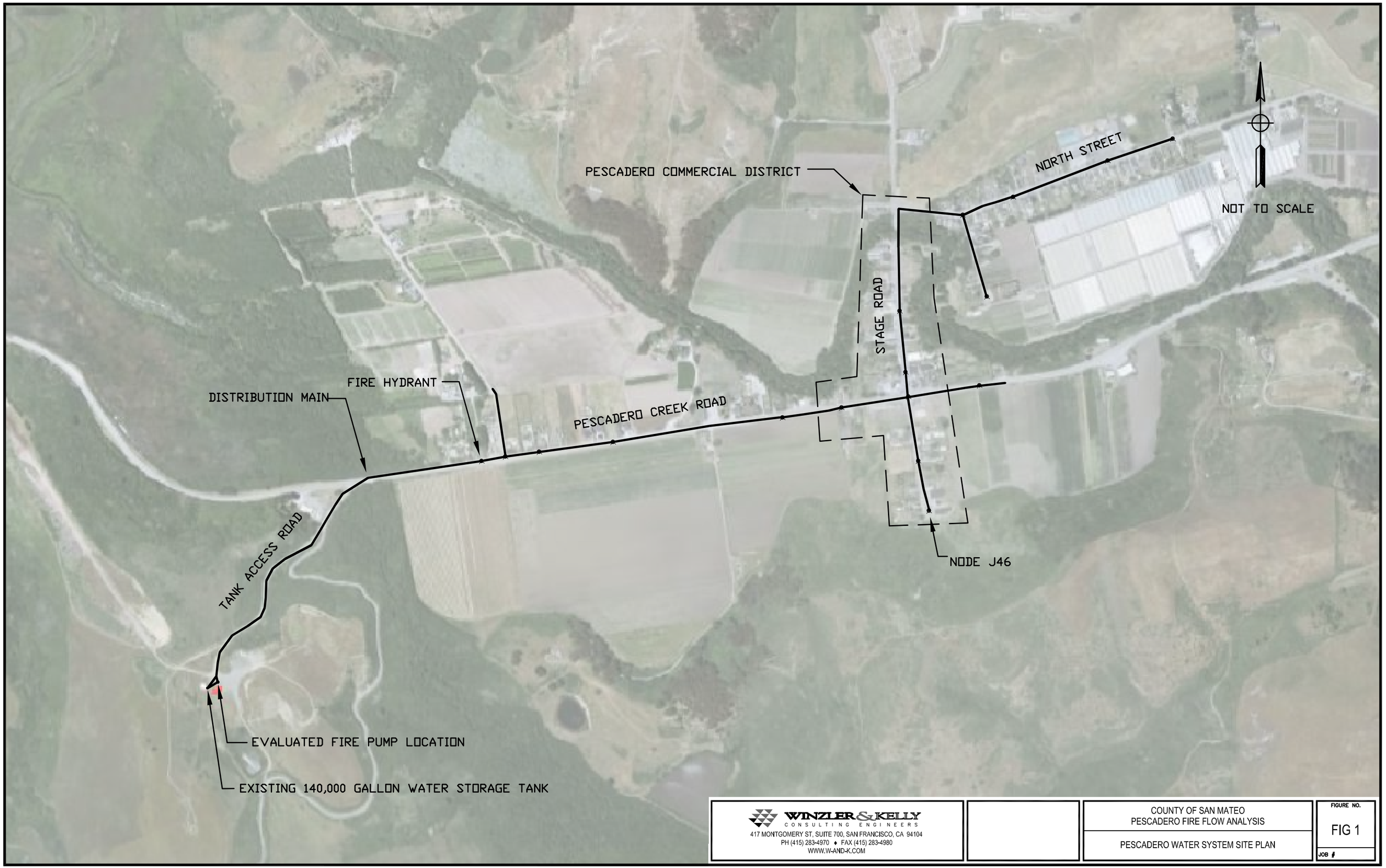
In order to perform the required hydraulic evaluation of the existing system and conduct pumping capacity evaluations, it is necessary to identify the evaluation criteria that will enable identification of deficiencies and judge the effectiveness of alternative improvements.

Performance and evaluation criteria include:

- Water demand peaking factors, including maximum day and peak hour demands for use in developing current demands
- Water system operating criteria, including minimum and maximum distribution system pressures and minimum and maximum pipeline velocities and head loss under a fire flow demand
- Storage criteria include the amount of water storage capacity available to meet operational and fire service needs

Water Demand

Bimonthly historical demand data dating to December 2005 was provided by the County to determine annual average day demand (ADD) for the system. Historical data is summarized in



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COUNTY OF SAN MATEO
PESCADERO FIRE FLOW ANALYSIS

PESCADERO WATER SYSTEM SITE PLAN

FIGURE NO.
FIG 1

JOB #

Table 1. Peaking factors were then applied to yield maximum day demand (MDD) and peak hour demand (PHD) for evaluation. Water demand peaking factors represent the increase above average day demand experienced during a specified time period and are prescribed per the California Department of Public Health (CDPH) California Waterworks Standards recommendations.

Table 1
Pescadero Historical Water Demand

2006								
Billing Period	**Days/period**	**Water Consumption[(1)] (Units)**	**Water Consumption (Gal)**	**ADD (Gal/Day)**	**MDD[(2)] PF**	**MDD (GPD)**	**PHD[(2)] PF**	**PHD (GPM)**
DEC 05-JAN 06	62	1,500	1,122,000	18,097	1.5	27,145	1.5	28.3
FEB-MAR	59	1,658	1,240,184	21,020	1.5	31,530	1.5	32.8
APR-MAY	61	1,730	1,294,040	21,214	1.5	31,821	1.5	33.1
JUNE-JULY	61	2,626	1,964,248	32,201	1.5	48,301	1.5	50.3
AUG-SEPT	61	2,772	2,073,456	33,991	1.5	50,987	1.5	53.1
OCT-NOV	61	1,925	1,439,900	23,605	1.5	35,407	1.5	36.9
Total	**365**	**12,211**	**9,133,828**	**25,024**				
2007								
DEC 06-JAN 07	62	1,463	1,094,324	17,650	1.5	26,476	1.5	27.6
FEB-MAR	59	1,694	1,267,112	21,476	1.5	32,215	1.5	33.6
APR-MAY	61	1,901	1,421,948	23,311	1.5	34,966	1.5	36.4
JUNE-JULY	61	2,714	2,030,072	33,280	1.5	49,920	1.5	52.0
AUG-SEPT	61	2,529	1,891,692	31,011	1.5	46,517	1.5	48.5
OCT-NOV	61	1,997	1,493,756	24,488	1.5	36,732	1.5	38.3
Total	**365**	**12,298**	**9,198,904**	**25,202**				
2008								
DEC 07-JAN 08	62	1,604	1,199,792	19,351	1.5	29,027	1.5	30.2
FEB-MAR	59	1,851	1,384,548	23,467	1.5	35,200	1.5	36.7
APR-MAY	61	2,405	1,798,940	29,491	1.5	44,236	1.5	46.1
JUNE-JULY	61	2,303	1,722,644	28,240	1.5	42,360	1.5	44.1
AUG-SEPT	61	2,448	1,831,104	30,018	1.5	45,027	1.5	46.9
OCT-NOV	NA	NA	NA	NA	NA	NA	NA	NA
Total	**304**	**10,611**	**7,937,028**	**26,109**				

Note:
(1) Data summarized from billing records provided by the County of San Mateo.
(2) A Peaking Factor (PF) of 1.5 was used per the CDPHS Waterworks Standards

The MDD represents the highest daily demand for the entire year. Water systems are typically evaluated under MDD conditions or MDD plus fire flow conditions. The PHD represents the highest hourly demand on the entire system and simulates the highest flow rate expected on the hottest day of the year and is sometimes considered the "worst case" scenario. Due to Pescadero being a small community with a low MDD, the PHD will be utilized for this evaluation. This

condition allows the system to be stressed at a higher demand rate to ascertain if supply sources and pipeline carrying capacities are adequate.

Based on the County provided data, the maximum bimonthly usage occurred in August/September of 2006. Records indicate that during this period an ADD of approximately 33,991 gallons per day or 24 gallons per minute (GPM) was used. A peaking factor of 1.5 was applied to ADD to achieve a MDD of approximately 35 GPM (24 GPM x 1.5 = 35.4 GPM). Another peaking factor of 1.5 was applied again to the MDD to obtain a PHD of approximately 53 GPM. Therefore a demand of 53 GPM plus fire flow will be utilized in the evaluation of the Pescadero water system.

A complete listing of the historical water demand data is provided in Appendix A.

Operating Criteria

In evaluating the water system hydraulic operation, it is desirable for normal operation service pressure to be between 40 and 80 psig. Per the fire code, the minimum allowable service pressure at the fire hydrant under fire demand conditions is 20 psig. Communities with service pressure above 80 psig typically require connections to have pressure reducing valves (PRV) to decrease the potential for damage to internal plumbing facilities of homes and commercial business. The maximum allowable service pressure for the system is determined by the pressure rating of the distribution pipe material. In the case of the Pescadero water system the pipe material is PVC Class 150 pipe meeting SDR-18 requirements. PVC pipe of this type has a maximum allowable short term operating pressure of 377 psig. For the purpose of this report the allowable minimum service pressure for service nodes in the Commercial District in a fire flow event is assumed to be 20 psig.

Other criteria related to the distribution system piping include maximum and minimum velocity and the maximum allowable friction head loss. Pipeline velocity should be limited to approximately 8 feet per second (fps) under normal operation. Velocities could increase to approximately 10 fps without damage if not sustained for long periods. There is no minimum velocity requirement in water system design. Low velocities and stagnant flow in pipelines is discouraged as water age increases and water quality suffers.

As long as maximum velocity and pressure criteria are not violated, high head loss by itself is not an important factor. However, a pipe segment with high head loss may serve as a warning that the pipe is nearing the limit of its carrying capacity and may not have excess capacity to perform under more stringent conditions. It is normally good practice to limit head loss to no greater than 10 feet per 1,000 feet (ft/kft) under fire flow conditions.

Water Storage

Water supply sources must be large enough to meet the various water demand conditions and also be able to meet some demand during emergencies such as power outages and natural disasters. Per Section 64554 of the CDPH California Waterworks Standards, it is required that at

a minimum "For [water] systems with less than 1,000 service connections, the system shall have storage capacity equal to or greater than MDD, unless the system can demonstrate that it has an additional source of supply or has an emergency source connection that can meet the MDD requirement". The American Water Works Association (AWWA) recommends more conservative water storage goals based on three categories:

- Operational storage volume
- Fire storage volume
- Emergency storage volume

Operational storage volume is the amount of storage capacity in a system to absorb fluctuations of demand versus supply. Ideally, water supply sources are sized to provide the maximum day demand, with gravity storage capacity delivering the remainder during peak demand periods. With adequate operational storage capacity, system pressures are stabilized and adequate storage capacity can be provided for fire and emergency use. AWWA recommends an operational storage capacity of 25 percent of the maximum day demand for each pressure zone.

Fire storage volume is provided for fire-fighting purposes to allow gravity flow in the event the source flow is interrupted. Fire storage volumes vary and are based on the specified fire flow rate for a specified duration as determined by fire code. The local Fire Marshall has required that the Pescadero community must meet a minimum fire flow requirement of 1,500 GPM for 2 hours. In order to meet the required fire flow quantity and duration, a minimum fire storage volume of 180,000 gallons is required (1,500 GPM x 60 min/hr x 2 hr = 180,000 gallons).

Emergency storage volume is the storage volume available to meet demands during emergency situations such as pipeline failures, major trunk main failures, pump failures, electrical power outages or other natural disasters. The volume of water allocated for emergency use is determined by historical record of emergencies experienced and by the amount of time which is expected to lapse before the emergency can be corrected. The amount of emergency storage volume included within a particular water system is typically Agency-specified, based on an assessment of risk and the desired degree of system reliability. In California, emergency storage volumes range from 50 percent of ADD to over 100 percent of MDD. The lower criterion would apply to systems with a single pressure zone, adequate and reliable water supply sources (usually with emergency power) and redundant sources.

The existing Pescadero community system contains one 140,000 gallon water storage tank supplied by two groundwater wells. The available Pescadero water storage is equivalent to a fire flow capacity of approximately 1,150 GPM for two hours (140,000 gallons/2 hrs /60 min= ~1,150 GPM) with no residual for operation or emergency storage.

HYDRAULIC EVALUATION

The existing water system was modeled using H2ONET. H2ONET is a comprehensive water hydraulic network modeling software program marketed by MWHSoft that has many features and graphical interface capabilities developed for analyzing water systems under static or steady

state situations. Using H2ONET, a simplified hydraulic model representing the Pescadero water system was created and used to analyze the system under different proposed alternatives.

A multiple-step approach was developed to analyze the system under the PHD plus fire flow demand. Step 1 was to determine the existing water source capabilities and the existing peak demand of the community. Information provided by the PMAC and the County was utilized to determine the demand criteria for the community and has been presented in Table 1. These demands were then placed within the water model to accurately reflect the approximate demand within the different regions of the system. Step 2 was to develop the evaluation criteria. Evaluation criteria help to determine the capabilities under which the existing system can perform and to determine the deficiencies in meeting the ultimate fire flow demand goals. Finally, step 3 was to run the model and determine the pumping requirements that must be applied to overcome the deficiencies created under the new fire flow conditions and to evaluate the effects on the system.

Three scenarios were developed and evaluated. The first scenario represents the existing system under an increased fire flow of 1,500 GPM with gravity flow, the second scenario represents the existing system under an increased fire flow of 1,500 GPM with the inclusion of a fire protection pump and in Scenario 3, a fire flow analysis is conducted with improved distribution main sizes to achieve fire goals by gravity flow. The hydraulic model output results include flow, velocity and head loss for all pipe segments and pressure and hydraulic gradient for all network nodes in the system. This information can be compared to the evaluation criteria to determine hydraulic adequacy. Solutions to correct identified deficiencies can then be run with the model to determine their effectiveness.

The hydraulic analysis was performed under steady-state conditions. Extended period simulations were beyond the scope of work. Steady-state conditions represent a specific snapshot in time. Demand scenarios are intended to stress the system with the highest expected flow rates through the system. If the system can function under these stressed conditions, then it is anticipated that lower demands can be accommodated. Fire flow demands are applied to the Commercial District only. The Commercial District is defined by the services on Stage Road located between Pescadero Creek Road and North Street. In addition, the analysis has extended the sphere of influence to incorporate an Irmandade do Divino Espirito Santo (IDES) Hall on Stage Road south of Pescadero Creek Road.

Scenario 1

In Scenario 1, the existing Commercial District of the Pescadero water system was evaluated under PHD conditions and fire flow conditions. The fire flow analysis consisted of applying a fire flow demand at the nodes representing existing fire hydrants within the Commercial District and determining if the 20 psig residual pressure criterion is met. Hydraulic model results indicate that in a fire flow event, velocity criteria in the primary distribution main remains below the 10 fps criteria but head losses exceeding 10 ft/kft occur over the distribution main. As a result of the high head losses system pressure suffers and residual pressure criteria are violated.

Scenario 1 model results confirm that the Pescadero water system is not capable of supporting a fire flow of 1,500 GPM. The most significant deficiencies for the Commercial District occurs at Node J46 located at the south end of Stage Road south of Pescadero Creek Road. Theoretically if the internal service pressure falls below 0 psig a vacuum can be created resulting in the potential for the pipeline to collapse and/or contaminated water being drawn into the distribution system. During typical operation, negative pressures are very difficult to achieve. Based on model results it has been determined that the maximum available fire flow for the Commercial District with a 20 psig residual is approximately 846 GPM.

Hydraulic modeling results for Scenario 1 are included as Appendix B

Scenario 2:

In Scenario 2, the existing Pescadero water system was evaluated under fire flow conditions with a fire protection pump and an additional 70,000 gallons of water storage added to the existing water tank site. The purpose of the fire protection pump is to boost the system pressure in a fire flow event.

Based on model results from Scenario 1, it was determined that the most deficient fire hydrant in the Commercial District in a fire flow event occurs at Node J46. The residual pressure at Node J46 was modeled to be -81.47 psig. In order to meet a 20 psig residual at this fire hydrant, approximately 101.47 psig (233 ft head) of pressure must be added to the system (|-81.47| psig + 20 psig = 101.47 psig). This in turn is the theoretical minimum rated capacity of a pump that must be added to the system to meet residual pressure criteria. If a residual pressure of 20 psig can be met at Node J46, the most deficient node of the evaluated area, then it can be assumed that residual pressure can be met at all other fire flow locations in the Commercial District.

Utilizing a pump sized for approximately 108 psig equivalent to (250 feet of head) located at the water storage tank, the fire flow analysis for the Commercial District was rerun. A pump of 108 psig was used and includes 7 psi of additional pressure to act as a buffer and provide an allowance for minor losses in the distribution system and across the pumping equipment.

Model results for Scenario 2 indicate that with a fire protection pump sized for approximately 108 psig or 250 ft of head and adequate water supply, all fire hydrants within the Commercial District are capable of meeting fire flow requirements of 1,500 GPM with a minimum of 20 psig pressure residual. Under a fire flow event pipe velocity approaches but does not exceed the 10 fps criteria but as expected high head losses exceeding 10 ft/kft occurred over the distribution mains. Although undesirable, violation of the head loss criteria is expected and unavoidable due to the undersized distribution mains. The hydraulic model results for Scenario 2 indicate that it is feasible to provide a pump at the water storage tank to increase fire flow to 1,500 GPM without violating evaluation criteria.

Something to note is that while a pump provides the additional pressure required to meet the fire code requirements, it also has the effect of increasing the service pressure at all nodes in the system. Service pressure of nodes along the distribution main on Pescadero Creek Road between

the storage tank and the Commercial District see the greatest increase when incorporating a pump. Many of the nodes increase in pressure above the maximum recommended 80 psig. In order to reduce the potential for damage to residential and commercial plumbing systems as a result of the pressure increase caused by a pump turning on, it would be necessary for all service connections to have a PRV installed.

Hydraulic modeling results for Scenario 2 are included as Appendix C.

Scenario 3

In Scenario 3, an alternative was evaluated to determine the required upsizing of the distribution system in order to meet the required 1,500 GPM fire flow by gravity flow with 70,000 gallons additional water storage instead of utilizing a pump. Gravity flow is much preferred to mechanical pumping as there is no potential for mechanical or electrical failure that would inhibit water service.

It was determined that in order to meet a 1,500 GPM fire flow in the Commercial District the 8-inch diameter distribution main from the water storage tank through the Commercial District on Stage Road would require upsizing by one pipe size to a 10-inch diameter pipe. In addition the 6-inch diameter pipeline on Stage Road south of Pescadero Creek Road would require upsizing one size to an 8-inch diameter pipe. Upsizing the pipelines would effectively allow for greater capacity of flow with reduced head losses and velocities incurred in the system. The ability to meet the fire flow requirement by gravity flow is the most desirable alternative.

Hydraulic modeling results for Scenario 3 are included as Appendix D.

RESULTS

The purpose of this report is to evaluate the feasibility of installing a fire protection pump at the existing water storage tank to help achieve the minimum fire flow requirements of 1,500 GPM for 2 hours in the Pescadero Commercial District only. The following recommendations are intended to address the storage capacity deficiencies and pumping capacity requirements for the Pescadero Commercial District only. All recommendations are based on steady state analysis of the existing Pescadero water system and do not consider future community growth or future water demand. Analysis is based on a hydraulic model using H2ONET and the previously determined evaluation criteria for storage and water distribution.

Storage

Per Section 64554 of the CDPH California Waterworks Standards the required water storage for the Pescadero community must be equal to approximately 51,000 gallons. Currently the Pescadero community meets the minimum requirements with the existing 140,000 gallon water storage tank. Although the Pescadero community meets the minimum storage requirements per the CDPHS, the community does not have enough water storage capacity to meet the fire flow requirements. As mentioned previously, typical storage is composed of three categories:

operational, fire flow, and emergency. Recommended storage requirements per the American Water Works Association (AWWA) are provided in Table 2.

Table 2
AWWA Storage Requirements

Storage	AWWA Recommendation	Required Volume (Gallons)	Available Volume (Gallons)
Operational	25% of Maximum Day Demand	13,000	51,000
Fire	1,500 GPM for 2 hrs	180,000	72,000
Emergency	50% of Average Day Demand	17,000	17,000
Total		**210,000**	**140,000**

Based on AWWA recommendations the Pescadero community would need to provide a total storage capacity of 210,000 gallons. Provided that the existing Pescadero water system currently has 140,000 gallons of water storage available, an additional 70,000 gallons of storage is required in all proposed Scenarios. Due to the low water demand, it may be unreasonable for Pescadero to be required to meet the Fire Marshall and AWWA recommendations. Small communities with large storage reserves typically encounter water quality problems due to the low turnover rate.

An alternative to augment the Pescadero storage capacity may include the use of the existing source well pumps to increase the water capacity available in an emergency event. The Pescadero source well pumps are capable of providing approximately 195 GPM when operated in unison. This is more then enough water to satisfy the CDPH and AWWA operational storage requirement. If combined with the existing storage capacity, this is almost enough to satisfy the fire demand with no storage reserve. It is recommended the County further discuss the storage and flow requirements with the local Fire Marshall to possibly negotiate a reduced fire flow requirement and/or develop potential alternatives. It is the recommendation of this report that Pescadero be capable of meeting the minimum fire flow requirements prescribed by the Fire Marshall through water storage capacity, source water pumping capacity, or a combination of the two.

If the County decides to construct new water storage facilities at Pescadero, preliminary aerial review of the existing tank site indicates that there appears to be ample area for new tank construction. An alternative to using the existing tank site would be to locate additional water storage elsewhere within the community. Prior to design of a new tank, it is recommended that a formal tank siting study be conducted along with a geotechnical review of the site.

Due to the recent volatility in the steel market it is difficult to provide a conceptual level of cost for new steel tank construction. Conceptual level estimates for the cost of construction for the two tank options provided are included in Table 3. Cost of water storage tanks include labor, material, equipment, supervision and insurance required to erect one steel water storage tank on a concrete ring wall foundation including coatings, disinfection and water quality testing installation and typical appurtenances including manways, roof hatches, access ladders, water

sample taps and level gauge. A 15% engineering design contingency and a 25% construction contingency have been included. Costs do not include potential fees associated with environmental or geotechnical studies nor do they incorporate costs associated with potential demolition of the existing water storage tank. A more detailed cost of construction should be completed during design.

Table 3
Conceptual Level Estimated Cost of Construction

Tank	Tank Cost	Design Contingency	Construction Contingency	Total Cost
New 210,000 Gallon Welded Steel	$270,000	$40,000	$77,000	$387,000
New 70,000 Gallon Welded Steel	$193,000	$29,000	$55,000	$277,000

Issues that must be addressed during design of the new water storage facilities include where to best site a tank and how to maintain water quality. Due to the small demand in Pescadero it can sometimes prove difficult to maintain sufficient water quality in the storage facilities. Typically a water storage tank should see regular fluctuations in tank water levels indicating turnover of storage water. Stagnant water can lead to health concerns due to degradation in water quality including dissipation of chlorine residual and increased microbial growth.

Fire Pump

Based on the hydraulic model analysis of the Pescadero Commercial District it has been confirmed that the Pescadero water system is not capable of meeting the fire flow requirements of 1,500 GPM without violating the 20 psig residual pressure criteria or water storage capacity criteria. Per the hydraulic results of Scenario 1, it was determined that the most hydraulically deficient node in the Commercial District occurs at the fire hydrant at the end of Stage Road south of Pescadero Creek Road. Under a fire flow event this node is deficient approximately 101 psig or 232 feet of head.

In order to overcome this deficiency in system pressure, one option would be to install a fire protection pump to boost the system pressures in a fire flow event. A fire protection pump must be appropriately sized to provide a pressure increase at least equal to the greatest deficiency in the evaluation plus the minimum residual goal. Hydraulic model results from Scenario 1 indicate that the maximum available flow capacity that can be met by gravity is 849 GPM. This is the maximum flow which can be sustained by gravity flow to meet the required system pressures. Hydraulic model results from Scenario 2 indicate that in a fire flow event, a pump with the rated capacity of 1,500 GPM and 108 psig pressure is sufficient to meet fire flow requirements and maintain system residual pressure.

Pumps are classified either as constant speed pumps, which continuously supply flow and pressure defined by a pump characteristics curve at a single speed, or variable speed pumps,

which operate at different speeds using a variable frequency drive (VFD) to adjust the motor speed. Both pump types are controlled and operated in such a way that the target hydraulic characteristics of desired pump flows or target hydraulic heads are achieved. Generally, constant speed pumps are less flexible than variable speed pumps when serving target hydraulic characteristics in a system. A variable speed pump utilizing a VFD controller allows a pump to vary its speed according to the preset target requirement of the pumping system.

Fire protection pumps are typically categorized as vertical turbine or horizontal centrifugal type. Either pump can be constant speed or variable speed and is highly customizable and capable of meeting most pumping flow and head requirements. Typically horizontal centrifugal split case pumps are used for fire protection purposes.

For the Pescadero water system, two horizontal centrifugal split case pumps and two power sources with variable frequency drives can be utilized. Target operating range for each pump should be between 800 GPM at 300 ft head and 1,500 GPM at 250 ft head. Pumps may be powered by an electric motor or a diesel engine. Electric motors require backup generators incase of a power outage. Diesel fire engines are recommended as they are independent of the local electric power grid and offer greater reliability during a power outage. One pump would serve as the primary service in the event of an emergency and the remaining pump would serve as a standby in case of failure or the need to take the primary pump offline for maintenance and repair.

Advantages of installing a fire protection pump at Pescadero include:

- Reduced short term costs.
- Ability to meet fire flow demand.

Disadvantages of installing a fire protection pump at Pescadero include:

- Pumps contain many mechanical working parts that can fail rendering the pump ineffective during an emergency event.
- Pumps require periodic testing, maintenance and repair that can be time consuming and more costly in the long term.
- Pumps require reliable energy sources (fuel or electricity) that can be costly to connect and maintain.
- Pumps increase the head pressure within distribution pipelines. This increase in pressure puts a greater stress on the system and requires that PRV be installed on all service connections
- Pumps introduce high flow capacity of water into a closed system creating the potential for over pressurizing the system.
- Pumps require complex control systems for determining the automated on/off sequence including additional a pressure monitoring system appropriately located within the distribution network.

- Pumps increase the risk of damage to distribution facilities by increasing the probability of water hammer occurring within the system.

The pump controls for a fire pump at Pescadero would be complex and entail additional analysis for appropriately locating the sensor monitoring equipment and determining the on/off signal pressure limits. Under peak demand conditions the expected pressure change compared to average day demand within the distribution network is small. This is a result of the low system demands and little elevation change in the body of the distribution network. Therefore appropriate variations in system pressure must be considered when setting target pressures for the on/off sequencing of the pumps. An inappropriately placed monitoring system may trigger pumps to turn on in a high demand situation when the pumps are not necessary. Unnecessary start and stops of the fire pumps may lead to a reduced life expectancy of equipment and the need for additional maintenance or repair.

In general, the pump on/off control sequence is determined according to the preset target requirement of the pumping system. The prescribed target can be a nodal pressure or a variable speed discharge. Once the target has dropped below a predetermined pressure head, a signal would be sent to the pump controls to turn the pump on. An internal controller processes the signal and adjusts the speed of the pump to match the preset pressure. If the pressure is lower than the set point, the VFD will speed up the pump to increase the system hydraulic head. Conversely, if the pressure is higher than the set point, the VFD will slow down the pump. Once the fire event has passed and system demand begins to drop, pumps would continue to cycle down until pressure head within the system has been restored to the target level, at which time the pumps would receive a signal from the transducer to turn off and gravity flow from the tanks would resume.

It must be noted, extra attention is required for programming the on/off controlling sequence of the fire pumps. If the pumps are on in an emergency and the fire hydrants are suddenly closed, water will continue to enter the system for a brief period prior to the target node signaling the pumps to shut off. The sudden decrease in velocity of water in the pipes, due to the hydrant closer, causes an increase in water pressure referred to as water hammer. Water hammer can damage system facilities and may possibly require costly system repairs and the temporary loss of some water service. An analysis of the risk of water hammer was out of the scope of work. It is recommended the County conduct an in depth water hammer analysis prior to construction of a fire pump at Pescadero.

Peerless Pump and Fairbanks Morse are two pump manufacturers experienced in providing pumping products, services and installation for the Pescadero community. Individual pump components or complete packaged fire pump systems can be purchased and are built to NFPA 20 standards and are Underwriter Laboratories (UL) and/or Factory Mutual (FM) System approved.

A packaged pump system would be ideal for meeting the Pescadero Commercial District's fire protection needs. Ample space at the existing tank site would allow for optimal siting of a packaged unit adjacent to the tank. Packaged systems include all system components necessary including:

- Horizontal Centrifugal Pumps
- Variable frequency drives
- Controllers
- Standard Valves
- Drivers
- Pressure switch
- Electrical wiring
- Diesel fired engine or electrical driven motor
- Battery/fuel tanks and fuel lines
- Optional enclosure building including lighting, heating, thermostats.

Packaged systems provide single source system responsibility that helps to eliminate many potential field installation interface problems. Packaged systems are available utilizing various fire pump types and numerous arrangement configuration options. All major components are included and are ready for installation and operation.

Packaged systems including two UL/FM certified horizontal split case centrifugal pumps with variable frequency drive rated for 800-1,500 GPM with an ultimate design point of 1,500 GPM at 250 feet of head, enclosure units and diesel engine has a total estimated cost of $250,000 including a 15% contingency for engineering design and a 25% contingency for construction. Estimated cost of construction is budgetary only and does not include any fees associated with environmental or geotechnical studies that may be required prior to design. A more detailed estimate of construction cost should be completed during design.

Budgetary proposals and additional pump literature including an example layout is included as Appendix E. Specific pump system inquiries can be directed to either Eric Silva of The Brown Company or Kevin Hall of Pump Repair Service Co.

Fairbanks Morse Pump Systems

Eric Silva
The Brown Company
28847 Mack Street
Hayward, CA 94545
(510) 886-5260

Peerless Pump Systems

Kevin Hall
Pump Repair Service Co.
405 Allan Street
Daly City, CA 94014
(415) 467-7442

As was demonstrated in the hydraulic results of Scenario 3, if additional storage of 70,000 gallons was added and the existing 6-inch and 8-inch diameter distribution main located in Pescadero Creek Road and Stage Road between the distribution tanks and the Commercial District were upsized one pipe diameter, or if a parallel pipeline with equal or greater diameter was installed, fire flow goals can be met by gravity flow.

Advantages of a gravity flow system at Pescadero include:

- Reduced head loss in distribution pipes allowing for increased flow capacity with minimal stress on piping facilities in emergency events. This increases the life expectancy of the pipelines as well as reduces the risk of pipe failures (breaks).
- No risk of water service failure due to mechanical failure.
- PVC pipelines have a life expectancy of 50 plus years when operated within design limits.
- Due to the lack of mechanical working parts gravity feed systems require minimal maintenance and repair thus decreasing annual operation and maintenance costs.
- Extremely low risk of water hammer
- Individual pressure reducing valves on service connections are not necessary.

Disadvantages of a gravity flow system include:

- Increased short term cost for upsizing approximately 7,000 feet of 8-inch diameter pipe and approximately 800 feet of 6-inch diameter pipe.

Typical new pipe installation uses traditional trenching methods referred to as “open cut construction”. Open cut construction is preferable for general pipe construction in roadways with low vehicular traffic and minimal subsurface utility crossings. A conservative estimate of cost for materials and installation of new upsized pipeline with open cut construction is $65/LF. Assuming approximately 7,800 LF of new pipeline is required per Scenario 3, an estimate of probable construction cost to install a new upsized pipeline is approximately $729,000. Estimate fee is budgetary only and includes a 15% contingency for engineering design and a 25% contingency for construction but does not consider costs associated other services such as traffic control, environmental, geotechnical, or pump bypassing.

RECOMMENDATIONS:

In all water systems it is ideal to design and operate facilities utilizing gravity flow when possible. Gravity flow provides water service through adequately sized distribution pipes by using the head pressure differential between water source or storage facilities and the service nodes. Due to the local topography and location of the existing water storage tanks the Pescadero system has ample pressure head differential to meet the fire flow goals in the Commercial District but is limited by the storage capacity and size of the distribution pipes. This was confirmed in Scenario 1.

As demonstrated in Scenario 2 and 3, two options for meeting fire flow requirements include augmenting the water supply with minimum 70,000 gallons of water storage and installing a fire pump or upsizing the water system pipeline. Table 4 and Table 5 summarize the basic required facilities and conceptual level estimate of probable construction cost for each scenario, respectively.

Table 4
Summary of Required Facilities

Facilities > Scenario	Additional Water Storage	Fire Pump	Control/Monitoring System	Increased Diameter Pipeline	PRV
2	X	X	X	-	X
3	X	-	-	X	-

Note:
[1] This table is for summarizing the major facilities required for each presented scenario. A complete evaluation of required facilities will be determined during final design.

Table 5
Conceptual Level Estimated Cost of Construction[1]

Scenario	Water Storage[2]	Fire Pump Packaged System	Control/Monitoring System	New Pipeline	Total
2	$277,000	$250,000	$15,000	-	$542,000
3	$277,000	-	-	$729,000	$1,006,000

Note:
[1] Fee estimates are budgetary and consider material and construction costs only.
[2] For estimation purposes a 70,000 gallon water storage tank was assumed per Table 3 of this report.

It is the recommendation of this report that although installation of a fire protection pump at the water storage facility is feasible for meeting new fire code requirements of 1,500 GPM for 2 hours, it is advised that the County of San Mateo and the Pescadero Municipal Advisory Committee strongly reconsider the alternative of upsizing the Pescadero water system distribution mains to meet fire flow goals by gravity. Gravity flow systems are much more reliable for water service and the long term costs of maintenance and repair prove less costly to providing adequate fire protection and water service than when compared to a fire protection pump.

APPENDIX A: PESCADERO HISTORICAL WATER DEMAND

A112
ADY

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
750006	785	NORTH STREET	RES	OFFP	1/16/2006	8
					1/16/2006 Total	8
702002	1431	PESCADERO ROAD	COMM	ACTB	1/26/2006	71
702400	31	WATER LANE	COMM	ACTB	1/26/2006	7
704200	1601	PESCADERO ROAD	COMM	ACTB	1/26/2006	11
707201	239	STAGE ROAD	COMM	ACTB	1/26/2006	2
707401	251	STAGE ROAD	COMM	ACTB	1/26/2006	7
708000	287	STAGE ROAD	COMM	ACTB	1/26/2006	16
710601	216	STAGE ROAD	COMM	ACTB	1/26/2006	1
710800	202	STAGE ROAD	COMM	ACTB	1/26/2006	211
718200	645	NORTH STREET	COMM	OFFP	1/26/2006	13
718400	625	NORTH STREET	COMM	ACTB	1/26/2006	27
427700	2020	PESCADERO ROAD	INST	ACTB	1/26/2006	3
704400	1200	PESCADERO ROAD	INST	ACTB	1/26/2006	22
709200	363	STAGE ROAD	INST	ACTB	1/26/2006	1
717500	696	NORTH STREET	INST	ACTB	1/26/2006	0
718800	620	NORTH STREET	INST	ACTB	1/26/2006	40
723200	22	STAGE ROAD	INST	ACTB	1/26/2006	2
750302	112	STAGE ROAD	INST	ACTB	1/26/2006	2
425902	70	STAGE ROAD	RES	OFFP	1/26/2006	17
426000	1503	PESCADERO ROAD	RES	ACTB	1/26/2006	17
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	1/26/2006	1
702201	1441	PESCADERO ROAD	RES	ACTB	1/26/2006	16
702800	51	WATER LANE	RES	OFFP	1/26/2006	26
703200	1481	PESCADERO ROAD	RES	ACTB	1/26/2006	15
703801	1541	PESCADERO ROAD	RES	ACTB	1/26/2006	5
704303	1613	PESCADERO ROAD	RES	ACTB	1/26/2006	8
705000	1831	PESCADERO ROAD	RES	ACTB	1/26/2006	20
705400	1877	PESCADERO ROAD	RES	ACTB	1/26/2006	49
705800	1913	PESCADERO ROAD	RES	ACTB	1/26/2006	6
706002	1923	PESCADERO ROAD	RES	ACTB	1/26/2006	26
706201	1805	PESCADERO RD	RES	ACTB	1/26/2006	6
706601	1999	PESCADERO ROAD	RES	ACTB	1/26/2006	53
706801	213	STAGE ROAD	RES	ACTB	1/26/2006	13
707000	227	STAGE ROAD	RES	ACTB	1/26/2006	35
707601	245-248	STAGE ROAD	RES	ACTB	1/26/2006	15
708202	299	STAGE ROAD	RES	ACTB	1/26/2006	5
708401	309	STAGE ROAD	RES	ACTB	1/26/2006	19
708604	323	STAGE ROAD	RES	ACTB	1/26/2006	8
708800	339	STAGE ROAD	RES	ACTB	1/26/2006	4
709000	351	STAGE ROAD	RES	ACTB	1/26/2006	5
709602	350	STAGE ROAD	RES	ACTB	1/26/2006	4
709802	290	STAGE ROAD	RES	ACTB	1/26/2006	27
710202	250	STAGE ROAD	RES	ACTB	1/26/2006	22
711000	2041	PESCADERO ROAD	RES	ACTB	1/26/2006	11
711600	2131	PESCADERO ROAD	RES	ACTB	1/26/2006	4
711800	104	GOULSON STREET	RES	ACTB	1/26/2006	10
712001	127	GOULSON STREET	RES	ACTB	1/26/2006	22
712200	172	GOULSON STREET	RES	ACTB	1/26/2006	5
712600	184	GOULSON STREET	RES	ACTB	1/26/2006	7
712800	194	GOULSON STREET	RES	ACTB	1/26/2006	16
713200	827	NORTH STREET	RES	OFFP	1/26/2006	2
713400	860	NORTH STREET	RES	ACTB	1/26/2006	1
713601	861	NORTH STREET	RES	ACTB	1/26/2006	16
713802	826	NORTH STREET	RES	OFFP	1/26/2006	25
714000	807	NORTH STREET	RES	ACTB	1/26/2006	1
714200	804	NORTH STREET	RES	ACTB	1/26/2006	36
714402	766	NORTH STREET	RES	OFFP	1/26/2006	17
714605	787	NORTH STREET	RES	ACTB	1/26/2006	8
714801	772	NORTH STREET	RES	ACTB	1/26/2006	43
715000	773	NORTH STREET	RES	ACTB	1/26/2006	2
715400	757	NORTH STREET	RES	ACTB	1/26/2006	22
715601	752	NORTH STREET	RES	ACTB	1/26/2006	21
716200	719	NORTH STREET	RES	ACTB	1/26/2006	16

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
716401	730	NORTH STREET	RES	ACTB	1/26/2006	32
716602	714	NORTH STREET	RES	WOFF	1/26/2006	1
716801	706	NORTH STREET	RES	ACTB	1/26/2006	26
717603	675	NORTH STREET	RES	OFFB	1/26/2006	15
717800	665	NORTH STREET	RES	ACTB	1/26/2006	1
718600	615	NORTH STREET	RES	ACTB	1/26/2006	10
719200	597	NORTH STREET	RES	ACTB	1/26/2006	11
719400	581	NORTH STREET	RES	ACTB	1/26/2006	14
719600	547	NORTH ST	RES	ACTB	1/26/2006	3
720004	1926	PESCADERO ROAD	RES	ACTB	1/26/2006	10
720204	1946	PESCADERO ROAD	RES	ACTB	1/26/2006	26
720405	1956	PESCADERO ROAD	RES	ACTB	1/26/2006	7
722800	51	STAGE ROAD	RES	ACTB	1/26/2006	3
723400	17	STAGE ROAD	RES	ACTB	1/26/2006	11
740002	323	STAGE ROAD	RES	ACTB	1/26/2006	8
740203	323	STAGE ROAD	RES	ACTB	1/26/2006	15
740401	323	STAGE ROAD	RES	ACTB	1/26/2006	20
740604	323	STAGE ROAD	RES	ACTB	1/26/2006	21
740801	323	STAGE ROAD	RES	ACTB	1/26/2006	13
742003	290	STAGE ROAD	RES	ACTB	1/26/2006	26
742200	290	STAGE ROAD	RES	ACTB	1/26/2006	2
743001	527	North Street	RES	OFFP	1/26/2006	12
745005	737	NORTH STREET	RES	ACTB	1/26/2006	4
750007	785	NORTH STREET	RES	ACTB	1/26/2006	0
750202	738	NORTH STREET	RES	ACTB	1/26/2006	0
750700	528	NORTH STREET	RES	ACTB	1/26/2006	22
750800	94	STAGE ROAD	RES	ACTB	1/26/2006	7
750901	14	STAGE ROAD	RES	OFFP	1/26/2006	6
751002	80	STAGE ROAD	RES	ACTB	1/26/2006	3
751100	655	NORTH STREET	RES	ACTB	1/26/2006	20
					1/26/2006 Total	1492
702002	1431	PESCADERO ROAD	COMM	ACTB	3/23/2006	126
702400	31	WATER LANE	COMM	ACTB	3/23/2006	6
704200	1601	PESCADERO ROAD	COMM	ACTB	3/23/2006	9
707201	239	STAGE ROAD	COMM	ACTB	3/23/2006	3
707401	251	STAGE ROAD	COMM	ACTB	3/23/2006	7
708000	287	STAGE ROAD	COMM	ACTB	3/23/2006	15
710601	216	STAGE ROAD	COMM	ACTB	3/23/2006	1
710800	202	STAGE ROAD	COMM	ACTB	3/23/2006	210
718200	645	NORTH STREET	COMM	OFFP	3/23/2006	9
718400	625	NORTH STREET	COMM	ACTB	3/23/2006	21
427700	2020	PESCADERO ROAD	INST	ACTB	3/23/2006	4
704400	1200	PESCADERO ROAD	INST	ACTB	3/23/2006	27
709200	363	STAGE ROAD	INST	ACTB	3/23/2006	1
717500	696	NORTH STREET	INST	ACTB	3/23/2006	0
718800	620	NORTH STREET	INST	ACTB	3/23/2006	252
723200	22	STAGE ROAD	INST	ACTB	3/23/2006	6
750302	112	STAGE ROAD	INST	ACTB	3/23/2006	2
425902	70	STAGE ROAD	RES	OFFP	3/23/2006	15
426000	1503	PESCADERO ROAD	RES	ACTB	3/23/2006	13
702201	1441	PESCADERO ROAD	RES	ACTB	3/23/2006	17
702800	51	WATER LANE	RES	OFFP	3/23/2006	26
703200	1481	PESCADERO ROAD	RES	ACTB	3/23/2006	11
703801	1541	PESCADERO ROAD	RES	ACTB	3/23/2006	5
704303	1613	PESCADERO ROAD	RES	ACTB	3/23/2006	9
705000	1831	PESCADERO ROAD	RES	ACTB	3/23/2006	21
705400	1877	PESCADERO ROAD	RES	ACTB	3/23/2006	51
705603	1899	PESCADERO	RES	ACTB	3/23/2006	25
705800	1913	PESCADERO ROAD	RES	ACTB	3/23/2006	5
706002	1923	PESCADERO ROAD	RES	ACTB	3/23/2006	27
706201	1805	PESCADERO RD	RES	ACTB	3/23/2006	9
706601	1999	PESCADERO ROAD	RES	ACTB	3/23/2006	52
706801	213	STAGE ROAD	RES	ACTB	3/23/2006	17
707000	227	STAGE ROAD	RES	ACTB	3/23/2006	35

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
707602	245-249	STAGE ROAD	RES	ACTB	3/23/2006	15
708202	299	STAGE ROAD	RES	ACTB	3/23/2006	3
708401	309	STAGE ROAD	RES	ACTB	3/23/2006	16
708604	323	STAGE ROAD	RES	ACTB	3/23/2006	8
708800	339	STAGE ROAD	RES	ACTB	3/23/2006	5
709000	351	STAGE ROAD	RES	ACTB	3/23/2006	5
709602	350	STAGE ROAD	RES	ACTB	3/23/2006	4
709802	290	STAGE ROAD	RES	ACTB	3/23/2006	24
710202	250	STAGE ROAD	RES	ACTB	3/23/2006	11
711000	2041	PESCADERO ROAD	RES	ACTB	3/23/2006	14
711600	2131	PESCADERO ROAD	RES	ACTB	3/23/2006	5
711800	104	GOULSON STREET	RES	ACTB	3/23/2006	9
712001	127	GOULSON STREET	RES	ACTB	3/23/2006	15
712200	172	GOULSON STREET	RES	ACTB	3/23/2006	6
712600	184	GOULSON STREET	RES	ACTB	3/23/2006	6
712800	194	GOULSON STREET	RES	ACTB	3/23/2006	14
713200	827	NORTH STREET	RES	OFFP	3/23/2006	1
713400	860	NORTH STREET	RES	ACTB	3/23/2006	0
713601	861	NORTH STREET	RES	ACTB	3/23/2006	12
713802	826	NORTH STREET	RES	OFFP	3/23/2006	25
714000	807	NORTH STREET	RES	ACTB	3/23/2006	1
714200	804	NORTH STREET	RES	ACTB	3/23/2006	25
714402	766	NORTH STREET	RES	OFFP	3/23/2006	13
714605	787	NORTH STREET	RES	ACTB	3/23/2006	7
714801	772	NORTH STREET	RES	ACTB	3/23/2006	12
715000	773	NORTH STREET	RES	ACTB	3/23/2006	3
715400	757	NORTH STREET	RES	ACTB	3/23/2006	25
715601	752	NORTH STREET	RES	ACTB	3/23/2006	10
716200	719	NORTH STREET	RES	ACTB	3/23/2006	16
716401	730	NORTH STREET	RES	ACTB	3/23/2006	19
716602	714	NORTH STREET	RES	WOFF	3/23/2006	2
716801	706	NORTH STREET	RES	ACTB	3/23/2006	24
717603	675	NORTH STREET	RES	OFFB	3/23/2006	12
717800	665	NORTH STREET	RES	ACTB	3/23/2006	1
718600	615	NORTH STREET	RES	ACTB	3/23/2006	9
719200	597	NORTH STREET	RES	ACTB	3/23/2006	8
719400	581	NORTH STREET	RES	ACTB	3/23/2006	12
720004	1926	PESCADERO ROAD	RES	ACTB	3/23/2006	12
720204	1946	PESCADERO ROAD	RES	ACTB	3/23/2006	23
720405	1956	PESCADERO ROAD	RES	ACTB	3/23/2006	4
722800	51	STAGE ROAD	RES	ACTB	3/23/2006	2
723400	17	STAGE ROAD	RES	ACTB	3/23/2006	9
740002	323	STAGE ROAD	RES	ACTB	3/23/2006	6
740203	323	STAGE ROAD	RES	ACTB	3/23/2006	11
740401	323	STAGE ROAD	RES	ACTB	3/23/2006	13
740604	323	STAGE ROAD	RES	ACTB	3/23/2006	20
740801	323	STAGE ROAD	RES	ACTB	3/23/2006	15
742003	290	STAGE ROAD	RES	ACTB	3/23/2006	25
742200	290	STAGE ROAD	RES	ACTB	3/23/2006	2
742404	290	STAGE ROAD	RES	OFFP	3/23/2006	10
743001	527	North Street	RES	OFFP	3/23/2006	12
745005	737	NORTH STREET	RES	ACTB	3/23/2006	3
750007	785	NORTH STREET	RES	ACTB	3/23/2006	5
750202	738	NORTH STREET	RES	ACTB	3/23/2006	1
750700	528	NORTH STREET	RES	ACTB	3/23/2006	19
750800	94	STAGE ROAD	RES	ACTB	3/23/2006	5
750901	14	STAGE ROAD	RES	OFFP	3/23/2006	6
751002	80	STAGE ROAD	RES	ACTB	3/23/2006	3
751100	655	NORTH STREET	RES	ACTB	3/23/2006	15
					3/23/2006 Total	1655
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	3/27/2006	0
719600	547	NORTH ST	RES	ACTB	3/27/2006	3
					3/27/2006 Total	3
750901	14	STAGE ROAD	RES	OFFP	5/2/2006	5

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
					5/2/2006 Total	5
702002	1431	PESCADERO ROAD	COMM	ACTB	5/25/2006	114
702400	31	WATER LANE	COMM	ACTB	5/25/2006	7
704200	1601	PESCADERO ROAD	COMM	ACTB	5/25/2006	14
707201	239	STAGE ROAD	COMM	ACTB	5/25/2006	1
707401	251	STAGE ROAD	COMM	ACTB	5/25/2006	17
708000	287	STAGE ROAD	COMM	ACTB	5/25/2006	14
710601	216	STAGE ROAD	COMM	ACTB	5/25/2006	2
710800	202	STAGE ROAD	COMM	ACTB	5/25/2006	200
718200	645	NORTH STREET	COMM	OFFP	5/25/2006	42
718400	625	NORTH STREET	COMM	ACTB	5/25/2006	25
427700	2020	PESCADERO ROAD	INST	ACTB	5/25/2006	3
704400	1200	PESCADERO ROAD	INST	ACTB	5/25/2006	25
709200	363	STAGE ROAD	INST	ACTB	5/25/2006	2
717500	696	NORTH STREET	INST	ACTB	5/25/2006	2
718800	620	NORTH STREET	INST	ACTB	5/25/2006	82
723200	22	STAGE ROAD	INST	ACTB	5/25/2006	5
750302	112	STAGE ROAD	INST	ACTB	5/25/2006	2
425902	70	STAGE ROAD	RES	OFFP	5/25/2006	18
426000	1503	PESCADERO ROAD	RES	ACTB	5/25/2006	14
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	5/25/2006	1
702201	1441	PESCADERO ROAD	RES	ACTB	5/25/2006	19
702800	51	WATER LANE	RES	OFFP	5/25/2006	22
703200	1481	PESCADERO ROAD	RES	ACTB	5/25/2006	13
703801	1541	PESCADERO ROAD	RES	ACTB	5/25/2006	5
704303	1613	PESCADERO ROAD	RES	ACTB	5/25/2006	9
705000	1831	PESCADERO ROAD	RES	ACTB	5/25/2006	24
705400	1877	PESCADERO ROAD	RES	ACTB	5/25/2006	43
705603	1899	PESCADERO	RES	ACTB	5/25/2006	10
705800	1913	PESCADERO ROAD	RES	ACTB	5/25/2006	6
706002	1923	PESCADERO ROAD	RES	ACTB	5/25/2006	24
706201	1805	PESCADERO RD	RES	ACTB	5/25/2006	8
706601	1999	PESCADERO ROAD	RES	ACTB	5/25/2006	57
706801	213	STAGE ROAD	RES	ACTB	5/25/2006	35
707000	227	STAGE ROAD	RES	ACTB	5/25/2006	18
707603	245-250	STAGE ROAD	RES	ACTB	5/25/2006	23
708202	299	STAGE ROAD	RES	ACTB	5/25/2006	5
708401	309	STAGE ROAD	RES	ACTB	5/25/2006	20
708604	323	STAGE ROAD	RES	ACTB	5/25/2006	8
708800	339	STAGE ROAD	RES	ACTB	5/25/2006	14
709000	351	STAGE ROAD	RES	ACTB	5/25/2006	4
709602	350	STAGE ROAD	RES	ACTB	5/25/2006	14
709802	290	STAGE ROAD	RES	ACTB	5/25/2006	30
710202	250	STAGE ROAD	RES	ACTB	5/25/2006	13
711000	2041	PESCADERO ROAD	RES	ACTB	5/25/2006	16
711600	2131	PESCADERO ROAD	RES	ACTB	5/25/2006	9
711800	104	GOULSON STREET	RES	ACTB	5/25/2006	11
712001	127	GOULSON STREET	RES	ACTB	5/25/2006	16
712200	172	GOULSON STREET	RES	ACTB	5/25/2006	3
712600	184	GOULSON STREET	RES	ACTB	5/25/2006	6
712800	194	GOULSON STREET	RES	ACTB	5/25/2006	13
713200	827	NORTH STREET	RES	OFFP	5/25/2006	7
713400	860	NORTH STREET	RES	ACTB	5/25/2006	17
713601	861	NORTH STREET	RES	ACTB	5/25/2006	27
713802	826	NORTH STREET	RES	OFFP	5/25/2006	44
714000	807	NORTH STREET	RES	ACTB	5/25/2006	1
714200	804	NORTH STREET	RES	ACTB	5/25/2006	30
714402	766	NORTH STREET	RES	OFFP	5/25/2006	22
714605	787	NORTH STREET	RES	ACTB	5/25/2006	16
714801	772	NORTH STREET	RES	ACTB	5/25/2006	30
715000	773	NORTH STREET	RES	ACTB	5/25/2006	3
715400	757	NORTH STREET	RES	ACTB	5/25/2006	30
715601	752	NORTH STREET	RES	ACTB	5/25/2006	39
716200	719	NORTH STREET	RES	ACTB	5/25/2006	17

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
716401	730	NORTH STREET	RES	ACTB	5/25/2006	26
716602	714	NORTH STREET	RES	WOFF	5/25/2006	1
716801	706	NORTH STREET	RES	ACTB	5/25/2006	27
717603	675	NORTH STREET	RES	OFFB	5/25/2006	7
717800	665	NORTH STREET	RES	ACTB	5/25/2006	1
718600	615	NORTH STREET	RES	ACTB	5/25/2006	9
719200	597	NORTH STREET	RES	ACTB	5/25/2006	11
719400	581	NORTH STREET	RES	ACTB	5/25/2006	13
719600	547	NORTH ST	RES	ACTB	5/25/2006	4
720004	1926	PESCADERO ROAD	RES	ACTB	5/25/2006	12
720204	1946	PESCADERO ROAD	RES	ACTB	5/25/2006	25
720405	1956	PESCADERO ROAD	RES	ACTB	5/25/2006	5
722800	51	STAGE ROAD	RES	ACTB	5/25/2006	4
723400	17	STAGE ROAD	RES	ACTB	5/25/2006	12
740002	323	STAGE ROAD	RES	ACTB	5/25/2006	7
740203	323	STAGE ROAD	RES	ACTB	5/25/2006	13
740401	323	STAGE ROAD	RES	ACTB	5/25/2006	19
740604	323	STAGE ROAD	RES	ACTB	5/25/2006	28
740801	323	STAGE ROAD	RES	ACTB	5/25/2006	18
742003	290	STAGE ROAD	RES	ACTB	5/25/2006	27
742200	290	STAGE ROAD	RES	ACTB	5/25/2006	3
742404	290	STAGE ROAD	RES	OFFP	5/25/2006	11
743001	527	North Street	RES	OFFP	5/25/2006	13
750007	785	NORTH STREET	RES	ACTB	5/25/2006	5
750202	738	NORTH STREET	RES	ACTB	5/25/2006	1
750700	528	NORTH STREET	RES	ACTB	5/25/2006	21
750800	94	STAGE ROAD	RES	ACTB	5/25/2006	7
750902	14	STAGE ROAD	RES	ACTB	5/25/2006	1
751002	80	STAGE ROAD	RES	ACTB	5/25/2006	5
751100	655	NORTH STREET	RES	ACTB	5/25/2006	18
					5/25/2006 Total	1725
713200	827	NORTH STREET	RES	OFFP	7/25/2006	20
					7/25/2006 Total	20
702002	1431	PESCADERO ROAD	COMM	ACTB	7/27/2006	110
702400	31	WATER LANE	COMM	ACTB	7/27/2006	11
704200	1601	PESCADERO ROAD	COMM	ACTB	7/27/2006	11
707201	239	STAGE ROAD	COMM	ACTB	7/27/2006	2
707401	251	STAGE ROAD	COMM	ACTB	7/27/2006	55
708000	287	STAGE ROAD	COMM	ACTB	7/27/2006	23
710601	216	STAGE ROAD	COMM	ACTB	7/27/2006	1
710800	202	STAGE ROAD	COMM	ACTB	7/27/2006	237
718200	645	NORTH STREET	COMM	OFFP	7/27/2006	22
718400	625	NORTH STREET	COMM	ACTB	7/27/2006	27
427700	2020	PESCADERO ROAD	INST	ACTB	7/27/2006	8
704400	1200	PESCADERO ROAD	INST	ACTB	7/27/2006	19
709200	363	STAGE ROAD	INST	ACTB	7/27/2006	3
717500	696	NORTH STREET	INST	ACTB	7/27/2006	19
718800	620	NORTH STREET	INST	ACTB	7/27/2006	65
723200	22	STAGE ROAD	INST	ACTB	7/27/2006	6
750302	112	STAGE ROAD	INST	ACTB	7/27/2006	1
425902	70	STAGE ROAD	RES	OFFP	7/27/2006	17
426000	1503	PESCADERO ROAD	RES	ACTB	7/27/2006	52
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	7/27/2006	0
702201	1441	PESCADERO ROAD	RES	ACTB	7/27/2006	25
702800	51	WATER LANE	RES	OFFP	7/27/2006	32
703200	1481	PESCADERO ROAD	RES	ACTB	7/27/2006	26
703801	1541	PESCADERO ROAD	RES	ACTB	7/27/2006	4
704303	1613	PESCADERO ROAD	RES	ACTB	7/27/2006	10
705000	1831	PESCADERO ROAD	RES	ACTB	7/27/2006	36
705400	1877	PESCADERO ROAD	RES	ACTB	7/27/2006	61
705603	1899	PESCADERO	RES	ACTB	7/27/2006	11
705800	1913	PESCADERO ROAD	RES	ACTB	7/27/2006	7
706002	1923	PESCADERO ROAD	RES	ACTB	7/27/2006	22
706201	1805	PESCADERO RD	RES	ACTB	7/27/2006	10

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
706601	1999	PESCADERO ROAD	RES	ACTB	7/27/2006	58
706801	213	STAGE ROAD	RES	ACTB	7/27/2006	38
707000	227	STAGE ROAD	RES	ACTB	7/27/2006	17
707604	245-251	STAGE ROAD	RES	ACTB	7/27/2006	56
708202	299	STAGE ROAD	RES	ACTB	7/27/2006	11
708401	309	STAGE ROAD	RES	ACTB	7/27/2006	25
708604	323	STAGE ROAD	RES	ACTB	7/27/2006	9
708800	339	STAGE ROAD	RES	ACTB	7/27/2006	61
709000	351	STAGE ROAD	RES	ACTB	7/27/2006	6
709602	350	STAGE ROAD	RES	ACTB	7/27/2006	17
709802	290	STAGE ROAD	RES	ACTB	7/27/2006	36
710202	250	STAGE ROAD	RES	ACTB	7/27/2006	16
711000	2041	PESCADERO ROAD	RES	ACTB	7/27/2006	16
711600	2131	PESCADERO ROAD	RES	ACTB	7/27/2006	11
711800	104	GOULSON STREET	RES	ACTB	7/27/2006	11
712001	127	GOULSON STREET	RES	ACTB	7/27/2006	36
712200	172	GOULSON STREET	RES	ACTB	7/27/2006	3
712600	184	GOULSON STREET	RES	ACTB	7/27/2006	6
712800	194	GOULSON STREET	RES	ACTB	7/27/2006	16
713400	860	NORTH STREET	RES	ACTB	7/27/2006	56
713601	861	NORTH STREET	RES	ACTB	7/27/2006	60
713802	826	NORTH STREET	RES	OFFP	7/27/2006	86
714000	807	NORTH STREET	RES	ACTB	7/27/2006	3
714200	804	NORTH STREET	RES	ACTB	7/27/2006	25
714402	766	NORTH STREET	RES	OFFP	7/27/2006	32
714605	787	NORTH STREET	RES	ACTB	7/27/2006	28
714801	772	NORTH STREET	RES	ACTB	7/27/2006	159
715000	773	NORTH STREET	RES	ACTB	7/27/2006	3
715400	757	NORTH STREET	RES	ACTB	7/27/2006	96
715601	752	NORTH STREET	RES	ACTB	7/27/2006	164
716200	719	NORTH STREET	RES	ACTB	7/27/2006	15
716401	730	NORTH STREET	RES	ACTB	7/27/2006	21
716602	714	NORTH STREET	RES	WOFF	7/27/2006	1
716801	706	NORTH STREET	RES	ACTB	7/27/2006	43
717603	675	NORTH STREET	RES	OFFB	7/27/2006	15
717800	665	NORTH STREET	RES	ACTB	7/27/2006	1
718600	615	NORTH STREET	RES	ACTB	7/27/2006	14
719200	597	NORTH STREET	RES	ACTB	7/27/2006	20
719400	581	NORTH STREET	RES	ACTB	7/27/2006	20
719600	547	NORTH ST	RES	ACTB	7/27/2006	8
720004	1926	PESCADERO ROAD	RES	ACTB	7/27/2006	17
720204	1946	PESCADERO ROAD	RES	ACTB	7/27/2006	58
720405	1956	PESCADERO ROAD	RES	ACTB	7/27/2006	5
722800	51	STAGE ROAD	RES	ACTB	7/27/2006	4
723400	17	STAGE ROAD	RES	ACTB	7/27/2006	19
740002	323	STAGE ROAD	RES	ACTB	7/27/2006	8
740203	323	STAGE ROAD	RES	ACTB	7/27/2006	14
740401	323	STAGE ROAD	RES	ACTB	7/27/2006	21
740604	323	STAGE ROAD	RES	ACTB	7/27/2006	29
740801	323	STAGE ROAD	RES	ACTB	7/27/2006	15
742003	290	STAGE ROAD	RES	ACTB	7/27/2006	25
742200	290	STAGE ROAD	RES	ACTB	7/27/2006	2
742404	290	STAGE ROAD	RES	OFFP	7/27/2006	11
743001	527	North Street	RES	OFFP	7/27/2006	31
745005	737	NORTH STREET	RES	ACTB	7/27/2006	3
750007	785	NORTH STREET	RES	ACTB	7/27/2006	7
750202	738	NORTH STREET	RES	ACTB	7/27/2006	1
750700	528	NORTH STREET	RES	ACTB	7/27/2006	25
750800	94	STAGE ROAD	RES	ACTB	7/27/2006	8
750902	14	STAGE ROAD	RES	ACTB	7/27/2006	11
751002	80	STAGE ROAD	RES	ACTB	7/27/2006	7
751100	655	NORTH STREET	RES	ACTB	7/27/2006	32
					7/27/2006 Total	2605
716602	714	NORTH STREET	RES	WOFF	8/3/2006	1

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
					8/3/2006 Total	1
702002	1431	PESCADERO ROAD	COMM	ACTB	9/26/2006	94
702400	31	WATER LANE	COMM	ACTB	9/26/2006	11
704200	1601	PESCADERO ROAD	COMM	ACTB	9/26/2006	10
707201	239	STAGE ROAD	COMM	ACTB	9/26/2006	1
707401	251	STAGE ROAD	COMM	ACTB	9/26/2006	56
708000	287	STAGE ROAD	COMM	ACTB	9/26/2006	29
710601	216	STAGE ROAD	COMM	ACTB	9/26/2006	2
710800	202	STAGE ROAD	COMM	ACTB	9/26/2006	230
718202	645	NORTH STREET	COMM	ACTB	9/26/2006	30
718400	625	NORTH STREET	COMM	ACTB	9/26/2006	28
427700	2020	PESCADERO ROAD	INST	ACTB	9/26/2006	3
704400	1200	PESCADERO ROAD	INST	ACTB	9/26/2006	21
709200	363	STAGE ROAD	INST	ACTB	9/26/2006	3
717500	696	NORTH STREET	INST	ACTB	9/26/2006	37
718800	620	NORTH STREET	INST	ACTB	9/26/2006	212
723200	22	STAGE ROAD	INST	ACTB	9/26/2006	12
750302	112	STAGE ROAD	INST	ACTB	9/26/2006	2
425904	70	STAGE ROAD	RES	ACTB	9/26/2006	14
426000	1503	PESCADERO ROAD	RES	ACTB	9/26/2006	41
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	9/26/2006	2
702201	1441	PESCADERO ROAD	RES	ACTB	9/26/2006	21
702800	51	WATER LANE	RES	OFFP	9/26/2006	31
703200	1481	PESCADERO ROAD	RES	ACTB	9/26/2006	17
703801	1541	PESCADERO ROAD	RES	ACTB	9/26/2006	5
704303	1613	PESCADERO ROAD	RES	ACTB	9/26/2006	10
705000	1831	PESCADERO ROAD	RES	ACTB	9/26/2006	44
705400	1877	PESCADERO ROAD	RES	ACTB	9/26/2006	73
705603	1899	PESCADERO	RES	ACTB	9/26/2006	11
705800	1913	PESCADERO ROAD	RES	ACTB	9/26/2006	5
706002	1923	PESCADERO ROAD	RES	ACTB	9/26/2006	20
706201	1805	PESCADERO RD	RES	ACTB	9/26/2006	10
706601	1999	PESCADERO ROAD	RES	ACTB	9/26/2006	60
706801	213	STAGE ROAD	RES	ACTB	9/26/2006	37
707000	227	STAGE ROAD	RES	ACTB	9/26/2006	28
707605	245-252	STAGE ROAD	RES	ACTB	9/26/2006	39
708202	299	STAGE ROAD	RES	ACTB	9/26/2006	17
708401	309	STAGE ROAD	RES	ACTB	9/26/2006	22
708604	323	STAGE ROAD	RES	ACTB	9/26/2006	7
708800	339	STAGE ROAD	RES	ACTB	9/26/2006	38
709000	351	STAGE ROAD	RES	ACTB	9/26/2006	7
709602	350	STAGE ROAD	RES	ACTB	9/26/2006	11
709802	290	STAGE ROAD	RES	ACTB	9/26/2006	28
710202	250	STAGE ROAD	RES	ACTB	9/26/2006	35
711000	2041	PESCADERO ROAD	RES	ACTB	9/26/2006	16
711600	2131	PESCADERO ROAD	RES	ACTB	9/26/2006	8
711800	104	GOULSON STREET	RES	ACTB	9/26/2006	12
712001	127	GOULSON STREET	RES	ACTB	9/26/2006	53
712200	172	GOULSON STREET	RES	ACTB	9/26/2006	4
712600	184	GOULSON STREET	RES	ACTB	9/26/2006	5
712800	194	GOULSON STREET	RES	ACTB	9/26/2006	13
713202	827	NORTH STREET	RES	ACTB	9/26/2006	19
713400	860	NORTH STREET	RES	ACTB	9/26/2006	39
713601	861	NORTH STREET	RES	ACTB	9/26/2006	56
713802	826	NORTH STREET	RES	OFFP	9/26/2006	79
714000	807	NORTH STREET	RES	ACTB	9/26/2006	2
714200	804	NORTH STREET	RES	ACTB	9/26/2006	25
714402	766	NORTH STREET	RES	OFFP	9/26/2006	33
714605	787	NORTH STREET	RES	ACTB	9/26/2006	19
714801	772	NORTH STREET	RES	ACTB	9/26/2006	258
715000	773	NORTH STREET	RES	ACTB	9/26/2006	4
715400	757	NORTH STREET	RES	ACTB	9/26/2006	43
715601	752	NORTH STREET	RES	ACTB	9/26/2006	146
716200	719	NORTH STREET	RES	ACTB	9/26/2006	11

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
716401	730	NORTH STREET	RES	ACTB	9/26/2006	25
716801	706	NORTH STREET	RES	ACTB	9/26/2006	39
717603	675	NORTH STREET	RES	OFFB	9/26/2006	15
717800	665	NORTH STREET	RES	ACTB	9/26/2006	1
718600	615	NORTH STREET	RES	ACTB	9/26/2006	15
719200	597	NORTH STREET	RES	ACTB	9/26/2006	18
719400	581	NORTH STREET	RES	ACTB	9/26/2006	16
719600	547	NORTH ST	RES	ACTB	9/26/2006	8
720004	1926	PESCADERO ROAD	RES	ACTB	9/26/2006	24
720204	1946	PESCADERO ROAD	RES	ACTB	9/26/2006	40
720405	1956	PESCADERO ROAD	RES	ACTB	9/26/2006	7
722800	51	STAGE ROAD	RES	ACTB	9/26/2006	4
723400	17	STAGE ROAD	RES	ACTB	9/26/2006	22
740002	323	STAGE ROAD	RES	ACTB	9/26/2006	6
740203	323	STAGE ROAD	RES	ACTB	9/26/2006	13
740401	323	STAGE ROAD	RES	ACTB	9/26/2006	18
740604	323	STAGE ROAD	RES	ACTB	9/26/2006	28
740801	323	STAGE ROAD	RES	ACTB	9/26/2006	16
742003	290	STAGE ROAD	RES	ACTB	9/26/2006	26
742200	290	STAGE ROAD	RES	ACTB	9/26/2006	3
742404	290	STAGE ROAD	RES	OFFP	9/26/2006	15
743001	527	North Street	RES	OFFP	9/26/2006	42
745005	737	NORTH STREET	RES	ACTB	9/26/2006	3
750007	785	NORTH STREET	RES	ACTB	9/26/2006	8
750202	738	NORTH STREET	RES	ACTB	9/26/2006	16
750700	528	NORTH STREET	RES	ACTB	9/26/2006	24
750800	94	STAGE ROAD	RES	ACTB	9/26/2006	8
750902	14	STAGE ROAD	RES	ACTB	9/26/2006	12
751002	80	STAGE ROAD	RES	ACTB	9/26/2006	8
751100	655	NORTH STREET	RES	ACTB	9/26/2006	33
					9/26/2006 Total	2772
702002	1431	PESCADERO ROAD	COMM	ACTB	11/28/2006	63
702400	31	WATER LANE	COMM	ACTB	11/28/2006	11
704200	1601	PESCADERO ROAD	COMM	ACTB	11/28/2006	11
707201	239	STAGE ROAD	COMM	ACTB	11/28/2006	2
707401	251	STAGE ROAD	COMM	ACTB	11/28/2006	36
708000	287	STAGE ROAD	COMM	ACTB	11/28/2006	24
710601	216	STAGE ROAD	COMM	ACTB	11/28/2006	1
710800	202	STAGE ROAD	COMM	ACTB	11/28/2006	215
718202	645	NORTH STREET	COMM	ACTB	11/28/2006	16
718400	625	NORTH STREET	COMM	ACTB	11/28/2006	30
427700	2020	PESCADERO ROAD	INST	ACTB	11/28/2006	3
704400	1200	PESCADERO ROAD	INST	ACTB	11/28/2006	31
709200	363	STAGE ROAD	INST	ACTB	11/28/2006	3
717500	696	NORTH STREET	INST	ACTB	11/28/2006	10
718800	620	NORTH STREET	INST	ACTB	11/28/2006	60
723200	22	STAGE ROAD	INST	ACTB	11/28/2006	6
750302	112	STAGE ROAD	INST	ACTB	11/28/2006	3
425904	70	STAGE ROAD	RES	ACTB	11/28/2006	14
426000	1503	PESCADERO ROAD	RES	ACTB	11/28/2006	25
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	11/28/2006	0
702201	1441	PESCADERO ROAD	RES	ACTB	11/28/2006	10
702800	51	WATER LANE	RES	OFFP	11/28/2006	28
703200	1481	PESCADERO ROAD	RES	ACTB	11/28/2006	16
703801	1541	PESCADERO ROAD	RES	ACTB	11/28/2006	6
704303	1613	PESCADERO ROAD	RES	ACTB	11/28/2006	10
705000	1831	PESCADERO ROAD	RES	ACTB	11/28/2006	36
705400	1877	PESCADERO ROAD	RES	ACTB	11/28/2006	69
705603	1899	PESCADERO	RES	ACTB	11/28/2006	10
705800	1913	PESCADERO ROAD	RES	ACTB	11/28/2006	6
706002	1923	PESCADERO ROAD	RES	ACTB	11/28/2006	21
706201	1805	PESCADERO RD	RES	ACTB	11/28/2006	7
706601	1999	PESCADERO ROAD	RES	ACTB	11/28/2006	44
706801	213	STAGE ROAD	RES	ACTB	11/28/2006	47

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
707000	227	STAGE ROAD	RES	ACTB	11/28/2006	43
707606	245-253	STAGE ROAD	RES	ACTB	11/28/2006	20
708202	299	STAGE ROAD	RES	ACTB	11/28/2006	14
708401	309	STAGE ROAD	RES	ACTB	11/28/2006	20
708604	323	STAGE ROAD	RES	ACTB	11/28/2006	8
708800	339	STAGE ROAD	RES	ACTB	11/28/2006	23
709000	351	STAGE ROAD	RES	ACTB	11/28/2006	6
709602	350	STAGE ROAD	RES	ACTB	11/28/2006	8
709802	290	STAGE ROAD	RES	ACTB	11/28/2006	22
710202	250	STAGE ROAD	RES	ACTB	11/28/2006	17
711000	2041	PESCADERO ROAD	RES	ACTB	11/28/2006	14
711600	2131	PESCADERO ROAD	RES	ACTB	11/28/2006	5
711800	104	GOULSON STREET	RES	ACTB	11/28/2006	10
712001	127	GOULSON STREET	RES	ACTB	11/28/2006	11
712200	172	GOULSON STREET	RES	ACTB	11/28/2006	3
712600	184	GOULSON STREET	RES	ACTB	11/28/2006	6
712800	194	GOULSON STREET	RES	ACTB	11/28/2006	14
713202	827	NORTH STREET	RES	ACTB	11/28/2006	10
713400	860	NORTH STREET	RES	ACTB	11/28/2006	16
713601	861	NORTH STREET	RES	ACTB	11/28/2006	42
713802	826	NORTH STREET	RES	OFFP	11/28/2006	54
714000	807	NORTH STREET	RES	ACTB	11/28/2006	2
714200	804	NORTH STREET	RES	ACTB	11/28/2006	16
714402	766	NORTH STREET	RES	OFFP	11/28/2006	30
714605	787	NORTH STREET	RES	ACTB	11/28/2006	10
714801	772	NORTH STREET	RES	ACTB	11/28/2006	57
715000	773	NORTH STREET	RES	ACTB	11/28/2006	3
715400	757	NORTH STREET	RES	ACTB	11/28/2006	25
715601	752	NORTH STREET	RES	ACTB	11/28/2006	93
716200	719	NORTH STREET	RES	ACTB	11/28/2006	13
716401	730	NORTH STREET	RES	ACTB	11/28/2006	24
716603	714	NORTH STREET	RES	ACTB	11/28/2006	16
716801	706	NORTH STREET	RES	ACTB	11/28/2006	33
717603	675	NORTH STREET	RES	OFFB	11/28/2006	14
717800	665	NORTH STREET	RES	ACTB	11/28/2006	1
718600	615	NORTH STREET	RES	ACTB	11/28/2006	10
719200	597	NORTH STREET	RES	ACTB	11/28/2006	15
719400	581	NORTH STREET	RES	ACTB	11/28/2006	14
719600	547	NORTH ST	RES	ACTB	11/28/2006	3
720004	1926	PESCADERO ROAD	RES	ACTB	11/28/2006	15
720204	1946	PESCADERO ROAD	RES	ACTB	11/28/2006	24
720405	1956	PESCADERO ROAD	RES	ACTB	11/28/2006	6
722800	51	STAGE ROAD	RES	ACTB	11/28/2006	3
723400	17	STAGE ROAD	RES	ACTB	11/28/2006	17
740002	323	STAGE ROAD	RES	ACTB	11/28/2006	7
740203	323	STAGE ROAD	RES	ACTB	11/28/2006	13
740401	323	STAGE ROAD	RES	ACTB	11/28/2006	20
740604	323	STAGE ROAD	RES	ACTB	11/28/2006	31
740801	323	STAGE ROAD	RES	ACTB	11/28/2006	14
742003	290	STAGE ROAD	RES	ACTB	11/28/2006	25
742200	290	STAGE ROAD	RES	ACTB	11/28/2006	3
742404	290	STAGE ROAD	RES	OFFP	11/28/2006	11
743001	527	North Street	RES	OFFP	11/28/2006	32
745005	737	NORTH STREET	RES	ACTB	11/28/2006	4
750007	785	NORTH STREET	RES	ACTB	11/28/2006	4
750202	738	NORTH STREET	RES	ACTB	11/28/2006	13
750700	528	NORTH STREET	RES	ACTB	11/28/2006	25
750800	94	STAGE ROAD	RES	ACTB	11/28/2006	6
750902	14	STAGE ROAD	RES	ACTB	11/28/2006	9
751002	80	STAGE ROAD	RES	ACTB	11/28/2006	5
751100	655	NORTH STREET	RES	ACTB	11/28/2006	19
					11/28/2006 Total	1925
710800	202	STAGE ROAD	COMM	ACTB	1/23/2007	186
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	1/23/2007	10

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
719600	547	NORTH ST	RES	ACTB	1/23/2007	2
					1/23/2007 Total	198
702002	1431	PESCADERO ROAD	COMM	ACTB	1/25/2007	55
702400	31	WATER LANE	COMM	ACTB	1/25/2007	7
704200	1601	PESCADERO ROAD	COMM	ACTB	1/25/2007	11
707201	239	STAGE ROAD	COMM	ACTB	1/25/2007	2
707401	251	STAGE ROAD	COMM	ACTB	1/25/2007	7
708000	287	STAGE ROAD	COMM	ACTB	1/25/2007	27
710601	216	STAGE ROAD	COMM	ACTB	1/25/2007	1
718202	645	NORTH STREET	COMM	ACTB	1/25/2007	1
718400	625	NORTH STREET	COMM	ACTB	1/25/2007	23
427700	2020	PESCADERO ROAD	INST	ACTB	1/25/2007	5
704400	1200	PESCADERO ROAD	INST	ACTB	1/25/2007	30
709200	363	STAGE ROAD	INST	ACTB	1/25/2007	0
717500	696	NORTH STREET	INST	ACTB	1/25/2007	5
718800	620	NORTH STREET	INST	ACTB	1/25/2007	46
723200	22	STAGE ROAD	INST	ACTB	1/25/2007	4
750302	112	STAGE ROAD	INST	ACTB	1/25/2007	4
425904	70	STAGE ROAD	RES	ACTB	1/25/2007	14
426000	1503	PESCADERO ROAD	RES	ACTB	1/25/2007	22
702201	1441	PESCADERO ROAD	RES	ACTB	1/25/2007	8
702800	51	WATER LANE	RES	OFFP	1/25/2007	29
703200	1481	PESCADERO ROAD	RES	ACTB	1/25/2007	13
703801	1541	PESCADERO ROAD	RES	ACTB	1/25/2007	4
704303	1613	PESCADERO ROAD	RES	ACTB	1/25/2007	9
705000	1831	PESCADERO ROAD	RES	ACTB	1/25/2007	19
705400	1877	PESCADERO ROAD	RES	ACTB	1/25/2007	70
705603	1899	PESCADERO	RES	ACTB	1/25/2007	27
705800	1913	PESCADERO ROAD	RES	ACTB	1/25/2007	5
706002	1923	PESCADERO ROAD	RES	ACTB	1/25/2007	11
706201	1805	PESCADERO RD	RES	ACTB	1/25/2007	6
706601	1999	PESCADERO ROAD	RES	ACTB	1/25/2007	33
706801	213	STAGE ROAD	RES	ACTB	1/25/2007	36
707000	227	STAGE ROAD	RES	ACTB	1/25/2007	9
707607	245-254	STAGE ROAD	RES	ACTB	1/25/2007	13
708202	299	STAGE ROAD	RES	ACTB	1/25/2007	9
708401	309	STAGE ROAD	RES	ACTB	1/25/2007	18
708604	323	STAGE ROAD	RES	ACTB	1/25/2007	6
708800	339	STAGE ROAD	RES	ACTB	1/25/2007	5
709000	351	STAGE ROAD	RES	ACTB	1/25/2007	6
709602	350	STAGE ROAD	RES	ACTB	1/25/2007	6
709802	290	STAGE ROAD	RES	ACTB	1/25/2007	20
710202	250	STAGE ROAD	RES	ACTB	1/25/2007	16
711000	2041	PESCADERO ROAD	RES	ACTB	1/25/2007	9
711600	2131	PESCADERO ROAD	RES	ACTB	1/25/2007	5
711800	104	GOULSON STREET	RES	ACTB	1/25/2007	9
712001	127	GOULSON STREET	RES	ACTB	1/25/2007	10
712200	172	GOULSON STREET	RES	ACTB	1/25/2007	2
712600	184	GOULSON STREET	RES	ACTB	1/25/2007	5
712800	194	GOULSON STREET	RES	ACTB	1/25/2007	12
713202	827	NORTH STREET	RES	ACTB	1/25/2007	1
713400	860	NORTH STREET	RES	ACTB	1/25/2007	5
713601	861	NORTH STREET	RES	ACTB	1/25/2007	25
713802	826	NORTH STREET	RES	OFFP	1/25/2007	16
714000	807	NORTH STREET	RES	ACTB	1/25/2007	1
714200	804	NORTH STREET	RES	ACTB	1/25/2007	13
714402	766	NORTH STREET	RES	OFFP	1/25/2007	22
714605	787	NORTH STREET	RES	ACTB	1/25/2007	5
714801	772	NORTH STREET	RES	ACTB	1/25/2007	39
715000	773	NORTH STREET	RES	ACTB	1/25/2007	2
715400	757	NORTH STREET	RES	ACTB	1/25/2007	18
715601	752	NORTH STREET	RES	ACTB	1/25/2007	18
716200	719	NORTH STREET	RES	ACTB	1/25/2007	14
716401	730	NORTH STREET	RES	ACTB	1/25/2007	17

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
716603	714	NORTH STREET	RES	ACTB	1/25/2007	24
716801	706	NORTH STREET	RES	ACTB	1/25/2007	31
717603	675	NORTH STREET	RES	OFFB	1/25/2007	11
717800	665	NORTH STREET	RES	ACTB	1/25/2007	2
718600	615	NORTH STREET	RES	ACTB	1/25/2007	12
719200	597	NORTH STREET	RES	ACTB	1/25/2007	12
719400	581	NORTH STREET	RES	ACTB	1/25/2007	11
720004	1926	PESCADERO ROAD	RES	ACTB	1/25/2007	14
720204	1946	PESCADERO ROAD	RES	ACTB	1/25/2007	18
720405	1956	PESCADERO ROAD	RES	ACTB	1/25/2007	5
722800	51	STAGE ROAD	RES	ACTB	1/25/2007	4
723400	17	STAGE ROAD	RES	ACTB	1/25/2007	14
740002	323	STAGE ROAD	RES	ACTB	1/25/2007	6
740203	323	STAGE ROAD	RES	ACTB	1/25/2007	13
740401	323	STAGE ROAD	RES	ACTB	1/25/2007	15
740604	323	STAGE ROAD	RES	ACTB	1/25/2007	26
740801	323	STAGE ROAD	RES	ACTB	1/25/2007	11
742003	290	STAGE ROAD	RES	ACTB	1/25/2007	23
742200	290	STAGE ROAD	RES	ACTB	1/25/2007	2
742404	290	STAGE ROAD	RES	OFFP	1/25/2007	8
743001	527	North Street	RES	OFFP	1/25/2007	19
745005	737	NORTH STREET	RES	ACTB	1/25/2007	3
750007	785	NORTH STREET	RES	ACTB	1/25/2007	4
750202	738	NORTH STREET	RES	ACTB	1/25/2007	26
750700	528	NORTH STREET	RES	ACTB	1/25/2007	31
750800	94	STAGE ROAD	RES	ACTB	1/25/2007	6
750902	14	STAGE ROAD	RES	ACTB	1/25/2007	7
751002	80	STAGE ROAD	RES	ACTB	1/25/2007	3
751100	655	NORTH STREET	RES	ACTB	1/25/2007	14
					1/25/2007 Total	1265
702002	1431	PESCADERO ROAD	COMM	ACTB	3/26/2007	67
702400	31	WATER LANE	COMM	ACTB	3/26/2007	7
704200	1601	PESCADERO ROAD	COMM	ACTB	3/26/2007	11
707201	239	STAGE ROAD	COMM	ACTB	3/26/2007	1
707401	251	STAGE ROAD	COMM	ACTB	3/26/2007	12
708000	287	STAGE ROAD	COMM	ACTB	3/26/2007	15
710601	216	STAGE ROAD	COMM	ACTB	3/26/2007	2
710800	202	STAGE ROAD	COMM	ACTB	3/26/2007	229
718202	645	NORTH STREET	COMM	ACTB	3/26/2007	6
718400	625	NORTH STREET	COMM	ACTB	3/26/2007	35
427700	2020	PESCADERO ROAD	INST	ACTB	3/26/2007	3
704400	1200	PESCADERO ROAD	INST	ACTB	3/26/2007	26
709200	363	STAGE ROAD	INST	ACTB	3/26/2007	2
717500	696	NORTH STREET	INST	ACTB	3/26/2007	1
718800	620	NORTH STREET	INST	ACTB	3/26/2007	88
723200	22	STAGE ROAD	INST	ACTB	3/26/2007	5
750302	112	STAGE ROAD	INST	ACTB	3/26/2007	2
425904	70	STAGE ROAD	RES	ACTB	3/26/2007	14
426000	1503	PESCADERO ROAD	RES	ACTB	3/26/2007	16
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	3/26/2007	0
702201	1441	PESCADERO ROAD	RES	ACTB	3/26/2007	10
702800	51	WATER LANE	RES	OFFP	3/26/2007	24
703200	1481	PESCADERO ROAD	RES	ACTB	3/26/2007	15
703801	1541	PESCADERO ROAD	RES	ACTB	3/26/2007	5
704303	1613	PESCADERO ROAD	RES	ACTB	3/26/2007	9
705000	1831	PESCADERO ROAD	RES	ACTB	3/26/2007	21
705400	1877	PESCADERO ROAD	RES	ACTB	3/26/2007	41
705603	1899	PESCADERO	RES	ACTB	3/26/2007	12
705800	1913	PESCADERO ROAD	RES	ACTB	3/26/2007	6
706002	1923	PESCADERO ROAD	RES	ACTB	3/26/2007	15
706201	1805	PESCADERO RD	RES	ACTB	3/26/2007	6
706601	1999	PESCADERO ROAD	RES	ACTB	3/26/2007	42
706801	213	STAGE ROAD	RES	ACTB	3/26/2007	37
707000	227	STAGE ROAD	RES	ACTB	3/26/2007	27

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
707608	245-255	STAGE ROAD	RES	ACTB	3/26/2007	17
708202	299	STAGE ROAD	RES	ACTB	3/26/2007	9
708401	309	STAGE ROAD	RES	ACTB	3/26/2007	17
708604	323	STAGE ROAD	RES	ACTB	3/26/2007	7
708800	339	STAGE ROAD	RES	ACTB	3/26/2007	4
709000	351	STAGE ROAD	RES	ACTB	3/26/2007	5
709602	350	STAGE ROAD	RES	ACTB	3/26/2007	8
709802	290	STAGE ROAD	RES	ACTB	3/26/2007	24
710202	250	STAGE ROAD	RES	ACTB	3/26/2007	24
711000	2041	PESCADERO ROAD	RES	ACTB	3/26/2007	15
711600	2131	PESCADERO ROAD	RES	ACTB	3/26/2007	5
711800	104	GOULSON STREET	RES	ACTB	3/26/2007	11
712001	127	GOULSON STREET	RES	ACTB	3/26/2007	11
712200	172	GOULSON STREET	RES	ACTB	3/26/2007	3
712600	184	GOULSON STREET	RES	ACTB	3/26/2007	5
712800	194	GOULSON STREET	RES	ACTB	3/26/2007	14
713202	827	NORTH STREET	RES	ACTB	3/26/2007	2
713400	860	NORTH STREET	RES	ACTB	3/26/2007	6
713601	861	NORTH STREET	RES	ACTB	3/26/2007	24
713802	826	NORTH STREET	RES	OFFP	3/26/2007	21
714000	807	NORTH STREET	RES	ACTB	3/26/2007	2
714200	804	NORTH STREET	RES	ACTB	3/26/2007	13
714402	766	NORTH STREET	RES	OFFP	3/26/2007	23
714605	787	NORTH STREET	RES	ACTB	3/26/2007	6
714801	772	NORTH STREET	RES	ACTB	3/26/2007	51
715000	773	NORTH STREET	RES	ACTB	3/26/2007	2
715400	757	NORTH STREET	RES	ACTB	3/26/2007	19
715601	752	NORTH STREET	RES	ACTB	3/26/2007	25
716200	719	NORTH STREET	RES	ACTB	3/26/2007	19
716401	730	NORTH STREET	RES	ACTB	3/26/2007	19
716603	714	NORTH STREET	RES	ACTB	3/26/2007	22
716801	706	NORTH STREET	RES	ACTB	3/26/2007	32
717603	675	NORTH STREET	RES	OFFB	3/26/2007	9
717800	665	NORTH STREET	RES	ACTB	3/26/2007	1
718600	615	NORTH STREET	RES	ACTB	3/26/2007	19
719200	597	NORTH STREET	RES	ACTB	3/26/2007	11
719400	581	NORTH STREET	RES	ACTB	3/26/2007	13
719600	547	NORTH ST	RES	ACTB	3/26/2007	2
720004	1926	PESCADERO ROAD	RES	ACTB	3/26/2007	15
720204	1946	PESCADERO ROAD	RES	ACTB	3/26/2007	20
720405	1956	PESCADERO ROAD	RES	ACTB	3/26/2007	5
722800	51	STAGE ROAD	RES	ACTB	3/26/2007	3
723400	17	STAGE ROAD	RES	ACTB	3/26/2007	17
740002	323	STAGE ROAD	RES	ACTB	3/26/2007	6
740203	323	STAGE ROAD	RES	ACTB	3/26/2007	14
740401	323	STAGE ROAD	RES	ACTB	3/26/2007	16
740604	323	STAGE ROAD	RES	ACTB	3/26/2007	30
740801	323	STAGE ROAD	RES	ACTB	3/26/2007	17
742003	290	STAGE ROAD	RES	ACTB	3/26/2007	28
742200	290	STAGE ROAD	RES	ACTB	3/26/2007	3
742404	290	STAGE ROAD	RES	OFFP	3/26/2007	10
743001	527	North Street	RES	OFFP	3/26/2007	17
745005	737	NORTH STREET	RES	ACTB	3/26/2007	4
750007	785	NORTH STREET	RES	ACTB	3/26/2007	3
750202	738	NORTH STREET	RES	ACTB	3/26/2007	101
750700	528	NORTH STREET	RES	ACTB	3/26/2007	17
750800	94	STAGE ROAD	RES	ACTB	3/26/2007	7
750902	14	STAGE ROAD	RES	ACTB	3/26/2007	8
751002	80	STAGE ROAD	RES	ACTB	3/26/2007	4
751100	655	NORTH STREET	RES	ACTB	3/26/2007	17
					3/26/2007 Total	1694
702002	1431	PESCADERO ROAD	COMM	ACTB	5/24/2007	133
702400	31	WATER LANE	COMM	ACTB	5/24/2007	6
704200	1601	PESCADERO ROAD	COMM	ACTB	5/24/2007	21

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
707201	239	STAGE ROAD	COMM	ACTB	5/24/2007	3
707401	251	STAGE ROAD	COMM	ACTB	5/24/2007	32
708000	287	STAGE ROAD	COMM	ACTB	5/24/2007	23
710601	216	STAGE ROAD	COMM	ACTB	5/24/2007	1
710800	202	STAGE ROAD	COMM	ACTB	5/24/2007	201
718202	645	NORTH STREET	COMM	ACTB	5/24/2007	17
718400	625	NORTH STREET	COMM	ACTB	5/24/2007	29
427700	2020	PESCADERO ROAD	INST	ACTB	5/24/2007	2
704400	1200	PESCADERO ROAD	INST	ACTB	5/24/2007	23
709200	363	STAGE ROAD	INST	ACTB	5/24/2007	3
717500	696	NORTH STREET	INST	ACTB	5/24/2007	13
718800	620	NORTH STREET	INST	ACTB	5/24/2007	88
723200	22	STAGE ROAD	INST	ACTB	5/24/2007	2
750302	112	STAGE ROAD	INST	ACTB	5/24/2007	2
425904	70	STAGE ROAD	RES	ACTB	5/24/2007	16
426000	1503	PESCADERO ROAD	RES	ACTB	5/24/2007	25
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	5/24/2007	0
702201	1441	PESCADERO ROAD	RES	ACTB	5/24/2007	15
702800	51	WATER LANE	RES	OFFP	5/24/2007	30
703200	1481	PESCADERO ROAD	RES	ACTB	5/24/2007	15
703801	1541	PESCADERO ROAD	RES	ACTB	5/24/2007	5
704303	1613	PESCADERO ROAD	RES	ACTB	5/24/2007	8
705000	1831	PESCADERO ROAD	RES	ACTB	5/24/2007	30
705400	1877	PESCADERO ROAD	RES	ACTB	5/24/2007	46
705603	1899	PESCADERO	RES	ACTB	5/24/2007	11
705800	1913	PESCADERO ROAD	RES	ACTB	5/24/2007	6
706002	1923	PESCADERO ROAD	RES	ACTB	5/24/2007	16
706201	1805	PESCADERO RD	RES	ACTB	5/24/2007	10
706601	1999	PESCADERO ROAD	RES	ACTB	5/24/2007	47
706801	213	STAGE ROAD	RES	ACTB	5/24/2007	38
707000	227	STAGE ROAD	RES	ACTB	5/24/2007	18
707609	245-256	STAGE ROAD	RES	ACTB	5/24/2007	34
708202	299	STAGE ROAD	RES	ACTB	5/24/2007	15
708401	309	STAGE ROAD	RES	ACTB	5/24/2007	19
708604	323	STAGE ROAD	RES	ACTB	5/24/2007	7
708800	339	STAGE ROAD	RES	ACTB	5/24/2007	11
709000	351	STAGE ROAD	RES	ACTB	5/24/2007	7
709602	350	STAGE ROAD	RES	ACTB	5/24/2007	11
709802	290	STAGE ROAD	RES	ACTB	5/24/2007	23
710202	250	STAGE ROAD	RES	ACTB	5/24/2007	16
711000	2041	PESCADERO ROAD	RES	ACTB	5/24/2007	13
711600	2131	PESCADERO ROAD	RES	ACTB	5/24/2007	6
711800	104	GOULSON STREET	RES	ACTB	5/24/2007	10
712001	127	GOULSON STREET	RES	ACTB	5/24/2007	20
712200	172	GOULSON STREET	RES	ACTB	5/24/2007	3
712600	184	GOULSON STREET	RES	ACTB	5/24/2007	6
712800	194	GOULSON STREET	RES	ACTB	5/24/2007	11
713202	827	NORTH STREET	RES	ACTB	5/24/2007	5
713400	860	NORTH STREET	RES	ACTB	5/24/2007	15
713601	861	NORTH STREET	RES	ACTB	5/24/2007	35
713803	826	NORTH STREET	RES	ACTB	5/24/2007	41
714000	807	NORTH STREET	RES	ACTB	5/24/2007	1
714200	804	NORTH STREET	RES	ACTB	5/24/2007	16
714402	766	NORTH STREET	RES	OFFP	5/24/2007	31
714605	787	NORTH STREET	RES	ACTB	5/24/2007	12
714801	772	NORTH STREET	RES	ACTB	5/24/2007	79
715000	773	NORTH STREET	RES	ACTB	5/24/2007	2
715400	757	NORTH STREET	RES	ACTB	5/24/2007	22
715601	752	NORTH STREET	RES	ACTB	5/24/2007	57
716200	719	NORTH STREET	RES	ACTB	5/24/2007	14
716401	730	NORTH STREET	RES	ACTB	5/24/2007	22
716603	714	NORTH STREET	RES	ACTB	5/24/2007	19
716801	706	NORTH STREET	RES	ACTB	5/24/2007	37
717603	675	NORTH STREET	RES	OFFB	5/24/2007	12

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
717800	665	NORTH STREET	RES	ACTB	5/24/2007	2
718600	615	NORTH STREET	RES	ACTB	5/24/2007	18
719200	597	NORTH STREET	RES	ACTB	5/24/2007	12
719400	581	NORTH STREET	RES	ACTB	5/24/2007	15
719600	547	NORTH ST	RES	ACTB	5/24/2007	7
720004	1926	PESCADERO ROAD	RES	ACTB	5/24/2007	5
720204	1946	PESCADERO ROAD	RES	ACTB	5/24/2007	34
720405	1956	PESCADERO ROAD	RES	ACTB	5/24/2007	5
722800	51	STAGE ROAD	RES	ACTB	5/24/2007	3
723400	17	STAGE ROAD	RES	ACTB	5/24/2007	23
740002	323	STAGE ROAD	RES	ACTB	5/24/2007	6
740203	323	STAGE ROAD	RES	ACTB	5/24/2007	13
740401	323	STAGE ROAD	RES	ACTB	5/24/2007	15
740604	323	STAGE ROAD	RES	ACTB	5/24/2007	25
740801	323	STAGE ROAD	RES	ACTB	5/24/2007	15
742003	290	STAGE ROAD	RES	ACTB	5/24/2007	28
742200	290	STAGE ROAD	RES	ACTB	5/24/2007	5
742404	290	STAGE ROAD	RES	OFFP	5/24/2007	5
743001	527	North Street	RES	OFFP	5/24/2007	21
745005	737	NORTH STREET	RES	ACTB	5/24/2007	4
750007	785	NORTH STREET	RES	ACTB	5/24/2007	4
750202	738	NORTH STREET	RES	ACTB	5/24/2007	3
750700	528	NORTH STREET	RES	ACTB	5/24/2007	26
750800	94	STAGE ROAD	RES	ACTB	5/24/2007	7
750902	14	STAGE ROAD	RES	ACTB	5/24/2007	11
751002	80	STAGE ROAD	RES	ACTB	5/24/2007	4
751100	655	NORTH STREET	RES	ACTB	5/24/2007	18
					5/24/2007 Total	1901
714402	766	NORTH STREET	RES	OFFP	7/20/2007	19
					7/20/2007 Total	19
702002	1431	PESCADERO ROAD	COMM	ACTB	7/25/2007	90
702400	31	WATER LANE	COMM	ACTB	7/25/2007	6
704200	1601	PESCADERO ROAD	COMM	ACTB	7/25/2007	27
707201	239	STAGE ROAD	COMM	ACTB	7/25/2007	1
707401	251	STAGE ROAD	COMM	ACTB	7/25/2007	44
708000	287	STAGE ROAD	COMM	ACTB	7/25/2007	27
710601	216	STAGE ROAD	COMM	ACTB	7/25/2007	2
710800	202	STAGE ROAD	COMM	ACTB	7/25/2007	245
718202	645	NORTH STREET	COMM	ACTB	7/25/2007	33
718400	625	NORTH STREET	COMM	ACTB	7/25/2007	30
427700	2020	PESCADERO ROAD	INST	ACTB	7/25/2007	8
704400	1200	PESCADERO ROAD	INST	ACTB	7/25/2007	8
709200	363	STAGE ROAD	INST	ACTB	7/25/2007	8
717500	696	NORTH STREET	INST	ACTB	7/25/2007	24
718800	620	NORTH STREET	INST	ACTB	7/25/2007	119
723200	22	STAGE ROAD	INST	ACTB	7/25/2007	8
750302	112	STAGE ROAD	INST	ACTB	7/25/2007	3
425904	70	STAGE ROAD	RES	ACTB	7/25/2007	15
426000	1503	PESCADERO ROAD	RES	ACTB	7/25/2007	65
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	7/25/2007	1
702201	1441	PESCADERO ROAD	RES	ACTB	7/25/2007	24
702800	51	WATER LANE	RES	OFFP	7/25/2007	35
703200	1481	PESCADERO ROAD	RES	ACTB	7/25/2007	26
703801	1541	PESCADERO ROAD	RES	ACTB	7/25/2007	6
704303	1613	PESCADERO ROAD	RES	ACTB	7/25/2007	5
705000	1831	PESCADERO ROAD	RES	ACTB	7/25/2007	39
705400	1877	PESCADERO ROAD	RES	ACTB	7/25/2007	63
705603	1899	PESCADERO	RES	ACTB	7/25/2007	16
705800	1913	PESCADERO ROAD	RES	ACTB	7/25/2007	5
706002	1923	PESCADERO ROAD	RES	ACTB	7/25/2007	15
706201	1805	PESCADERO RD	RES	ACTB	7/25/2007	15
706601	1999	PESCADERO ROAD	RES	ACTB	7/25/2007	55
706801	213	STAGE ROAD	RES	ACTB	7/25/2007	18
707000	227	STAGE ROAD	RES	ACTB	7/25/2007	168

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
707610	245-257	STAGE ROAD	RES	ACTB	7/25/2007	24
708202	299	STAGE ROAD	RES	ACTB	7/25/2007	3
708401	309	STAGE ROAD	RES	ACTB	7/25/2007	22
708604	323	STAGE ROAD	RES	ACTB	7/25/2007	8
708800	339	STAGE ROAD	RES	ACTB	7/25/2007	37
709000	351	STAGE ROAD	RES	ACTB	7/25/2007	7
709602	350	STAGE ROAD	RES	ACTB	7/25/2007	15
709802	290	STAGE ROAD	RES	ACTB	7/25/2007	29
710202	250	STAGE ROAD	RES	ACTB	7/25/2007	29
711000	2041	PESCADERO ROAD	RES	ACTB	7/25/2007	14
711600	2131	PESCADERO ROAD	RES	ACTB	7/25/2007	7
711800	104	GOULSON STREET	RES	ACTB	7/25/2007	12
712001	127	GOULSON STREET	RES	ACTB	7/25/2007	28
712200	172	GOULSON STREET	RES	ACTB	7/25/2007	3
712600	184	GOULSON STREET	RES	ACTB	7/25/2007	6
712800	194	GOULSON STREET	RES	ACTB	7/25/2007	13
713202	827	NORTH STREET	RES	ACTB	7/25/2007	11
713400	860	NORTH STREET	RES	ACTB	7/25/2007	62
713601	861	NORTH STREET	RES	ACTB	7/25/2007	57
713803	826	NORTH STREET	RES	ACTB	7/25/2007	73
714000	807	NORTH STREET	RES	ACTB	7/25/2007	7
714200	804	NORTH STREET	RES	ACTB	7/25/2007	20
714605	787	NORTH STREET	RES	ACTB	7/25/2007	16
714801	772	NORTH STREET	RES	ACTB	7/25/2007	139
715000	773	NORTH STREET	RES	ACTB	7/25/2007	2
715400	757	NORTH STREET	RES	ACTB	7/25/2007	37
715601	752	NORTH STREET	RES	ACTB	7/25/2007	176
716200	719	NORTH STREET	RES	ACTB	7/25/2007	18
716401	730	NORTH STREET	RES	ACTB	7/25/2007	23
716603	714	NORTH STREET	RES	ACTB	7/25/2007	27
716801	706	NORTH STREET	RES	ACTB	7/25/2007	42
717603	675	NORTH STREET	RES	OFFB	7/25/2007	19
717800	665	NORTH STREET	RES	ACTB	7/25/2007	1
718600	615	NORTH STREET	RES	ACTB	7/25/2007	22
719200	597	NORTH STREET	RES	ACTB	7/25/2007	17
719400	581	NORTH STREET	RES	ACTB	7/25/2007	21
719600	547	NORTH ST	RES	ACTB	7/25/2007	11
720004	1926	PESCADERO ROAD	RES	ACTB	7/25/2007	6
720204	1946	PESCADERO ROAD	RES	ACTB	7/25/2007	57
720405	1956	PESCADERO ROAD	RES	ACTB	7/25/2007	5
722800	51	STAGE ROAD	RES	ACTB	7/25/2007	4
723400	17	STAGE ROAD	RES	ACTB	7/25/2007	23
740002	323	STAGE ROAD	RES	ACTB	7/25/2007	7
740203	323	STAGE ROAD	RES	ACTB	7/25/2007	15
740401	323	STAGE ROAD	RES	ACTB	7/25/2007	17
740604	323	STAGE ROAD	RES	ACTB	7/25/2007	25
740801	323	STAGE ROAD	RES	ACTB	7/25/2007	16
742003	290	STAGE ROAD	RES	ACTB	7/25/2007	34
742200	290	STAGE ROAD	RES	ACTB	7/25/2007	2
742404	290	STAGE ROAD	RES	OFFP	7/25/2007	8
743001	527	North Street	RES	OFFP	7/25/2007	40
745005	737	NORTH STREET	RES	ACTB	7/25/2007	4
750007	785	NORTH STREET	RES	ACTB	7/25/2007	24
750202	738	NORTH STREET	RES	ACTB	7/25/2007	12
750700	528	NORTH STREET	RES	ACTB	7/25/2007	27
750800	94	STAGE ROAD	RES	ACTB	7/25/2007	6
750902	14	STAGE ROAD	RES	ACTB	7/25/2007	13
751002	80	STAGE ROAD	RES	ACTB	7/25/2007	6
751100	655	NORTH STREET	RES	ACTB	7/25/2007	32
					7/25/2007 Total	2695
742404	290	STAGE ROAD	RES	OFFP	9/21/2007	7
					9/21/2007 Total	7
702002	1431	PESCADERO ROAD	COMM	ACTB	9/25/2007	82
702400	31	WATER LANE	COMM	ACTB	9/25/2007	7

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
704200	1601	PESCADERO ROAD	COMM	ACTB	9/25/2007	23
707201	239	STAGE ROAD	COMM	ACTB	9/25/2007	2
707401	251	STAGE ROAD	COMM	ACTB	9/25/2007	46
708000	287	STAGE ROAD	COMM	ACTB	9/25/2007	36
710601	216	STAGE ROAD	COMM	ACTB	9/25/2007	2
710800	202	STAGE ROAD	COMM	ACTB	9/25/2007	247
718202	645	NORTH STREET	COMM	ACTB	9/25/2007	34
718400	625	NORTH STREET	COMM	ACTB	9/25/2007	33
427700	2020	PESCADERO ROAD	INST	ACTB	9/25/2007	4
704400	1200	PESCADERO ROAD	INST	ACTB	9/25/2007	29
709200	363	STAGE ROAD	INST	ACTB	9/25/2007	2
717500	696	NORTH STREET	INST	ACTB	9/25/2007	4
718800	620	NORTH STREET	INST	ACTB	9/25/2007	149
723200	22	STAGE ROAD	INST	ACTB	9/25/2007	10
750302	112	STAGE ROAD	INST	ACTB	9/25/2007	4
425904	70	STAGE ROAD	RES	ACTB	9/25/2007	13
426000	1503	PESCADERO ROAD	RES	ACTB	9/25/2007	31
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	9/25/2007	1
702201	1441	PESCADERO ROAD	RES	ACTB	9/25/2007	21
702801	51	WATER LANE	RES	ACTB	9/25/2007	31
703200	1481	PESCADERO ROAD	RES	ACTB	9/25/2007	21
703801	1541	PESCADERO ROAD	RES	ACTB	9/25/2007	7
704303	1613	PESCADERO ROAD	RES	ACTB	9/25/2007	10
705000	1831	PESCADERO ROAD	RES	ACTB	9/25/2007	69
705400	1877	PESCADERO ROAD	RES	ACTB	9/25/2007	57
705603	1899	PESCADERO	RES	ACTB	9/25/2007	15
705800	1913	PESCADERO ROAD	RES	ACTB	9/25/2007	7
706002	1923	PESCADERO ROAD	RES	ACTB	9/25/2007	15
706201	1805	PESCADERO RD	RES	ACTB	9/25/2007	10
706601	1999	PESCADERO ROAD	RES	ACTB	9/25/2007	62
706801	213	STAGE ROAD	RES	ACTB	9/25/2007	15
707000	227	STAGE ROAD	RES	ACTB	9/25/2007	61
707611	245-258	STAGE ROAD	RES	ACTB	9/25/2007	18
708202	299	STAGE ROAD	RES	ACTB	9/25/2007	24
708401	309	STAGE ROAD	RES	ACTB	9/25/2007	23
708604	323	STAGE ROAD	RES	ACTB	9/25/2007	7
708800	339	STAGE ROAD	RES	ACTB	9/25/2007	23
709000	351	STAGE ROAD	RES	ACTB	9/25/2007	5
709602	350	STAGE ROAD	RES	ACTB	9/25/2007	13
709802	290	STAGE ROAD	RES	ACTB	9/25/2007	29
710202	250	STAGE ROAD	RES	ACTB	9/25/2007	17
711000	2041	PESCADERO ROAD	RES	ACTB	9/25/2007	14
711600	2131	PESCADERO ROAD	RES	ACTB	9/25/2007	9
711800	104	GOULSON STREET	RES	ACTB	9/25/2007	11
712001	127	GOULSON STREET	RES	ACTB	9/25/2007	31
712200	172	GOULSON STREET	RES	ACTB	9/25/2007	2
712600	184	GOULSON STREET	RES	ACTB	9/25/2007	6
712800	194	GOULSON STREET	RES	ACTB	9/25/2007	23
713202	827	NORTH STREET	RES	ACTB	9/25/2007	13
713400	860	NORTH STREET	RES	ACTB	9/25/2007	46
713601	861	NORTH STREET	RES	ACTB	9/25/2007	49
713803	826	NORTH STREET	RES	ACTB	9/25/2007	66
714000	807	NORTH STREET	RES	ACTB	9/25/2007	6
714200	804	NORTH STREET	RES	ACTB	9/25/2007	84
714403	766	NORTH STREET	RES	ACTB	9/25/2007	1
714605	787	NORTH STREET	RES	ACTB	9/25/2007	19
714801	772	NORTH STREET	RES	ACTB	9/25/2007	107
715000	773	NORTH STREET	RES	ACTB	9/25/2007	3
715400	757	NORTH STREET	RES	ACTB	9/25/2007	29
715601	752	NORTH STREET	RES	ACTB	9/25/2007	134
716200	719	NORTH STREET	RES	ACTB	9/25/2007	17
716401	730	NORTH STREET	RES	ACTB	9/25/2007	32
716603	714	NORTH STREET	RES	ACTB	9/25/2007	25
716801	706	NORTH STREET	RES	ACTB	9/25/2007	45

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
717603	675	NORTH STREET	RES	OFFB	9/25/2007	22
717800	665	NORTH STREET	RES	ACTB	9/25/2007	1
718600	615	NORTH STREET	RES	ACTB	9/25/2007	21
719200	597	NORTH STREET	RES	ACTB	9/25/2007	19
719400	581	NORTH STREET	RES	ACTB	9/25/2007	16
719600	547	NORTH ST	RES	ACTB	9/25/2007	8
720004	1926	PESCADERO ROAD	RES	ACTB	9/25/2007	18
720204	1946	PESCADERO ROAD	RES	ACTB	9/25/2007	54
720405	1956	PESCADERO ROAD	RES	ACTB	9/25/2007	7
722800	51	STAGE ROAD	RES	ACTB	9/25/2007	4
723400	17	STAGE ROAD	RES	ACTB	9/25/2007	22
740002	323	STAGE ROAD	RES	ACTB	9/25/2007	6
740203	323	STAGE ROAD	RES	ACTB	9/25/2007	15
740401	323	STAGE ROAD	RES	ACTB	9/25/2007	18
740604	323	STAGE ROAD	RES	ACTB	9/25/2007	25
740801	323	STAGE ROAD	RES	ACTB	9/25/2007	12
742003	290	STAGE ROAD	RES	ACTB	9/25/2007	28
742200	290	STAGE ROAD	RES	ACTB	9/25/2007	1
743001	527	North Street	RES	OFFP	9/25/2007	33
745005	737	NORTH STREET	RES	ACTB	9/25/2007	4
750007	785	NORTH STREET	RES	ACTB	9/25/2007	6
750202	738	NORTH STREET	RES	ACTB	9/25/2007	6
750700	528	NORTH STREET	RES	ACTB	9/25/2007	30
750800	94	STAGE ROAD	RES	ACTB	9/25/2007	7
750902	14	STAGE ROAD	RES	ACTB	9/25/2007	13
751002	80	STAGE ROAD	RES	ACTB	9/25/2007	9
751100	655	NORTH STREET	RES	ACTB	9/25/2007	26
					9/25/2007 Total	2522
702002	1431	PESCADERO ROAD	COMM	ACTB	11/29/2007	70
702400	31	WATER LANE	COMM	ACTB	11/29/2007	10
704200	1601	PESCADERO ROAD	COMM	ACTB	11/29/2007	27
707201	239	STAGE ROAD	COMM	ACTB	11/29/2007	2
707401	251	STAGE ROAD	COMM	ACTB	11/29/2007	45
708000	287	STAGE ROAD	COMM	ACTB	11/29/2007	26
710601	216	STAGE ROAD	COMM	ACTB	11/29/2007	2
710800	202	STAGE ROAD	COMM	ACTB	11/29/2007	255
718202	645	NORTH STREET	COMM	ACTB	11/29/2007	6
718400	625	NORTH STREET	COMM	ACTB	11/29/2007	28
427700	2020	PESCADERO ROAD	INST	ACTB	11/29/2007	14
704400	1200	PESCADERO ROAD	INST	ACTB	11/29/2007	25
709200	363	STAGE ROAD	INST	ACTB	11/29/2007	3
717500	696	NORTH STREET	INST	ACTB	11/29/2007	5
718800	620	NORTH STREET	INST	ACTB	11/29/2007	210
723200	22	STAGE ROAD	INST	ACTB	11/29/2007	0
750302	112	STAGE ROAD	INST	ACTB	11/29/2007	5
425904	70	STAGE ROAD	RES	ACTB	11/29/2007	15
426000	1503	PESCADERO ROAD	RES	ACTB	11/29/2007	29
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	11/29/2007	0
702201	1441	PESCADERO ROAD	RES	ACTB	11/29/2007	12
702801	51	WATER LANE	RES	ACTB	11/29/2007	30
703200	1481	PESCADERO ROAD	RES	ACTB	11/29/2007	17
703801	1541	PESCADERO ROAD	RES	ACTB	11/29/2007	5
704303	1613	PESCADERO ROAD	RES	ACTB	11/29/2007	10
705000	1831	PESCADERO ROAD	RES	ACTB	11/29/2007	28
705400	1877	PESCADERO ROAD	RES	ACTB	11/29/2007	58
705603	1899	PESCADERO	RES	ACTB	11/29/2007	10
705800	1913	PESCADERO ROAD	RES	ACTB	11/29/2007	5
706002	1923	PESCADERO ROAD	RES	ACTB	11/29/2007	15
706201	1805	PESCADERO RD	RES	ACTB	11/29/2007	6
706601	1999	PESCADERO ROAD	RES	ACTB	11/29/2007	53
706801	213	STAGE ROAD	RES	ACTB	11/29/2007	13
707000	227	STAGE ROAD	RES	ACTB	11/29/2007	61
707612	245-259	STAGE ROAD	RES	ACTB	11/29/2007	9
708202	299	STAGE ROAD	RES	ACTB	11/29/2007	13

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
708401	309	STAGE ROAD	RES	ACTB	11/29/2007	15
708604	323	STAGE ROAD	RES	ACTB	11/29/2007	7
708800	339	STAGE ROAD	RES	ACTB	11/29/2007	6
709000	351	STAGE ROAD	RES	ACTB	11/29/2007	6
709602	350	STAGE ROAD	RES	ACTB	11/29/2007	3
709802	290	STAGE ROAD	RES	ACTB	11/29/2007	28
710202	250	STAGE ROAD	RES	ACTB	11/29/2007	19
711000	2041	PESCADERO ROAD	RES	ACTB	11/29/2007	12
711600	2131	PESCADERO ROAD	RES	ACTB	11/29/2007	8
711800	104	GOULSON STREET	RES	ACTB	11/29/2007	11
712001	127	GOULSON STREET	RES	ACTB	11/29/2007	39
712200	172	GOULSON STREET	RES	ACTB	11/29/2007	4
712600	184	GOULSON STREET	RES	ACTB	11/29/2007	6
712800	194	GOULSON STREET	RES	ACTB	11/29/2007	34
713202	827	NORTH STREET	RES	ACTB	11/29/2007	4
713400	860	NORTH STREET	RES	ACTB	11/29/2007	10
713601	861	NORTH STREET	RES	ACTB	11/29/2007	26
713803	826	NORTH STREET	RES	ACTB	11/29/2007	26
714000	807	NORTH STREET	RES	ACTB	11/29/2007	1
714200	804	NORTH STREET	RES	ACTB	11/29/2007	16
714403	766	NORTH STREET	RES	ACTB	11/29/2007	1
714605	787	NORTH STREET	RES	ACTB	11/29/2007	21
714801	772	NORTH STREET	RES	ACTB	11/29/2007	51
715000	773	NORTH STREET	RES	ACTB	11/29/2007	2
715400	757	NORTH STREET	RES	ACTB	11/29/2007	18
715601	752	NORTH STREET	RES	ACTB	11/29/2007	59
716200	719	NORTH STREET	RES	ACTB	11/29/2007	12
716401	730	NORTH STREET	RES	ACTB	11/29/2007	23
716603	714	NORTH STREET	RES	ACTB	11/29/2007	20
716801	706	NORTH STREET	RES	ACTB	11/29/2007	47
717603	675	NORTH STREET	RES	OFFB	11/29/2007	10
717800	665	NORTH STREET	RES	ACTB	11/29/2007	2
718600	615	NORTH STREET	RES	ACTB	11/29/2007	24
719200	597	NORTH STREET	RES	ACTB	11/29/2007	15
719400	581	NORTH STREET	RES	ACTB	11/29/2007	15
719600	547	NORTH ST	RES	ACTB	11/29/2007	3
720004	1926	PESCADERO ROAD	RES	ACTB	11/29/2007	9
720204	1946	PESCADERO ROAD	RES	ACTB	11/29/2007	23
720405	1956	PESCADERO ROAD	RES	ACTB	11/29/2007	5
722800	51	STAGE ROAD	RES	ACTB	11/29/2007	4
723400	17	STAGE ROAD	RES	ACTB	11/29/2007	20
740002	323	STAGE ROAD	RES	ACTB	11/29/2007	7
740203	323	STAGE ROAD	RES	ACTB	11/29/2007	15
740401	323	STAGE ROAD	RES	ACTB	11/29/2007	20
740604	323	STAGE ROAD	RES	ACTB	11/29/2007	30
740801	323	STAGE ROAD	RES	ACTB	11/29/2007	16
742003	290	STAGE ROAD	RES	ACTB	11/29/2007	15
742200	290	STAGE ROAD	RES	ACTB	11/29/2007	3
743002	527	North Street	RES	ACTB	11/29/2007	30
745005	737	NORTH STREET	RES	ACTB	11/29/2007	5
750007	785	NORTH STREET	RES	ACTB	11/29/2007	3
750202	738	NORTH STREET	RES	ACTB	11/29/2007	4
750700	528	NORTH STREET	RES	ACTB	11/29/2007	25
750800	94	STAGE ROAD	RES	ACTB	11/29/2007	6
750902	14	STAGE ROAD	RES	ACTB	11/29/2007	9
751002	80	STAGE ROAD	RES	ACTB	11/29/2007	4
751100	655	NORTH STREET	RES	ACTB	11/29/2007	18
					11/29/2007 Total	1997
702002	1431	PESCADERO ROAD	COMM	ACTB	1/22/2008	66
702400	31	WATER LANE	COMM	ACTB	1/22/2008	10
704200	1601	PESCADERO ROAD	COMM	ACTB	1/22/2008	15
707201	239	STAGE ROAD	COMM	ACTB	1/22/2008	1
707401	251	STAGE ROAD	COMM	ACTB	1/22/2008	28
708000	287	STAGE ROAD	COMM	ACTB	1/22/2008	24

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
710601	216	STAGE ROAD	COMM	ACTB	1/22/2008	1
710800	202	STAGE ROAD	COMM	ACTB	1/22/2008	216
718202	645	NORTH STREET	COMM	ACTB	1/22/2008	1
718400	625	NORTH STREET	COMM	ACTB	1/22/2008	16
427700	2020	PESCADERO ROAD	INST	ACTB	1/22/2008	12
704400	1200	PESCADERO ROAD	INST	ACTB	1/22/2008	16
709200	363	STAGE ROAD	INST	ACTB	1/22/2008	3
717500	696	NORTH STREET	INST	ACTB	1/22/2008	0
718800	620	NORTH STREET	INST	ACTB	1/22/2008	176
723200	22	STAGE ROAD	INST	ACTB	1/22/2008	59
750302	112	STAGE ROAD	INST	ACTB	1/22/2008	1
425904	70	STAGE ROAD	RES	ACTB	1/22/2008	15
426000	1503	PESCADERO ROAD	RES	ACTB	1/22/2008	10
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	1/22/2008	0
702201	1441	PESCADERO ROAD	RES	ACTB	1/22/2008	9
702801	51	WATER LANE	RES	ACTB	1/22/2008	24
703200	1481	PESCADERO ROAD	RES	ACTB	1/22/2008	13
703801	1541	PESCADERO ROAD	RES	ACTB	1/22/2008	4
704303	1613	PESCADERO ROAD	RES	ACTB	1/22/2008	9
705000	1831	PESCADERO ROAD	RES	ACTB	1/22/2008	25
705400	1877	PESCADERO ROAD	RES	ACTB	1/22/2008	58
705603	1899	PESCADERO	RES	ACTB	1/22/2008	9
705800	1913	PESCADERO ROAD	RES	ACTB	1/22/2008	5
706002	1923	PESCADERO ROAD	RES	ACTB	1/22/2008	10
706201	1805	PESCADERO RD	RES	ACTB	1/22/2008	5
706601	1999	PESCADERO ROAD	RES	ACTB	1/22/2008	55
706801	213	STAGE ROAD	RES	ACTB	1/22/2008	12
707000	227	STAGE ROAD	RES	ACTB	1/22/2008	59
707613	245-260	STAGE ROAD	RES	ACTB	1/22/2008	8
708202	299	STAGE ROAD	RES	ACTB	1/22/2008	9
708401	309	STAGE ROAD	RES	ACTB	1/22/2008	15
708604	323	STAGE ROAD	RES	ACTB	1/22/2008	7
708800	339	STAGE ROAD	RES	ACTB	1/22/2008	3
709000	351	STAGE ROAD	RES	ACTB	1/22/2008	6
709602	350	STAGE ROAD	RES	ACTB	1/22/2008	4
709802	290	STAGE ROAD	RES	ACTB	1/22/2008	25
710202	250	STAGE ROAD	RES	ACTB	1/22/2008	11
711000	2041	PESCADERO ROAD	RES	ACTB	1/22/2008	13
711600	2131	PESCADERO ROAD	RES	ACTB	1/22/2008	5
711800	104	GOULSON STREET	RES	ACTB	1/22/2008	8
712001	127	GOULSON STREET	RES	ACTB	1/22/2008	11
712200	172	GOULSON STREET	RES	ACTB	1/22/2008	3
712600	184	GOULSON STREET	RES	ACTB	1/22/2008	5
712800	194	GOULSON STREET	RES	ACTB	1/22/2008	18
713202	827	NORTH STREET	RES	ACTB	1/22/2008	1
713400	860	NORTH STREET	RES	ACTB	1/22/2008	6
713601	861	NORTH STREET	RES	ACTB	1/22/2008	19
713803	826	NORTH STREET	RES	ACTB	1/22/2008	10
714000	807	NORTH STREET	RES	ACTB	1/22/2008	2
714200	804	NORTH STREET	RES	ACTB	1/22/2008	11
714403	766	NORTH STREET	RES	ACTB	1/22/2008	1
714605	787	NORTH STREET	RES	ACTB	1/22/2008	6
714801	772	NORTH STREET	RES	ACTB	1/22/2008	49
715000	773	NORTH STREET	RES	ACTB	1/22/2008	5
715400	757	NORTH STREET	RES	ACTB	1/22/2008	11
715601	752	NORTH STREET	RES	ACTB	1/22/2008	20
716200	719	NORTH STREET	RES	ACTB	1/22/2008	12
716401	730	NORTH STREET	RES	ACTB	1/22/2008	16
716603	714	NORTH STREET	RES	ACTB	1/22/2008	7
716801	706	NORTH STREET	RES	ACTB	1/22/2008	17
717603	675	NORTH STREET	RES	OFFB	1/22/2008	9
717800	665	NORTH STREET	RES	ACTB	1/22/2008	1
718600	615	NORTH STREET	RES	ACTB	1/22/2008	18
719200	597	NORTH STREET	RES	ACTB	1/22/2008	11

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
719400	581	NORTH STREET	RES	ACTB	1/22/2008	12
719600	547	NORTH ST	RES	ACTB	1/22/2008	3
720004	1926	PESCADERO ROAD	RES	ACTB	1/22/2008	14
720204	1946	PESCADERO ROAD	RES	ACTB	1/22/2008	17
720405	1956	PESCADERO ROAD	RES	ACTB	1/22/2008	4
722800	51	STAGE ROAD	RES	ACTB	1/22/2008	3
723400	17	STAGE ROAD	RES	ACTB	1/22/2008	16
740002	323	STAGE ROAD	RES	ACTB	1/22/2008	6
740203	323	STAGE ROAD	RES	ACTB	1/22/2008	12
740401	323	STAGE ROAD	RES	ACTB	1/22/2008	8
740604	323	STAGE ROAD	RES	ACTB	1/22/2008	21
740801	323	STAGE ROAD	RES	ACTB	1/22/2008	14
742003	290	STAGE ROAD	RES	ACTB	1/22/2008	25
742200	290	STAGE ROAD	RES	ACTB	1/22/2008	3
743002	527	North Street	RES	ACTB	1/22/2008	39
745005	737	NORTH STREET	RES	ACTB	1/22/2008	4
750007	785	NORTH STREET	RES	ACTB	1/22/2008	2
750202	738	NORTH STREET	RES	ACTB	1/22/2008	3
750700	528	NORTH STREET	RES	ACTB	1/22/2008	17
750800	94	STAGE ROAD	RES	ACTB	1/22/2008	5
750902	14	STAGE ROAD	RES	ACTB	1/22/2008	7
751002	80	STAGE ROAD	RES	ACTB	1/22/2008	2
751100	655	NORTH STREET	RES	ACTB	1/22/2008	17
					1/22/2008 Total	1604
702002	1431	PESCADERO ROAD	COMM	ACTB	3/26/2008	93
702400	31	WATER LANE	COMM	ACTB	3/26/2008	13
704200	1601	PESCADERO ROAD	COMM	ACTB	3/26/2008	11
707201	239	STAGE ROAD	COMM	ACTB	3/26/2008	2
707401	251	STAGE ROAD	COMM	ACTB	3/26/2008	28
708000	287	STAGE ROAD	COMM	ACTB	3/26/2008	27
710601	216	STAGE ROAD	COMM	ACTB	3/26/2008	2
710800	202	STAGE ROAD	COMM	ACTB	3/26/2008	219
718202	645	NORTH STREET	COMM	ACTB	3/26/2008	4
718400	625	NORTH STREET	COMM	ACTB	3/26/2008	18
427700	2020	PESCADERO ROAD	INST	ACTB	3/26/2008	6
704400	1200	PESCADERO ROAD	INST	ACTB	3/26/2008	15
709200	363	STAGE ROAD	INST	ACTB	3/26/2008	2
717500	696	NORTH STREET	INST	ACTB	3/26/2008	0
718800	620	NORTH STREET	INST	ACTB	3/26/2008	185
723200	22	STAGE ROAD	INST	ACTB	3/26/2008	95
750302	112	STAGE ROAD	INST	ACTB	3/26/2008	1
425904	70	STAGE ROAD	RES	ACTB	3/26/2008	16
426000	1503	PESCADERO ROAD	RES	ACTB	3/26/2008	12
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	3/26/2008	1
702201	1441	PESCADERO ROAD	RES	ACTB	3/26/2008	9
702801	51	WATER LANE	RES	ACTB	3/26/2008	32
703200	1481	PESCADERO ROAD	RES	ACTB	3/26/2008	10
703801	1541	PESCADERO ROAD	RES	ACTB	3/26/2008	5
704303	1613	PESCADERO ROAD	RES	ACTB	3/26/2008	9
705000	1831	PESCADERO ROAD	RES	ACTB	3/26/2008	27
705400	1877	PESCADERO ROAD	RES	ACTB	3/26/2008	71
705603	1899	PESCADERO	RES	ACTB	3/26/2008	13
705800	1913	PESCADERO ROAD	RES	ACTB	3/26/2008	6
706002	1923	PESCADERO ROAD	RES	ACTB	3/26/2008	14
706201	1805	PESCADERO RD	RES	ACTB	3/26/2008	5
706601	1999	PESCADERO ROAD	RES	ACTB	3/26/2008	44
706801	213	STAGE ROAD	RES	ACTB	3/26/2008	13
707000	227	STAGE ROAD	RES	ACTB	3/26/2008	117
707614	245-261	STAGE ROAD	RES	ACTB	3/26/2008	10
708202	299	STAGE ROAD	RES	ACTB	3/26/2008	9
708401	309	STAGE ROAD	RES	ACTB	3/26/2008	18
708604	323	STAGE ROAD	RES	ACTB	3/26/2008	7
708800	339	STAGE ROAD	RES	ACTB	3/26/2008	5
709000	351	STAGE ROAD	RES	ACTB	3/26/2008	8

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
709602	350	STAGE ROAD	RES	ACTB	3/26/2008	10
709802	290	STAGE ROAD	RES	ACTB	3/26/2008	23
710202	250	STAGE ROAD	RES	ACTB	3/26/2008	14
711000	2041	PESCADERO ROAD	RES	ACTB	3/26/2008	13
711600	2131	PESCADERO ROAD	RES	ACTB	3/26/2008	7
711800	104	GOULSON STREET	RES	ACTB	3/26/2008	9
712001	127	GOULSON STREET	RES	ACTB	3/26/2008	12
712200	172	GOULSON STREET	RES	ACTB	3/26/2008	3
712600	184	GOULSON STREET	RES	ACTB	3/26/2008	6
712800	194	GOULSON STREET	RES	ACTB	3/26/2008	23
713202	827	NORTH STREET	RES	ACTB	3/26/2008	3
713400	860	NORTH STREET	RES	ACTB	3/26/2008	12
713601	861	NORTH STREET	RES	ACTB	3/26/2008	22
713803	826	NORTH STREET	RES	ACTB	3/26/2008	17
714000	807	NORTH STREET	RES	ACTB	3/26/2008	1
714200	804	NORTH STREET	RES	ACTB	3/26/2008	16
714403	766	NORTH STREET	RES	ACTB	3/26/2008	0
714605	787	NORTH STREET	RES	ACTB	3/26/2008	10
714801	772	NORTH STREET	RES	ACTB	3/26/2008	21
715000	773	NORTH STREET	RES	ACTB	3/26/2008	2
715400	757	NORTH STREET	RES	ACTB	3/26/2008	14
715601	752	NORTH STREET	RES	ACTB	3/26/2008	18
716200	719	NORTH STREET	RES	ACTB	3/26/2008	10
716401	730	NORTH STREET	RES	ACTB	3/26/2008	17
716603	714	NORTH STREET	RES	ACTB	3/26/2008	33
716801	706	NORTH STREET	RES	ACTB	3/26/2008	21
717603	675	NORTH STREET	RES	OFFB	3/26/2008	12
717800	665	NORTH STREET	RES	ACTB	3/26/2008	2
718600	615	NORTH STREET	RES	ACTB	3/26/2008	24
719200	597	NORTH STREET	RES	ACTB	3/26/2008	16
719400	581	NORTH STREET	RES	ACTB	3/26/2008	12
719600	547	NORTH ST	RES	ACTB	3/26/2008	2
720004	1926	PESCADERO ROAD	RES	ACTB	3/26/2008	4
720204	1946	PESCADERO ROAD	RES	ACTB	3/26/2008	21
720405	1956	PESCADERO ROAD	RES	ACTB	3/26/2008	4
722800	51	STAGE ROAD	RES	ACTB	3/26/2008	3
723400	17	STAGE ROAD	RES	ACTB	3/26/2008	21
740002	323	STAGE ROAD	RES	ACTB	3/26/2008	8
740203	323	STAGE ROAD	RES	ACTB	3/26/2008	15
740401	323	STAGE ROAD	RES	ACTB	3/26/2008	26
740604	323	STAGE ROAD	RES	ACTB	3/26/2008	27
740801	323	STAGE ROAD	RES	ACTB	3/26/2008	15
742003	290	STAGE ROAD	RES	ACTB	3/26/2008	25
742200	290	STAGE ROAD	RES	ACTB	3/26/2008	2
743002	527	North Street	RES	ACTB	3/26/2008	19
745005	737	NORTH STREET	RES	ACTB	3/26/2008	5
750007	785	NORTH STREET	RES	ACTB	3/26/2008	3
750202	738	NORTH STREET	RES	ACTB	3/26/2008	4
750700	528	NORTH STREET	RES	ACTB	3/26/2008	28
750800	94	STAGE ROAD	RES	ACTB	3/26/2008	7
750902	14	STAGE ROAD	RES	ACTB	3/26/2008	8
751002	80	STAGE ROAD	RES	ACTB	3/26/2008	4
751100	655	NORTH STREET	RES	ACTB	3/26/2008	15
					3/26/2008 Total	1851
717603	675	NORTH STREET	RES	OFFB	5/6/2008	4
					5/6/2008 Total	4
702002	1431	PESCADERO ROAD	COMM	ACTB	5/28/2008	133
702400	31	WATER LANE	COMM	ACTB	5/28/2008	13
704200	1601	PESCADERO ROAD	COMM	ACTB	5/28/2008	9
707201	239	STAGE ROAD	COMM	ACTB	5/28/2008	2
707401	251	STAGE ROAD	COMM	ACTB	5/28/2008	66
708000	287	STAGE ROAD	COMM	ACTB	5/28/2008	41
710601	216	STAGE ROAD	COMM	ACTB	5/28/2008	1
710800	202	STAGE ROAD	COMM	ACTB	5/28/2008	262

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
718202	645	NORTH STREET	COMM	ACTB	5/28/2008	36
718400	625	NORTH STREET	COMM	ACTB	5/28/2008	21
427700	2020	PESCADERO ROAD	INST	ACTB	5/28/2008	12
704400	1200	PESCADERO ROAD	INST	ACTB	5/28/2008	21
709200	363	STAGE ROAD	INST	ACTB	5/28/2008	5
717500	696	NORTH STREET	INST	ACTB	5/28/2008	4
718800	620	NORTH STREET	INST	ACTB	5/28/2008	215
723200	22	STAGE ROAD	INST	ACTB	5/28/2008	11
750302	112	STAGE ROAD	INST	ACTB	5/28/2008	2
425904	70	STAGE ROAD	RES	ACTB	5/28/2008	18
426000	1503	PESCADERO ROAD	RES	ACTB	5/28/2008	41
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	5/28/2008	1
702201	1441	PESCADERO ROAD	RES	ACTB	5/28/2008	23
702801	51	WATER LANE	RES	ACTB	5/28/2008	36
703200	1481	PESCADERO ROAD	RES	ACTB	5/28/2008	15
703801	1541	PESCADERO ROAD	RES	ACTB	5/28/2008	7
704303	1613	PESCADERO ROAD	RES	ACTB	5/28/2008	9
705000	1831	PESCADERO ROAD	RES	ACTB	5/28/2008	51
705400	1877	PESCADERO ROAD	RES	ACTB	5/28/2008	60
705603	1899	PESCADERO	RES	ACTB	5/28/2008	17
705800	1913	PESCADERO ROAD	RES	ACTB	5/28/2008	5
706002	1923	PESCADERO ROAD	RES	ACTB	5/28/2008	13
706201	1805	PESCADERO RD	RES	ACTB	5/28/2008	11
706601	1999	PESCADERO ROAD	RES	ACTB	5/28/2008	40
706801	213	STAGE ROAD	RES	ACTB	5/28/2008	14
707000	227	STAGE ROAD	RES	ACTB	5/28/2008	37
707615	245-262	STAGE ROAD	RES	ACTB	5/28/2008	12
708202	299	STAGE ROAD	RES	ACTB	5/28/2008	13
708401	309	STAGE ROAD	RES	ACTB	5/28/2008	21
708604	323	STAGE ROAD	RES	ACTB	5/28/2008	7
708800	339	STAGE ROAD	RES	ACTB	5/28/2008	27
709000	351	STAGE ROAD	RES	ACTB	5/28/2008	8
709602	350	STAGE ROAD	RES	ACTB	5/28/2008	11
709802	290	STAGE ROAD	RES	ACTB	5/28/2008	27
710202	250	STAGE ROAD	RES	ACTB	5/28/2008	35
711000	2041	PESCADERO ROAD	RES	ACTB	5/28/2008	13
711600	2131	PESCADERO ROAD	RES	ACTB	5/28/2008	10
711800	104	GOULSON STREET	RES	ACTB	5/28/2008	12
712001	127	GOULSON STREET	RES	ACTB	5/28/2008	30
712200	172	GOULSON STREET	RES	ACTB	5/28/2008	4
712600	184	GOULSON STREET	RES	ACTB	5/28/2008	6
712800	194	GOULSON STREET	RES	ACTB	5/28/2008	24
713202	827	NORTH STREET	RES	ACTB	5/28/2008	7
713400	860	NORTH STREET	RES	ACTB	5/28/2008	34
713601	861	NORTH STREET	RES	ACTB	5/28/2008	55
713803	826	NORTH STREET	RES	ACTB	5/28/2008	57
714000	807	NORTH STREET	RES	ACTB	5/28/2008	3
714200	804	NORTH STREET	RES	ACTB	5/28/2008	21
714403	766	NORTH STREET	RES	ACTB	5/28/2008	1
714605	787	NORTH STREET	RES	ACTB	5/28/2008	19
714801	772	NORTH STREET	RES	ACTB	5/28/2008	60
715000	773	NORTH STREET	RES	ACTB	5/28/2008	3
715400	757	NORTH STREET	RES	ACTB	5/28/2008	29
715601	752	NORTH STREET	RES	ACTB	5/28/2008	95
716200	719	NORTH STREET	RES	ACTB	5/28/2008	12
716401	730	NORTH STREET	RES	ACTB	5/28/2008	24
716603	714	NORTH STREET	RES	ACTB	5/28/2008	29
716801	706	NORTH STREET	RES	ACTB	5/28/2008	29
717800	665	NORTH STREET	RES	ACTB	5/28/2008	2
718600	615	NORTH STREET	RES	ACTB	5/28/2008	27
719200	597	NORTH STREET	RES	ACTB	5/28/2008	23
719400	581	NORTH STREET	RES	ACTB	5/28/2008	21
719600	547	NORTH ST	RES	ACTB	5/28/2008	16
720004	1926	PESCADERO ROAD	RES	ACTB	5/28/2008	10

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
720204	1946	PESCADERO ROAD	RES	ACTB	5/28/2008	41
720405	1956	PESCADERO ROAD	RES	ACTB	5/28/2008	6
722800	51	STAGE ROAD	RES	ACTB	5/28/2008	4
723400	17	STAGE ROAD	RES	ACTB	5/28/2008	23
740002	323	STAGE ROAD	RES	ACTB	5/28/2008	7
740203	323	STAGE ROAD	RES	ACTB	5/28/2008	16
740401	323	STAGE ROAD	RES	ACTB	5/28/2008	13
740604	323	STAGE ROAD	RES	ACTB	5/28/2008	31
740801	323	STAGE ROAD	RES	ACTB	5/28/2008	19
742003	290	STAGE ROAD	RES	ACTB	5/28/2008	28
742200	290	STAGE ROAD	RES	ACTB	5/28/2008	4
742405	290	STAGE ROAD	RES	ACTB	5/28/2008	4
743002	527	North Street	RES	ACTB	5/28/2008	31
745005	737	NORTH STREET	RES	ACTB	5/28/2008	4
750007	785	NORTH STREET	RES	ACTB	5/28/2008	9
750202	738	NORTH STREET	RES	ACTB	5/28/2008	3
750700	528	NORTH STREET	RES	ACTB	5/28/2008	20
750800	94	STAGE ROAD	RES	ACTB	5/28/2008	6
750902	14	STAGE ROAD	RES	ACTB	5/28/2008	13
751002	80	STAGE ROAD	RES	ACTB	5/28/2008	6
751100	655	NORTH STREET	RES	ACTB	5/28/2008	24
					5/28/2008 Total	2401
702002	1431	PESCADERO ROAD	COMM	ACTB	7/23/2008	97
702400	31	WATER LANE	COMM	ACTB	7/23/2008	13
704200	1601	PESCADERO ROAD	COMM	ACTB	7/23/2008	9
707201	239	STAGE ROAD	COMM	ACTB	7/23/2008	2
707401	251	STAGE ROAD	COMM	ACTB	7/23/2008	82
708000	287	STAGE ROAD	COMM	ACTB	7/23/2008	43
710601	216	STAGE ROAD	COMM	ACTB	7/23/2008	2
710800	202	STAGE ROAD	COMM	ACTB	7/23/2008	233
718202	645	NORTH STREET	COMM	ACTB	7/23/2008	17
718400	625	NORTH STREET	COMM	ACTB	7/23/2008	21
427700	2020	PESCADERO ROAD	INST	ACTB	7/23/2008	8
704400	1200	PESCADERO ROAD	INST	ACTB	7/23/2008	26
709200	363	STAGE ROAD	INST	ACTB	7/23/2008	3
717500	696	NORTH STREET	INST	ACTB	7/23/2008	5
718800	620	NORTH STREET	INST	ACTB	7/23/2008	145
723200	22	STAGE ROAD	INST	ACTB	7/23/2008	2
750302	112	STAGE ROAD	INST	ACTB	7/23/2008	1
425904	70	STAGE ROAD	RES	ACTB	7/23/2008	17
426000	1503	PESCADERO ROAD	RES	ACTB	7/23/2008	47
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	7/23/2008	14
702201	1441	PESCADERO ROAD	RES	ACTB	7/23/2008	19
702801	51	WATER LANE	RES	ACTB	7/23/2008	34
703200	1481	PESCADERO ROAD	RES	ACTB	7/23/2008	12
703801	1541	PESCADERO ROAD	RES	ACTB	7/23/2008	6
704303	1613	PESCADERO ROAD	RES	ACTB	7/23/2008	5
705000	1831	PESCADERO ROAD	RES	ACTB	7/23/2008	44
705400	1877	PESCADERO ROAD	RES	ACTB	7/23/2008	48
705603	1899	PESCADERO	RES	ACTB	7/23/2008	11
705800	1913	PESCADERO ROAD	RES	ACTB	7/23/2008	6
706002	1923	PESCADERO ROAD	RES	ACTB	7/23/2008	10
706201	1805	PESCADERO RD	RES	ACTB	7/23/2008	9
706601	1999	PESCADERO ROAD	RES	ACTB	7/23/2008	36
706801	213	STAGE ROAD	RES	ACTB	7/23/2008	12
707000	227	STAGE ROAD	RES	ACTB	7/23/2008	39
707616	245-263	STAGE ROAD	RES	ACTB	7/23/2008	11
708202	299	STAGE ROAD	RES	ACTB	7/23/2008	6
708401	309	STAGE ROAD	RES	ACTB	7/23/2008	16
708604	323	STAGE ROAD	RES	ACTB	7/23/2008	7
708800	339	STAGE ROAD	RES	ACTB	7/23/2008	30
709000	351	STAGE ROAD	RES	ACTB	7/23/2008	10
709602	350	STAGE ROAD	RES	ACTB	7/23/2008	11
709802	290	STAGE ROAD	RES	ACTB	7/23/2008	25

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
710202	250	STAGE ROAD	RES	ACTB	7/23/2008	14
711000	2041	PESCADERO ROAD	RES	ACTB	7/23/2008	15
711600	2131	PESCADERO ROAD	RES	ACTB	7/23/2008	14
711800	104	GOULSON STREET	RES	ACTB	7/23/2008	9
712001	127	GOULSON STREET	RES	ACTB	7/23/2008	33
712200	172	GOULSON STREET	RES	ACTB	7/23/2008	12
712600	184	GOULSON STREET	RES	ACTB	7/23/2008	5
712800	194	GOULSON STREET	RES	ACTB	7/23/2008	22
713202	827	NORTH STREET	RES	ACTB	7/23/2008	11
713400	860	NORTH STREET	RES	ACTB	7/23/2008	42
713601	861	NORTH STREET	RES	ACTB	7/23/2008	56
713803	826	NORTH STREET	RES	ACTB	7/23/2008	54
714000	807	NORTH STREET	RES	ACTB	7/23/2008	7
714200	804	NORTH STREET	RES	ACTB	7/23/2008	18
714403	766	NORTH STREET	RES	ACTB	7/23/2008	0
714605	787	NORTH STREET	RES	ACTB	7/23/2008	28
714801	772	NORTH STREET	RES	ACTB	7/23/2008	87
715000	773	NORTH STREET	RES	ACTB	7/23/2008	4
715400	757	NORTH STREET	RES	ACTB	7/23/2008	41
715601	752	NORTH STREET	RES	ACTB	7/23/2008	131
716200	719	NORTH STREET	RES	ACTB	7/23/2008	12
716401	730	NORTH STREET	RES	ACTB	7/23/2008	37
716603	714	NORTH STREET	RES	ACTB	7/23/2008	25
716801	706	NORTH STREET	RES	ACTB	7/23/2008	31
717800	665	NORTH STREET	RES	ACTB	7/23/2008	1
718600	615	NORTH STREET	RES	ACTB	7/23/2008	30
719200	597	NORTH STREET	RES	ACTB	7/23/2008	15
719400	581	NORTH STREET	RES	ACTB	7/23/2008	25
719600	547	NORTH ST	RES	ACTB	7/23/2008	14
720004	1926	PESCADERO ROAD	RES	ACTB	7/23/2008	7
720204	1946	PESCADERO ROAD	RES	ACTB	7/23/2008	52
720405	1956	PESCADERO ROAD	RES	ACTB	7/23/2008	7
722800	51	STAGE ROAD	RES	ACTB	7/23/2008	4
723400	17	STAGE ROAD	RES	ACTB	7/23/2008	17
740002	323	STAGE ROAD	RES	ACTB	7/23/2008	6
740203	323	STAGE ROAD	RES	ACTB	7/23/2008	13
740401	323	STAGE ROAD	RES	ACTB	7/23/2008	13
740604	323	STAGE ROAD	RES	ACTB	7/23/2008	24
740801	323	STAGE ROAD	RES	ACTB	7/23/2008	17
742003	290	STAGE ROAD	RES	ACTB	7/23/2008	16
742200	290	STAGE ROAD	RES	ACTB	7/23/2008	2
743002	527	North Street	RES	ACTB	7/23/2008	39
745005	737	NORTH STREET	RES	ACTB	7/23/2008	4
750007	785	NORTH STREET	RES	ACTB	7/23/2008	7
750202	738	NORTH STREET	RES	ACTB	7/23/2008	6
750700	528	NORTH STREET	RES	ACTB	7/23/2008	22
750800	94	STAGE ROAD	RES	ACTB	7/23/2008	11
750902	14	STAGE ROAD	RES	ACTB	7/23/2008	11
751002	80	STAGE ROAD	RES	ACTB	7/23/2008	7
751100	655	NORTH STREET	RES	ACTB	7/23/2008	30
751201		APN#086-042-071	RES	ACTB	7/23/2008	1
					7/23/2008 Total	2303
702002	1431	PESCADERO ROAD	COMM	ACTB	9/24/2008	108
702400	31	WATER LANE	COMM	ACTB	9/24/2008	11
704200	1601	PESCADERO ROAD	COMM	ACTB	9/24/2008	10
707201	239	STAGE ROAD	COMM	ACTB	9/24/2008	2
707401	251	STAGE ROAD	COMM	ACTB	9/24/2008	81
708000	287	STAGE ROAD	COMM	ACTB	9/24/2008	43
710601	216	STAGE ROAD	COMM	ACTB	9/24/2008	1
710800	202	STAGE ROAD	COMM	ACTB	9/24/2008	247
718202	645	NORTH STREET	COMM	ACTB	9/24/2008	32
718400	625	NORTH STREET	COMM	ACTB	9/24/2008	22
427700	2020	PESCADERO ROAD	INST	ACTB	9/24/2008	5
704400	1200	PESCADERO ROAD	INST	ACTB	9/24/2008	36

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
709200	363	STAGE ROAD	INST	ACTB	9/24/2008	4
717500	696	NORTH STREET	INST	ACTB	9/24/2008	4
718800	620	NORTH STREET	INST	ACTB	9/24/2008	95
723200	22	STAGE ROAD	INST	ACTB	9/24/2008	15
750302	112	STAGE ROAD	INST	ACTB	9/24/2008	2
425904	70	STAGE ROAD	RES	ACTB	9/24/2008	15
426000	1503	PESCADERO ROAD	RES	ACTB	9/24/2008	41
701600	1419	PESCADERO CREEK ROAD	RES	ACTB	9/24/2008	35
702201	1441	PESCADERO ROAD	RES	ACTB	9/24/2008	13
702801	51	WATER LANE	RES	ACTB	9/24/2008	33
703200	1481	PESCADERO ROAD	RES	ACTB	9/24/2008	10
703801	1541	PESCADERO ROAD	RES	ACTB	9/24/2008	7
704303	1613	PESCADERO ROAD	RES	ACTB	9/24/2008	9
705000	1831	PESCADERO ROAD	RES	ACTB	9/24/2008	34
705400	1877	PESCADERO ROAD	RES	ACTB	9/24/2008	77
705603	1899	PESCADERO	RES	ACTB	9/24/2008	16
705800	1913	PESCADERO ROAD	RES	ACTB	9/24/2008	6
706002	1923	PESCADERO ROAD	RES	ACTB	9/24/2008	13
706201	1805	PESCADERO RD	RES	ACTB	9/24/2008	13
706601	1999	PESCADERO ROAD	RES	ACTB	9/24/2008	54
706801	213	STAGE ROAD	RES	ACTB	9/24/2008	15
707000	227	STAGE ROAD	RES	ACTB	9/24/2008	74
707617	245-264	STAGE ROAD	RES	ACTB	9/24/2008	12
708202	299	STAGE ROAD	RES	ACTB	9/24/2008	11
708401	309	STAGE ROAD	RES	ACTB	9/24/2008	19
708604	323	STAGE ROAD	RES	ACTB	9/24/2008	8
708800	339	STAGE ROAD	RES	ACTB	9/24/2008	22
709000	351	STAGE ROAD	RES	ACTB	9/24/2008	7
709602	350	STAGE ROAD	RES	ACTB	9/24/2008	16
709802	290	STAGE ROAD	RES	ACTB	9/24/2008	27
710202	250	STAGE ROAD	RES	ACTB	9/24/2008	18
711000	2041	PESCADERO ROAD	RES	ACTB	9/24/2008	22
711600	2131	PESCADERO ROAD	RES	ACTB	9/24/2008	9
711800	104	GOULSON STREET	RES	ACTB	9/24/2008	11
712001	127	GOULSON STREET	RES	ACTB	9/24/2008	39
712200	172	GOULSON STREET	RES	ACTB	9/24/2008	5
712600	184	GOULSON STREET	RES	ACTB	9/24/2008	6
712800	194	GOULSON STREET	RES	ACTB	9/24/2008	21
713202	827	NORTH STREET	RES	ACTB	9/24/2008	14
713400	860	NORTH STREET	RES	ACTB	9/24/2008	51
713601	861	NORTH STREET	RES	ACTB	9/24/2008	77
713803	826	NORTH STREET	RES	ACTB	9/24/2008	58
714000	807	NORTH STREET	RES	ACTB	9/24/2008	4
714200	804	NORTH STREET	RES	ACTB	9/24/2008	23
714403	766	NORTH STREET	RES	ACTB	9/24/2008	0
714605	787	NORTH STREET	RES	ACTB	9/24/2008	26
714801	772	NORTH STREET	RES	ACTB	9/24/2008	46
715000	773	NORTH STREET	RES	ACTB	9/24/2008	3
715400	757	NORTH STREET	RES	ACTB	9/24/2008	40
715601	752	NORTH STREET	RES	ACTB	9/24/2008	155
716200	719	NORTH STREET	RES	ACTB	9/24/2008	11
716401	730	NORTH STREET	RES	ACTB	9/24/2008	25
716603	714	NORTH STREET	RES	ACTB	9/24/2008	26
716801	706	NORTH STREET	RES	ACTB	9/24/2008	30
717800	665	NORTH STREET	RES	ACTB	9/24/2008	2
718600	615	NORTH STREET	RES	ACTB	9/24/2008	25
719200	597	NORTH STREET	RES	ACTB	9/24/2008	18
719400	581	NORTH STREET	RES	ACTB	9/24/2008	19
719600	547	NORTH ST	RES	ACTB	9/24/2008	13
720004	1926	PESCADERO ROAD	RES	ACTB	9/24/2008	11
720204	1946	PESCADERO ROAD	RES	ACTB	9/24/2008	54
720405	1956	PESCADERO ROAD	RES	ACTB	9/24/2008	6
722800	51	STAGE ROAD	RES	ACTB	9/24/2008	5
723400	17	STAGE ROAD	RES	ACTB	9/24/2008	20

Acct Number	Street	Street Name	Customer Type	Billing Status	Read Date	Usage
740002	323	STAGE ROAD	RES	ACTB	9/24/2008	6
740203	323	STAGE ROAD	RES	ACTB	9/24/2008	16
740401	323	STAGE ROAD	RES	ACTB	9/24/2008	15
740604	323	STAGE ROAD	RES	ACTB	9/24/2008	31
740801	323	STAGE ROAD	RES	ACTB	9/24/2008	21
742003	290	STAGE ROAD	RES	ACTB	9/24/2008	18
742200	290	STAGE ROAD	RES	ACTB	9/24/2008	1
742405	290	STAGE ROAD	RES	ACTB	9/24/2008	8
743002	527	North Street	RES	ACTB	9/24/2008	40
745005	737	NORTH STREET	RES	ACTB	9/24/2008	4
750007	785	NORTH STREET	RES	ACTB	9/24/2008	9
750202	738	NORTH STREET	RES	ACTB	9/24/2008	5
750700	528	NORTH STREET	RES	ACTB	9/24/2008	19
750800	94	STAGE ROAD	RES	ACTB	9/24/2008	7
750902	14	STAGE ROAD	RES	ACTB	9/24/2008	10
751002	80	STAGE ROAD	RES	ACTB	9/24/2008	7
751100	655	NORTH STREET	RES	ACTB	9/24/2008	33
751202		APN#086-042-072	RES	ACTB	9/24/2008	0
	1593					
					9/24/2008 1	2448
					Grand Tota	35120

APPENDIX B: SCENARIO 1 HYDRAULIC MODEL RESULTS

Scenario 1: Hydraulic Model Results

	ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Residual Head (ft)
1	J46	1.00	75.97	202.32	1,500.00	-81.47	-161.02
2	J48	1.00	75.10	202.32	1,500.00	-51.65	-90.21
3	J52	2.00	72.49	202.30	1,500.00	-51.30	-83.39
4	J50	3.00	74.23	202.31	1,500.00	-40.08	-61.49
5	J76	2.00	74.23	202.32	1,500.00	-33.15	-45.51
6	J34	4.00	75.97	202.33	1,500.00	-26.21	-33.50
7	J32	3.00	76.41	202.35	1,500.00	-16.13	-11.22

Scenario 1: Hydraulic Model Results

	ID	Available Flow @Hydrant (gpm)	Available Flow Pressure (psi)	Available Flow Head (ft)
1	J46	846.67	20.01	73.17
2	J48	944.48	20.01	75.18
3	J52	930.64	20.01	81.18
4	J50	991.67	20.01	77.18
5	J76	1,025.71	20.01	77.18
6	J34	1,075.28	20.01	73.18
7	J32	1,140.36	20.01	72.19

APPENDIX C: SCENARIO 2 HYDRAULIC MODEL RESULTS

Scenario 2: Hydraulic Model Results

	ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Residual Head (ft)
1	J46	1.00	196.97	481.58	1,500.00	25.48	85.80
2	J48	1.00	196.10	481.58	1,500.00	55.29	156.61
3	J52	2.00	193.49	481.56	1,500.00	55.65	163.43
4	J50	3.00	195.23	481.57	1,500.00	66.87	185.33
5	J76	2.00	195.23	481.58	1,500.00	73.79	201.31
6	J34	4.00	196.97	481.58	1,500.00	80.73	213.32
7	J32	3.00	197.41	481.61	1,500.00	90.82	235.59

Scenario 2: Hydraulic Model Results

	ID	Available Flow @Hydrant (gpm)	Available Flow Pressure (psi)	Available Flow Head (ft)
1	J46	1,526.02	20.02	73.21
2	J48	1,689.84	20.03	75.22
3	J52	1,696.97	20.03	81.22
4	J50	1,773.21	20.03	77.23
5	J76	1,825.54	20.03	77.23
6	J34	1,880.88	20.04	73.24
7	J32	1,969.77	20.04	72.25

APPENDIX D: SCENARIO 3 HYDRAULIC MODEL RESULTS

Scenario 3: Hydraulic Model Results

	ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Residual Head (ft)
1	J46	1.00	76.07	202.57	1,500.00	27.35	90.11
2	J52	2.00	72.60	202.56	1,500.00	28.30	100.31
3	J50	3.00	74.34	202.56	1,500.00	33.21	107.64
4	J48	1.00	75.21	202.57	1,500.00	33.87	107.16
5	J76	2.00	74.34	202.57	1,500.00	37.30	117.08
6	J34	4.00	76.07	202.57	1,500.00	40.79	121.13
7	J32	3.00	76.51	202.57	1,500.00	43.14	125.57

Scenario 3: Hydraulic Model Results

	ID	Available Flow @Hydrant (gpm)	Available Flow Pressure (psi)	Available Flow Head (ft)
1	J46	1,621.30	20.03	73.22
2	J52	1,651.24	20.03	81.22
3	J50	1,752.78	20.03	77.23
4	J48	1,760.57	20.03	75.23
5	J76	1,856.35	20.03	77.24
6	J34	1,942.33	20.04	73.24
7	J32	2,010.90	20.04	72.25

APPENDIX E: FIRE PUMP PRODUCT LITERATURE

The Brown Company

Manufacturer's Representative
28847 Mack Street
Hayward, CA 94545
Contractors License # D21-715370
Phone # 510 886 5260
Fax # 510 537 7707
http://browncо.cncoffice.com

12/16/08

Ormat Nevada, LLC
6225 Neil Rd # 300
Reno, Las Vegas, NV 89511

Subject: **FIRE PUMP, ORMAT NEVADA Packaged System with Environmental Enclosure**

Gentlemen: We are offering an Aurora, UL Listed, FM Approved Fire Pump Package for this application as detailed below:

FIRE PUMP – 1,500 GPM @ 100 PSI, Diesel Drive, CW Rotation

1 - **Aurora Pump** model 6" 481 18B UL Listed and FM Approved horizontal split case fire pump direct connected with flex coupling to a Deutz DFP4-2012-C15 CARB TIER 2 diesel engine. The unit will be equipped with a coupling guard and will be mounted on a fabricated steel base. The unit will be equipped for automatic and manual dual battery operation.

The engine will include stub shaft, Air cleaner, Governor, lube oil filter, electric starter, generator, voltage regulator, heat exchanger cooling system, engine jacket water pump, 120 volt block heater with thermostat, instrument panel consisting of water temperature gauge, oil pressure gauge, ammeter, tachometer, and hour meter. The assembly will be equipped with the following accessories:

1 - Set dual lead acid 12 volt batteries, cables and rack
1 - 4" muffler and flex connector, commercial grade
1 - Automatic air release valve, 1/2"
1 - Suction and discharge gauges
1 - 165 gallon, UL 142 & NFPA 20 double wall diesel fuel tank with fittings, with exterior fuel gauge,
1 - UL Listed engine control panel with integral battery chargers , test, off, auto, manual switch, pressure switch, weekly test, program timer, remote alarm terminal connections, manual stop, 7 day pressure recorder, auto stop with run period timer, high and low fuel switch and alarm, containment switch and alarm, NEMA 2 enclosure
1 - 8" Hose Valve Header with 6, 2.5" Hose Valves, Caps and Chains
1 - 6" x 6" Main Relief Valve with a 6" x 8" waste cone
1 - Jockey pump & Jockey pump controller
1 – Item of start-up and testing

Total price., FOB Factory, Freight Allowed, Not Including Sales Tax $38,989.00
Terms to be n-30, subject to credit approval. Prices valid 30 days. Allow 10-12 weeks to deliver. Attached terms and conditions will apply. Purchase orders are to The Brown Company. Off loading of package from truck and rigging is by others. Sales tax is not included. Sales tax must be added to the above price unless a valid resale card can be provided prior to production. Progress payments will be required. Installation is by others. We recommend a licensed fire sprinkler do the work. Our role is limited to supply and testing.

OPTION 1 – Change driver to CARB Tier 3 Diesel Engine – Add $ 11,095.00

OPTION 2 – Add Pre-Packaged skid to above items, as follows:
ETL/C-ETL Listed (Third Party Certified) Engineered Packaged fire pump piping system, including:
A: Isolation and check valves, spools and supports for all pump room piping. Suction valve is O S &

Y Type. All valves are indicating type, and include tampers where required by code.

B: Piping and valves are included for sensing lines, fuel system piping, with containment

C: 8" hose head piping

D: 6" Main Relief Valve piping

F: Necessary items for an operational Diesel motor driven fire pump packaged system requiring two flange connections, electrical connection, and miscellaneous drain connections.

ADD $ 36,615.00 for Option 2, Pre-packaged Skid. Also add 4-6 weeks to delivery time.

OPTION 3 – Prepackaged Housing assembly for the above items, as follows:

Housing Assembly (Size TBD) for above package including

A: 115/1/60 GFCI Convenience outlets

B: Intake louvers

C: Insulated walls and roof

D: Exhaust Fan

E: Heater with thermostat

F: Emergency lighting, exterior photocell sodium/mercury vapor lighting

G: Pump house sprinkler system per NFPA 13, tamper switches on all valves for remote monitoring

H: Double Doors with passage latch set to protect and enclose fire pump package.

I: House 460V distribution panel

J: Fuel System Containment piping

K: Seismic Calculations

I: Pre wire valve tamper switches to common alarm box, with local annuciation, audible & visual. Furnish remote contacts for alarm connection

Note -- Base Frame rails are shipped open and must be filled with concrete after installation. This work is done by installing contractor. Some items may come loose in shipment. Adjustments will be done during start up. The following items are shipped loose for field assembly:

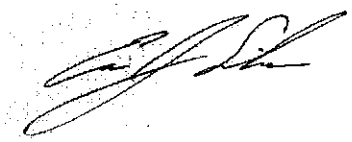
1) Hose Valve Head
2) Fuel tank vents, and fill connection
3) Muffler piping

Exclusions

1) Floor drain piping by others
2) Anchor Bolts, and any anchorage
3) Off Loading & rigging
4) Power wiring for normal power

ADD $ 48,498.00 for Option 3, Pre-Packaged Housing assembly for above items. Add 2-3 weeks to Delivery time.

Very Truly Yours



Eric J. Silva, The Brown Co., Representatives for Aurora Fire Pumps

WHAT IS INCLUDED WITH A PREFABRICATED FIRE PUMP PACKAGE

A prefabricated fire pump package is a completely assembled fire water packaged piping system. There are a few items that still need to be done once a package arrives. Below are a few items that may help answer your questions once the package is delivered:

1)CONCRETE -- The skid is designed to be filled with concrete. This provides a "Pour In Place" foundation that provides vibration dampening and a floor surface. It is recommended that a perimeter footing be poured with House packages. The footing supports the weight of the prefabricated pump house and allows other trades to complete their inside the pump house work prior to filling the skid with concrete.

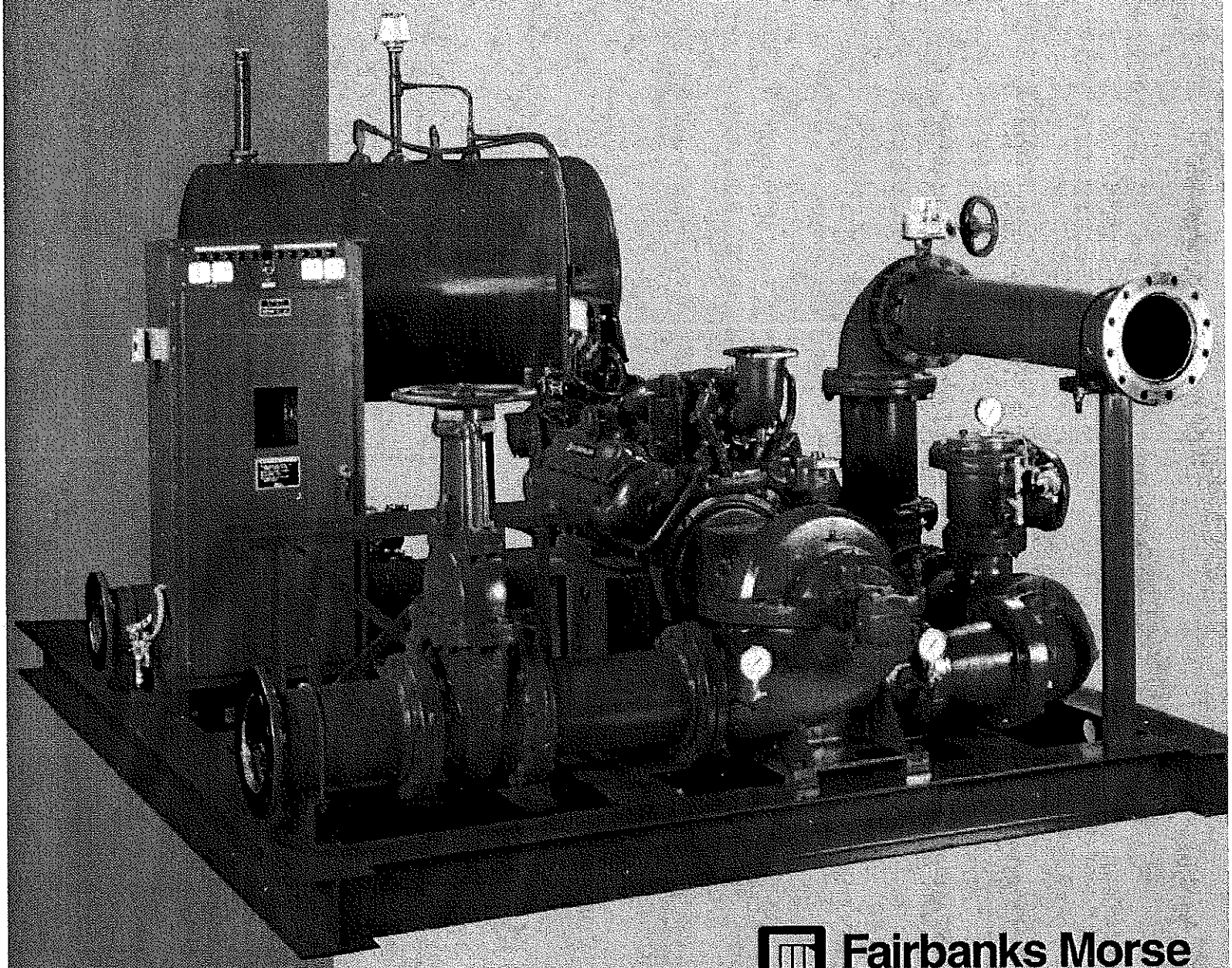
2)ANCHOR BOLTS -- Anchor bolts are required for packages.
Special provisions may be required when
A)Packages contain a diamond plate floor where the skid cannot be filled with concrete.
B)Packages are installed on an existing concrete foundation.
C)The authority having jurisdiction requires that the package be seismically calculated.

3)DRAINS -- Drain piping is usually not piped from the factory unless an exact location is given. The factory charges additional for prefabricated drain piping. Often it is much easier to pipe the drains in the field as drain location can change during construction.

4)SPRINKLER SYSTEM -- Sprinkler systems are only an option when a prefabricated fire pump package has a Pump House. Sprinkler systems are included on all diesel driven fire pump house packages however they are not standard on electric motor driven pump houses. The reason for this is because the metal house enclosure is usually unoccupied and some localities do not require a sprinkler system unless the pump house is close to an occupied building. A sprinkler system can be provided at additional cost on an electric motor driven fire pump package with house if we are notified prior to production.

5)WIRING -- Prefabricated fire pump packages are wired from the controllers to the engine/motors only. All units are wired per NEC (NFPA 70). Power must be brought into the controllers by electrical contractor. If House package is supplied, all wiring inside the prefabricated fire pump package with House is complete and tested from the factory and only a single point electrical connection is required

PACKAGED FIRE PUMP SYSTEMS



Fairbanks Morse

Pentair Pump Group

UL c UL FM NFPA MEMBER 00-01 Hydraulic

Fairbanks Morse Pump, long time leader in supplying conventional fire pump systems, also has the capability of providing pre-engineered fire pump packages when required by the application. These factory manufactured, assembled and tested systems are built per NFPA #20 and NEC standards utilizing UL Listed/FM Approved components.

Fire pump, driver, accessories, piping, valves, etc., are efficiently mounted on a sturdy fabricated structural base. Controller-to-driver wiring and pressure sensing lines are completed at the factory. Once in the field, only piping and power connections need to be made to the system, and the base fully grouted into place. As a result, many potential field wiring and piping interface problems are eliminated.

Complete packages are available for horizontal split case, vertical turbine and vertical in-line fire pump designs.

ELECTRIC FIRE PUMP PACKAGE – STANDARD EQUIPMENT

- *Fairbanks Morse Fire Pump, UL Listed or FM Approved*
- *Electric Motor Driver*
- *Electric Motor Controller, UL Listed or FM Approved*
- *Pump Casing Pressure Relief Valve*
- *Pump Automatic Air Release Valve*
- *Pump Suction & Discharge Gauges*
- *Test Valve Manifold with Valves, Caps & Chains*
- *Suction and Discharge Piping per NFPA #20*
- *Listed OS & Y Gate & Butterfly Valves*
- *Pressure Sensing Lines Complete per NFPA #20*
- *Fairbanks Morse Jockey Pump*
- *Jockey Pump Controller, UL Listed*
- *All Electrical Components Pre-Wired at Factory*
- *Complete System Hydrostatically Tested*

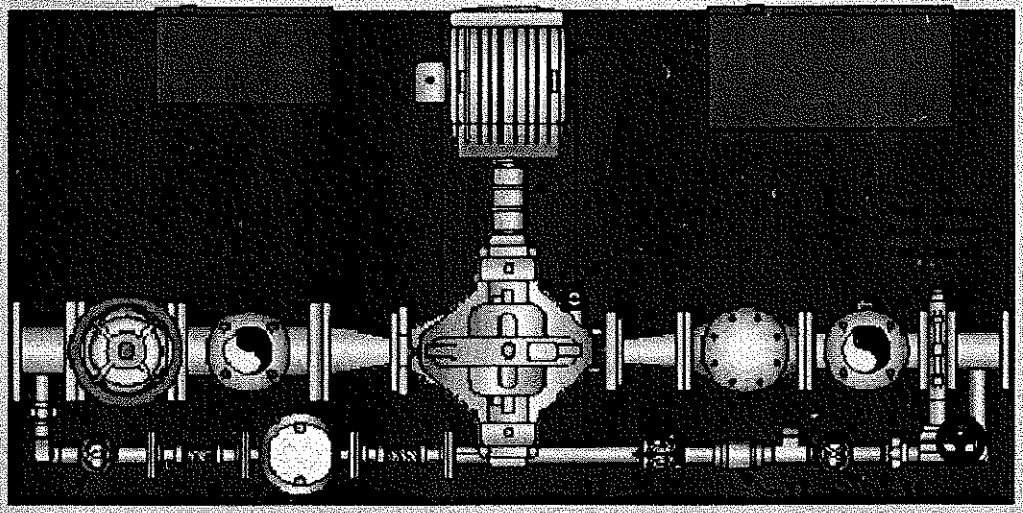
DIESEL FIRE PUMP PACKAGE – STANDARD EQUIPMENT

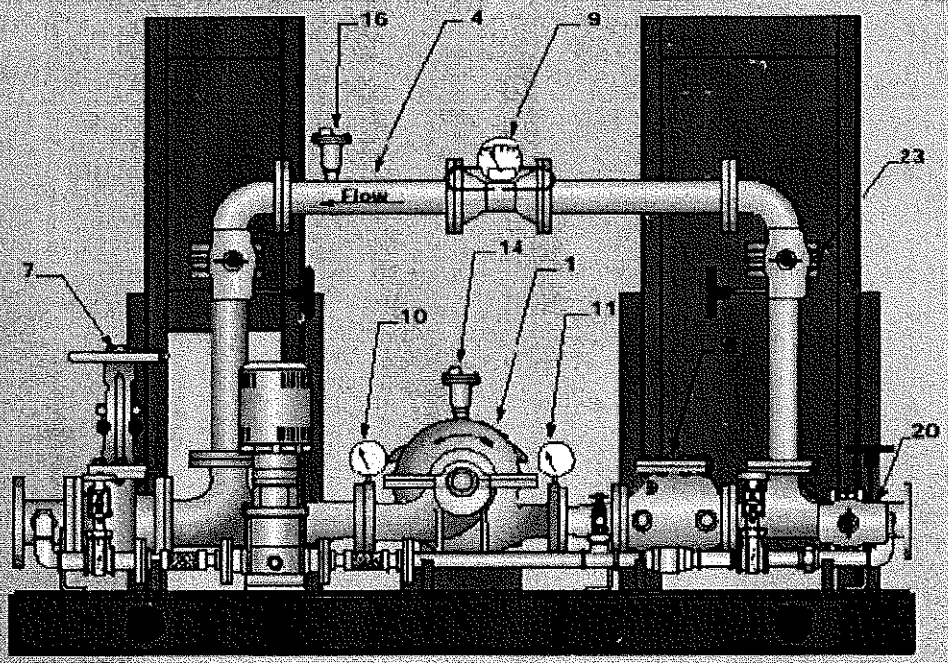
- *Fairbanks Morse Fire Pump, UL Listed or FM Approved*
- *Diesel Engine Driver*
- *Diesel Engine Controller, UL Listed or FM Approved*
- *Pump Automatic Air Release Valve*
- *Pump Suction & Discharge Gauges*
- *Engine Cooling Loop with Manual Bypass*
- *Dual Battery Set with Battery Rack and Battery Cables*
- *Single Wall Fuel Tank, UL Listed and Sized per NFPA #20*
- *Fuel Tank Fitting Accessories and Fuel Lines to Engine*
- *Flexible Engine Exhaust Connector*
- *Engine Silencer, Residential Grade*

AVAILABLE OPTIONS

- *Complete System Performance Test (Witnessed or Non-Witnessed)*
- *Bypass Loop with Check Valve, Isolation Valves & Air Release Valve*
- *Test Loop Piped to Suction Side of Pump with FM Approved Flowmeter, Isolation Valves & Air Release Valve*
- *Packing Box, Casing Relief Valve and Engine Cooling Water Drain Piping, Piped to Edge of Base*
- *Main System Pressure Relief Valve with Enclosed Waste Cone*
- *Double Wall Fuel Tank (in lieu of single wall)*
- *Fuel Tank Spill Reservoir*
- *Engine Silencer, Critical Grade (in lieu of Residential Grade)*
- *Jockey Pump Relief Valve*
- *Complete Fire Pump House*

TYPICAL ELECTRIC MOTOR DRIVEN HORIZONTAL SPLIT CASE PACKAGE

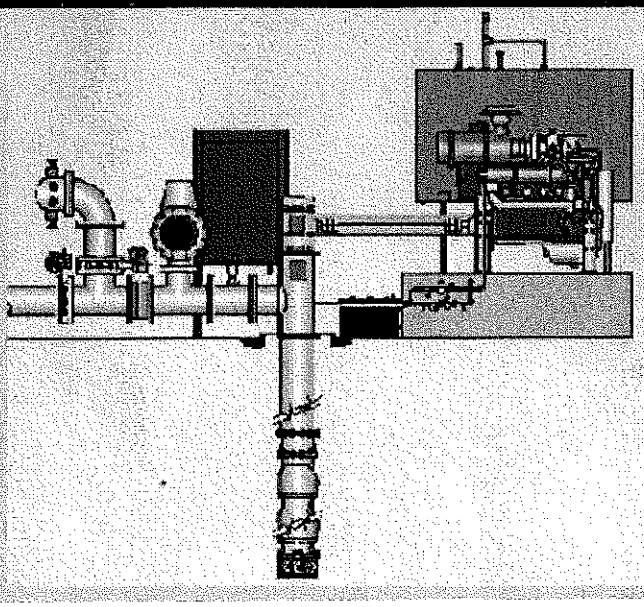




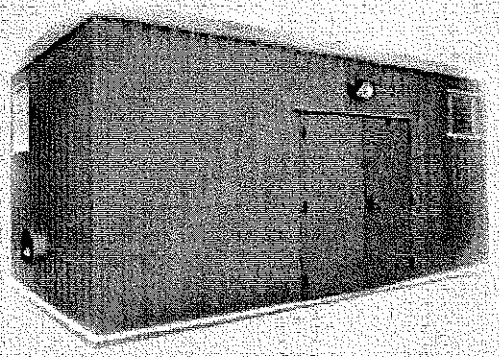
KEY

#	Equipment
1	Fire Pump
2	Electric Motor
3	Controller (Fire Pump)
4	Text Loop
5	Jockey Pump
6	Controller (Jockey Pump)
7	OS & Y Gate Valve
8	Swing Check Valve
9	Flow Meter
10	Suction Pressure Gauge
11	Discharge Pressure Gauge
12	Coupling Guard (not shown)
13	Relief Valve (Jockey Pump)
14	Automatic Air Release Valve
15	Casting Relief Valve
16	Test Loop Air Release Valve
17	Check Valve (Jockey Pump Line)
18	OS & Y Gate Valve (Jockey Pump Suction)
19	OS & Y Gate Valve (Jockey Pump Discharge)
20	Butterfly Valve
21	Concentric Discharge Increaser
22	Eccentric Suction Reducer
23	Butterfly Valve (Test Loop)

VERTICAL TURBINE ARRANGEMENT



PACKAGED SYSTEM HOUSES



When requirements call for the packaged fire pump system to be fully housed, Fairbanks Morse can supply this enclosure. These all-steel buildings are designed to meet specific environmental requirements and include the following features:

- Easy Access Entry
- Interior Fluorescent Lighting
- Exterior Flood Lighting
- Electric Heaters with Built-in Thermostat
- Exhaust Fan, Continuous Duty
- Solenoid/AC Motor Operated Louver (engine driven packages)
- Mini Power Zone (electric driven packages)
- Wall or Floor Penetration, Finished
- Sprinkler System per NFPA

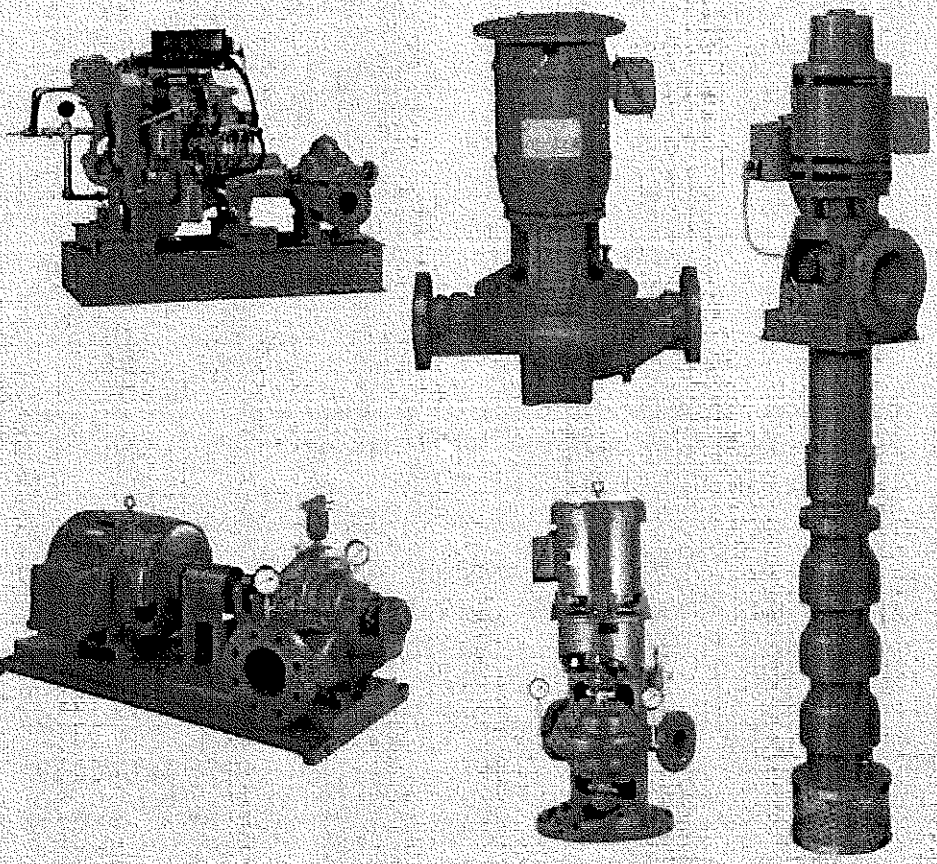
Fairbanks Morse offers a complete line of UL Listed and FM Approved horizontal split case, vertically-mounted split case, vertical turbine and vertical in-line fire pump designs. Split case and vertical turbine units can be either electric motor or diesel engine driven. Hydraulic capabilities are as follows:

Horizontal Split Case
Rated Capacities 250 GPM through 5000 GPM
Rated Pressures 40 PSI through 245 PSI

Vertically-Mounted Split Case
Rated Capacities 250 GPM through 2500 GPM
Rated Pressures 40 PSI through 200 PSI

Vertical Turbine
Rated Capacities 250 GPM through 4500 GPM
Rated Pressures 70 PSI through 387 PSI

Vertical In-Line
Rated Capacities 50 GPM through 750 GPM
Rated Pressures 40 PSI through 160 PSI



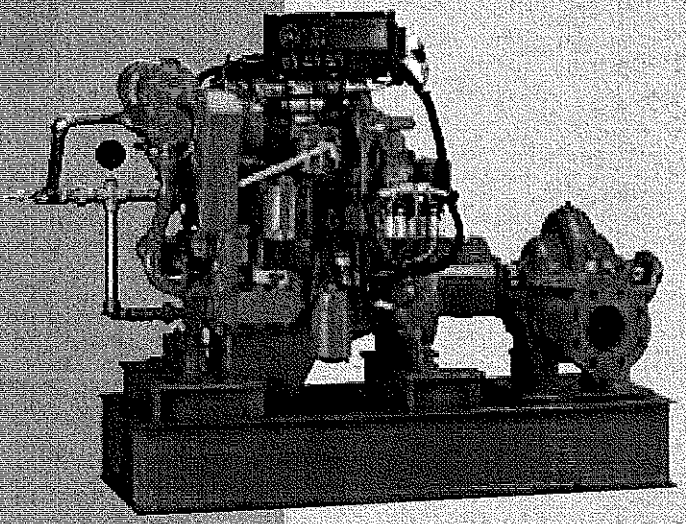
- Your Authorized Local Distributor -

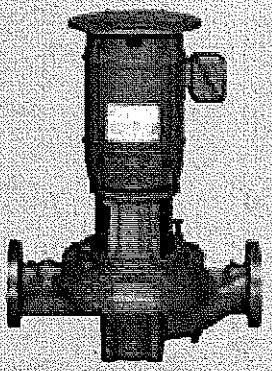
Fairbanks Morse

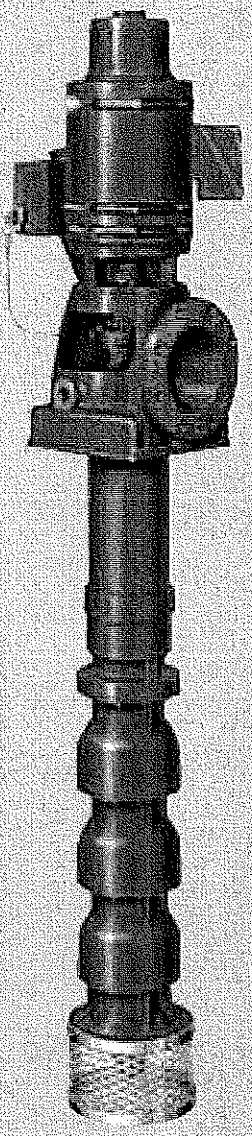
Pentair Pump Group

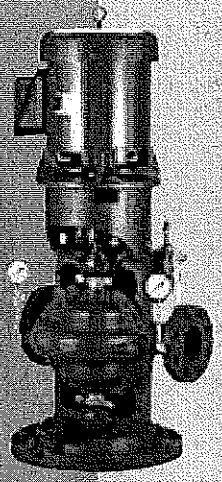
3601 Fairbanks Avenue
P.O. Box 6999
Kansas City, KS 66106-0999
Phone 913/371-5000, Fax 913/748-4025

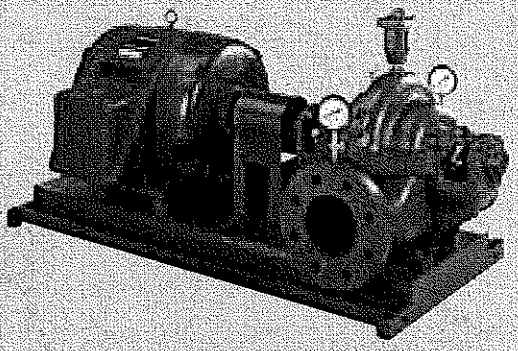
FIRE PUMPS











Fairbanks Morse

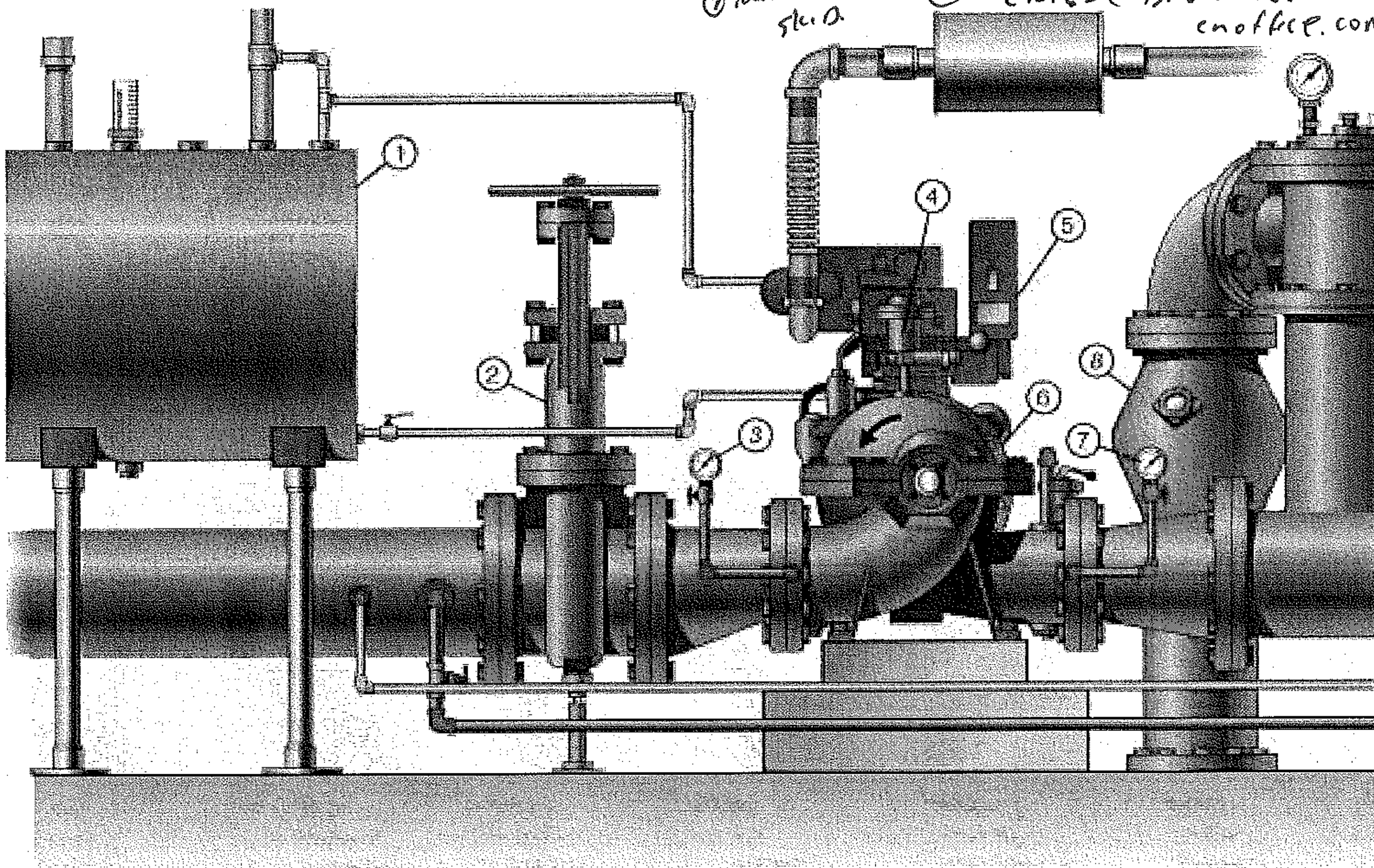
Pentair Pump Group

Member of Hydraulic

HORIZONTAL SPLIT CASE FIRE PUMP SYSTEM
DIESEL ENGINE DRIVEN

~100psi
(1) full package
(2) mounted skid

Eric @
"The Brown Company"
510 886 5260
erics@brownco.cnoffice.com



1. Fuel Tank, Diesel Engine
2. Isolation Gate Valve (suction)
3. Compound Suction Gauge
4. Automatic Air Release Valve
5. Diesel Engine Drive
6. Horizontal Split Case Fire Pump
7. Discharge Pressure Gauge
8. Enclosed Waste Cone with Sight Glasses
9. Main Relief Valve
10. Low Suction Pressure Shutoff Valve
11. Fire Pump Controller
12. System Check Valve
13. Jockey Pump Controller
14. Jockey Pump
15. Isolation Valves
16. Ball Drip Valve
17. Test Valve Manifold with Hose Valves, Caps & Chains

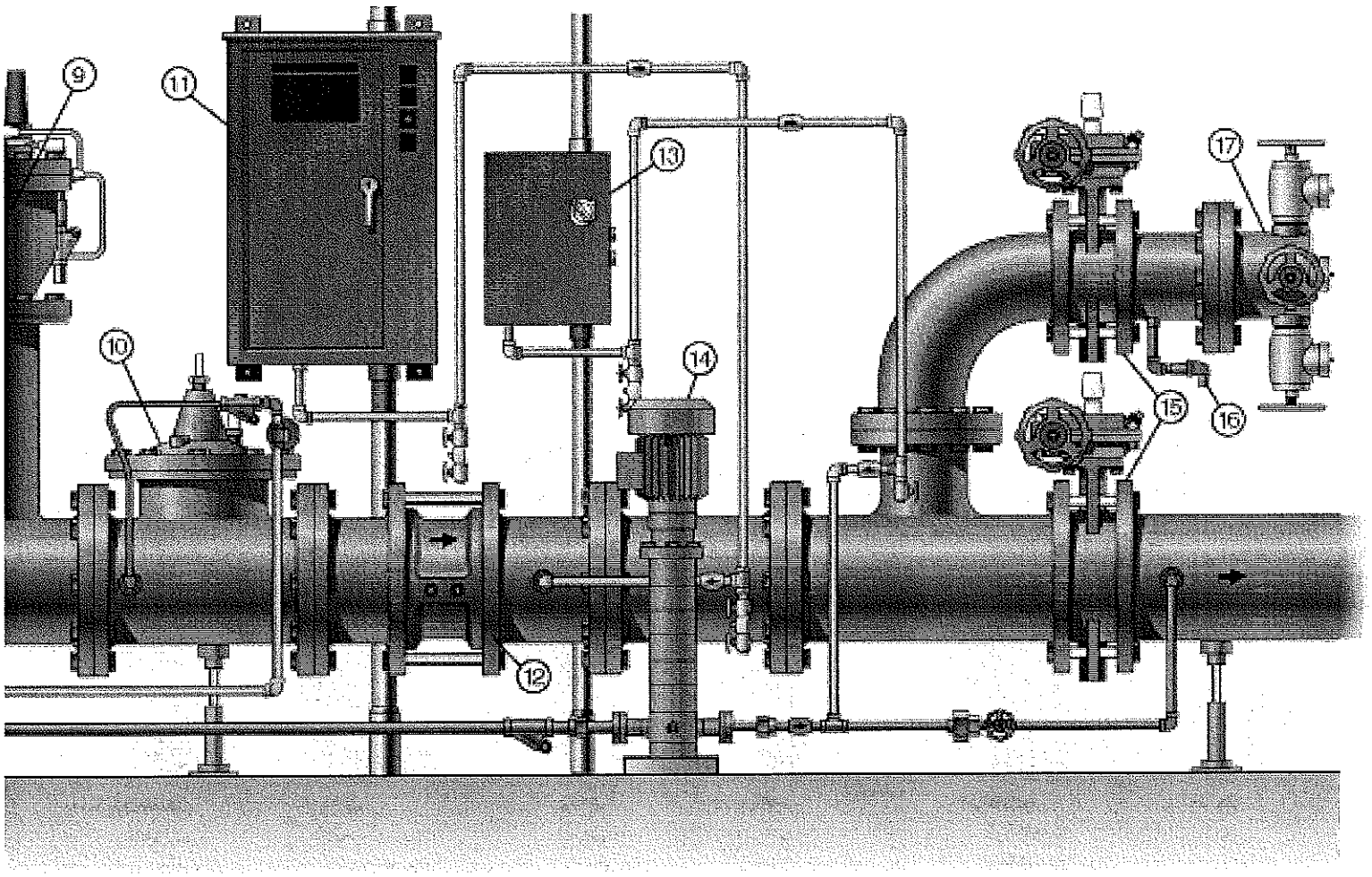
Pump: *Horizontal split case, double-suction, UL Listed, FM Approved, mounted on a common base with and flexibly coupled to a diesel engine. Pump sized for rated capacity and head. Also must be capable of producing 150% rated flow at not less than 65% rated head and not to exceed 140% rated head at a shutoff or no-flow condition.*

Diesel Engine: *UL Listed or FM Approved diesel engine adequately sized so as to not overload at any point on the pump hydraulic curve. Consideration must be given and de-rates applied based on job site elevation and ambient temperature. Engines must be specifically designed for fire protection service.*

Coupling: *Flexible type, sized to transmit the horsepower requirements of the pump. Coupling shall be furnished with an OSHA-design coupling guard.*

Base: *Fabricated steel design base capable of adequately supporting the weight of the pump and driver. After pump has been fully piped and accurately aligned with the engine, the base should be fully grouted into place.*

Controller: *Diesel engine controller starts the engine automatically on a loss of system pressure. System pressure is monitored via a sensing line from the system side of the check valve. Controller can also be manually started. Controllers are UL Listed and FM Approved specifically for fire pump service.*



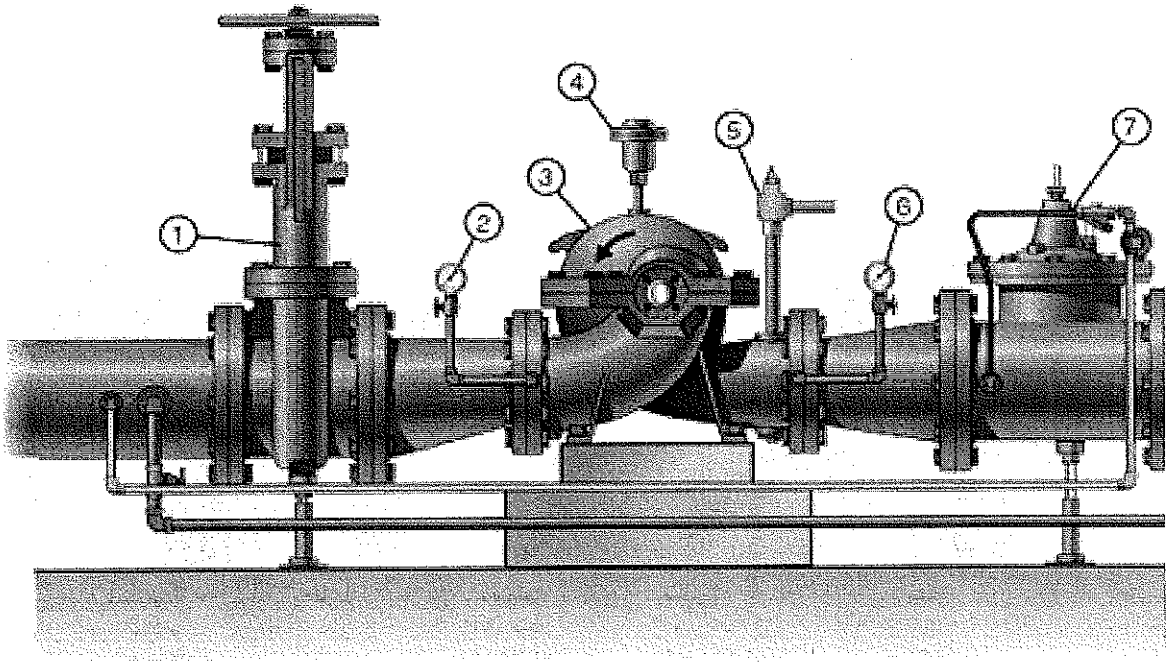
Standard Pump Accessories: *Accessories furnished with the fire pump system include: suction and discharge gauges and automatic air release valve. Other accessories commonly furnished as part of the fire pump package include: hose valve manifold with hose valves, caps and chains, flowmeter, main relief valve and enclosed waste cone, ball drip valve, eccentric suction reducer, concentric discharge increaser.*

Standard Engine Accessories: *Accessories furnished with the diesel engine include: engine starting batteries, battery rack, battery cables, engine exhaust flexible connector and silencer.*

Jockey Pump: *Jockey pump keeps pressure in the system to prevent the main fire pump from operating to maintain system pressure. Jockey pumps are generally a few gallons per minute sized to overcome small system leaks and typically sized for 10 PSI greater than the rated pressure of the main fire pump. Jockey pumps are not required to be UL Listed or FM Approved.*

Jockey Pump Controller: *Starts the jockey pump across the line by sensing the system pressure via a sensing line from the system side of the check valve. This sensing line must be independent from the main fire pump controller sensing line. Controller is sized per the jockey pump motor horsepower and voltage. Jockey pump controllers are UL Listed specifically for this service.*

HORIZONTAL SPLIT CASE FIRE PUMP SYSTEM
ELECTRIC MOTOR DRIVEN



1. Isolation Gate Valve (suction)
2. Compound Suction Gauge
3. Horizontal Split Case Fire Pump, Electric Motor Driven
4. Automatic Air Release Valve
5. Casing Relief Valve
6. Discharge Pressure Gauge
7. Low Suction Pressure Shutoff Valve
8. Fire Pump Controller
9. System Check Valve
10. Jockey Pump Controller
11. Jockey Pump
12. Isolation Valves
13. Ball Drip Valve
14. Test Valve Manifold with Hose Valves, Caps & Chains

Pump: *Horizontal split case, double-suction, UL Listed, FM Approved, mounted on a common base with and flexibly coupled to an electric motor. Pump sized for rated capacity and head. Also must be capable of producing 150% rated flow at not less than 65% rated head and not to exceed 140% rated head at a shutoff or no-flow condition.*

Electric Motor: *UL Listed or FM Approved motor sized so as to not overload at any point on the pump hydraulic curve as per NFPA #20. Motors are open-drip proof type with a 1.15 service factor wound for the correct voltage. Motor to be compatible with the type of controller (i.e., starting characteristics).*

Coupling: *Flexible type, sized to transmit the horsepower requirements of the pump. Coupling shall be furnished with an OSHA-design coupling guard.*

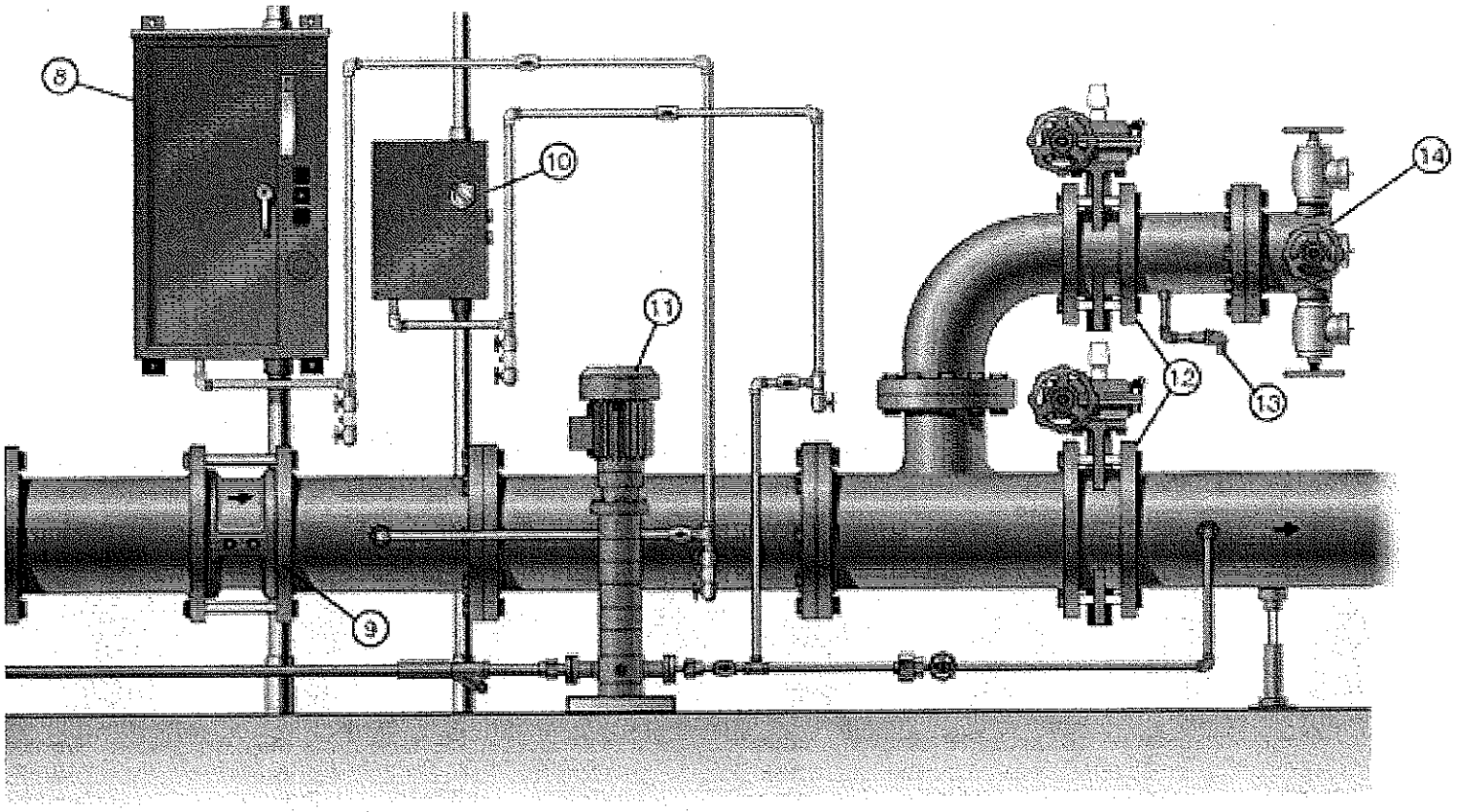
Base: *Fabricated steel design base capable of adequately supporting the weight of the pump and driver. After pump has been fully piped and accurately aligned with the motor, the base should be fully grouted into place.*

Controller: *Electric motor controller starts the motor automatically on a loss of system pressure. System pressure is monitored via a sensing line from the system side of the check valve. Controller can also be manually started. The type of motor starting, and therefore the type of controller, varies depending upon the specifics of the application. Common types of controllers include: across-the-line, primary resistor, part-winding, wye-delta, auto-transformer, and soft start. Controllers are UL Listed and FM Approved specifically for fire pump service.*

Standard Accessories: *Accessories furnished with the fire pump system include: suction and discharge gauges, casing relief valve and automatic air release valve. Other accessories commonly furnished as part of the fire pump package include: hose valve manifold with hose valves, caps and chains, flowmeter, main relief valve and enclosed waste cone, ball drip valve, eccentric suction reducer, concentric discharge increaser.*

Jockey Pump: *Jockey pump keeps pressure in the system to prevent the main fire pump from operating to maintain system pressure. Jockey pumps are generally a few gallons per minute sized to overcome small system leaks and typically sized for 10 PSI greater than the rated pressure of the main fire pump. Jockey pumps are not required to be UL Listed or FM Approved.*

Jockey Pump Controller: *Starts the jockey pump across the line by sensing the system pressure via a sensing line from the system side of the check valve. This sensing line must be independent from the main fire pump controller sensing line. Controller is sized per the jockey pump motor horsepower and voltage. Jockey pump controllers are UL Listed specifically for this service.*



APPROVED CONTROLLER STARTING METHODS

TYPE STARTING	CHARACTERISTICS	ADVANTAGES	RESTRAINTS	STARTING CURRENT (% MOTOR FULL LOAD STARTING CURRENT)	STARTING TORQUE (% LOCKED ROTOR TORQUE)	TYPE TRANSITION
Across-the-line	*Connects motor directly to power source. Full voltage applied to motor when controller is actuated.*	* *Least expensive* * *Highest starting torque* * *Low maintenance* * *Standard motor used*	* *High inrush current*	*600%*	*100%*	*Not applicable*
Primary Resistance Reduced Voltage	*When controller is actuated, a resistance is connected to each phase. Resistors are by-passed after a time delay and motor then runs at full voltage.*	* *Smooth starting* * *Low shock to motor* * *Standard motor used*	* *High power loss through resistors* * *Must dissipate heat* * *Low torque per ampere input* * *Medium relative cost* * *Not recommended for transfer switch applications*	*300%*	*25%*	*Closed*
Part Winding	*Motor starts on one winding. After a time delay, second winding is connected in parallel to the line.*	* *Low relative cost* * *Low starting torque* * *Low maintenance*	* *Not recommended for frequent starting* * *Low starting torque* * *Special motor required*	*390%*	*42%*	*Closed*
Wye-Delta Open-Transition	*On controller activation, motor windings wye-connected for starting. After a time delay, automatically converts to delta connection for running, applying full voltage to motor windings. Most often used with transfer switch/emergency generator applications.*	* *Moderate to low relative cost* * *Low motor stress* * *Low starting current*	* *Medium starting torque* * *Special motor required for 200V* * *Power line transients* * *Can affect other equipment sharing same power source.*	*200%*	*33%*	*Open*
Wye-Delta Closed-Transition	*Same sequence as Open Transition. Connected to resistors in each phase during transition from wye to delta.*	* *Moderate to high relative cost* * *Low motor stress* * *Low starting current* * *No line transients*	* *Medium starting torque* * *Special motor may be required for 200V*	*200%*	*33%*	*Closed*
Auto Transformer Reduced Voltage *w/50% tap* *w/65% tap* *w/80% tap*	*Starters supply reduced voltage starting at motor terminals through use of tapped, 3-phase autotransformer. A timing relay causes transfer of motor from reduced voltage start to line voltage operation without disconnecting motor from power source.*	* *Good for heavy starting loads* * *Highest starting torque* * *Standard motor used* * *Low starting current* * *Starting torque adjustable*	* *High relative cost*	 *150%* *252%* *384%*	 *25%* *42%* *64%*	*Closed*
Soft Start/Stop	*Reduces inrush current to motor with adjustable ramp time. Stop sequence reduces possibility of surges occurring in the system.*	* *Low inrush current* * *Adjustable ramp time* * *Reduces system surges* * *Standard motor used*	* *High relative cost*	*Adjustable 50% - 500%*	*Varies*	*Closed*

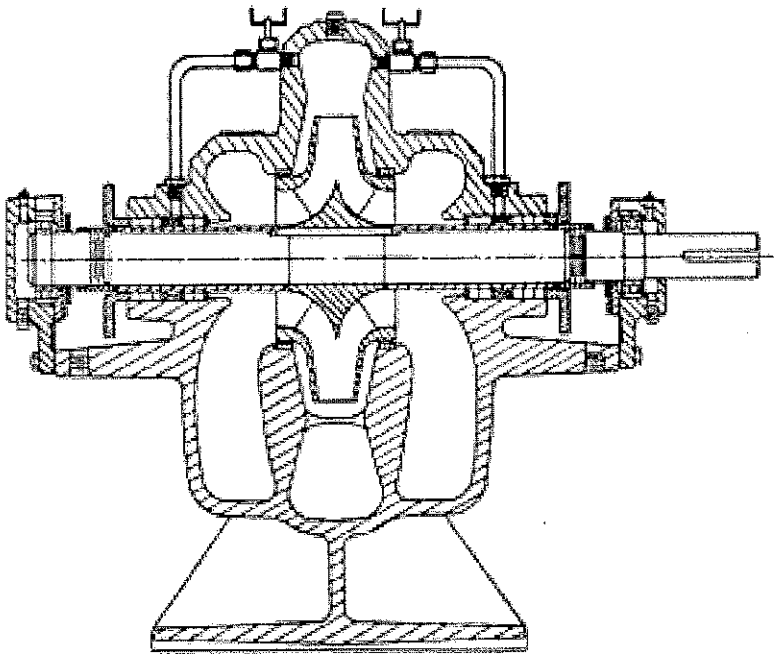
Long established as a leading fire pump manufacturer, Fairbanks Morse Pump offers a broad range of horizontal split case, vertical in-line and vertical turbine designs over a wide range of rated capacities and pressures...pumps for every fire pump application. Split case and vertical turbine pumps have the option of being driven via either an electric motor or diesel engine, and are furnished as a complete package with controller, jockey pump and its controller, as well as standard fire pump system accessories.

Units are Underwriters Laboratories Listed and Factory Mutual Approved specifically for fire pump service continually meeting their stringent inspection, testing and record-keeping standards. Split case rated capacities range from 250 GPM through 5000 GPM, vertical in-line rated capacities range from 50 GPM through 750 GPM, and vertical turbine fire pumps cover 250 GPM through 4500 GPM, all with a wide range of rated pressures.

The Fairbanks Morse Pump sales family includes highly qualified distributors and representatives well versed in fire pump systems, who provide prompt and accurate quotations, submittals and acceptance testing as required. These sales professionals stand ready to address and meet your fire pump needs, and are backed by many years of factory knowledge and experience.

HORIZONTAL SPLIT CASE

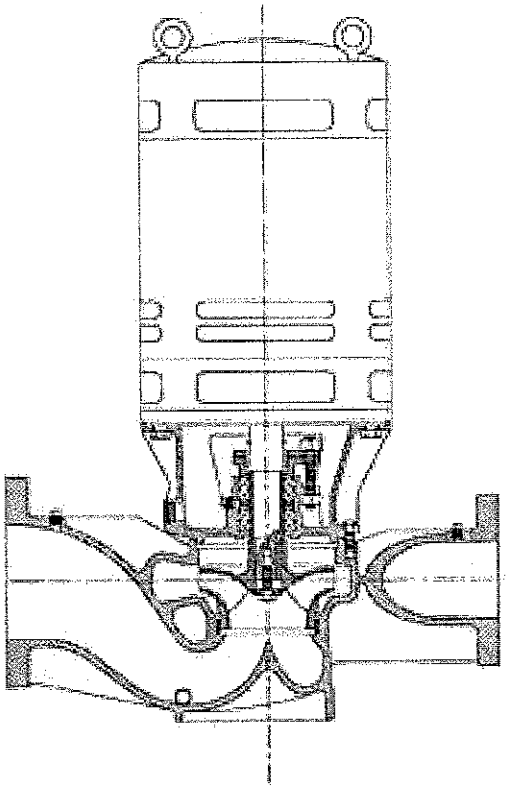
RATED CAPACITY	RATED HEAD
250 GPM	40 – 167 PSI
500 GPM	40 – 278 PSI
750 GPM	40 – 266 PSI
1000 GPM	40 – 244 PSI
1250 GPM	43 – 236 PSI
1500 GPM	40 – 228 PSI
2000 GPM	53 – 210 PSI
2500 GPM	50 – 213 PSI
3000 GPM	60 – 165 PSI
3500 GPM	94 – 151 PSI
4000 GPM	94 – 223 PSI
4500 GPM	90 – 223 PSI
5000 GPM	88 – 221 PSI



Pump Features:

- ***Bronze impeller keyed to shaft***
- ***Horizontal split case, cast iron***
- ***Clockwise or counterclockwise rotation (electric only)***
- ***Casing wear rings***
- ***Renewable shaft sleeves***
- ***Grease lubricated long life bearings***
- ***Packed stuffing box***

VERTICAL IN-LINE



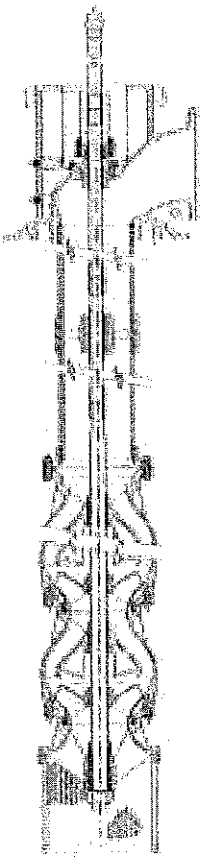
RATED CAPACITY	RATED HEAD
50 GPM	60 – 155 PSI
75 GPM	90 – 135 PSI
100 GPM	40 – 150 PSI
150 GPM	41 – 160 PSI
200 GPM	40 – 160 PSI
250 GPM	40 – 138 PSI
300 GPM	42 – 140 PSI
400 GPM	50 – 205 PSI
450 GPM	49 – 205 PSI
500 GPM	55 – 200 PSI
750 GPM	54 – 143 PSI

Pump Features:

- ***Bronze impeller keyed to shaft***
- ***One-piece, in-line casting***
- ***Clockwise rotation***
- ***Casing wear ring***
- ***Renewable shaft sleeve***
- ***Integral vertical drip-proof motor***
- ***Packed stuffing box***

VERTICAL TURBINE

RATED CAPACITY	RATED HEAD
250 GPM	PSI
500 GPM	100 – 370 PSI
750 GPM	99 – 361 PSI
1000 GPM	96 – 316 PSI
1500 GPM	98 – 320 PSI
2000 GPM	98 – 198 PSI
2500 GPM	100 – 187 PSI
3000 GPM	100 – 189 PSI
3500 GPM	101 – 180 PSI
4000 GPM	120 – 189 PSI
4500 GPM	120 – 181 PSI



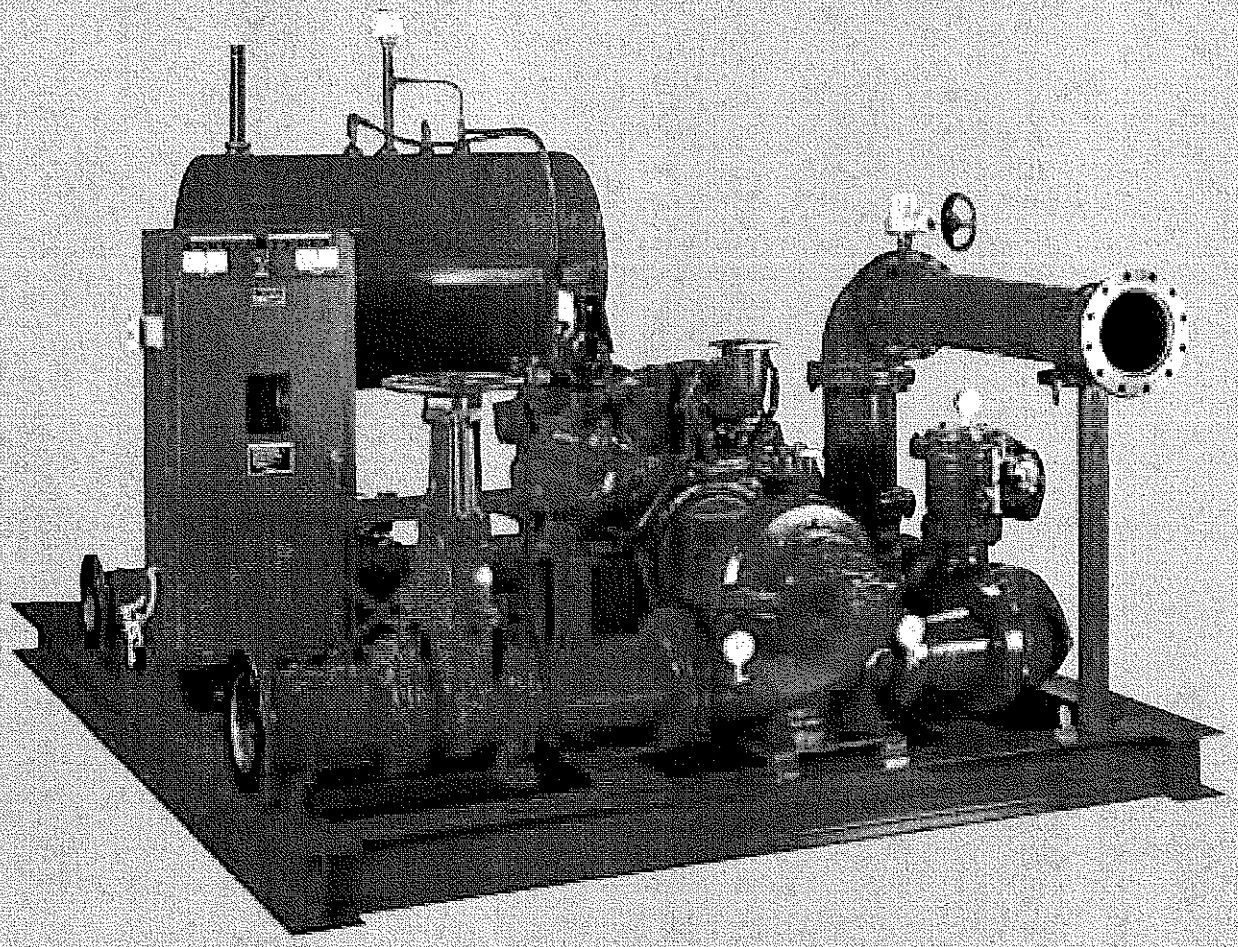
Pump Features:

- ***Bronze impellers***
- ***Cast iron bowl (multi-stage)***
- ***Stainless steel bowl shaft***
- ***Carbon steel open lineshaft***
- ***Steel column pipe***
- ***Cast iron or fabricated steel discharge heads***
- ***Brass suction strainer***
- ***Packed stuffing box***

PACKAGED FIRE PUMP SYSTEMS

When the application calls for a completely packaged fire pump system, Fairbanks Morse Pump has the capability to meet these requirements. Systems include the pump, driver, controller, jockey pump and jockey pump controller all mounted on a common base. Controller is pre-wired to the driver, sensing lines are pre-piped from the controllers to the system side of the check valve, and suction and discharge piping is piped to the edge of the common base. Isolation valves, check valve, and test header piping (and/or flowmeter piping) can be supplied as required. For diesel engine driven units, the package would also include the mounting of the fuel tank, piping of fuel lines to the engine and connection of batteries to the engine.

Should your requirements include the packaged fire pump system to include an enclosure, Fairbanks Morse Pump can provide the protective structure to house the system. Packaged systems can be designed for use with horizontal split case, vertical turbine or vertical in-line pump designs.



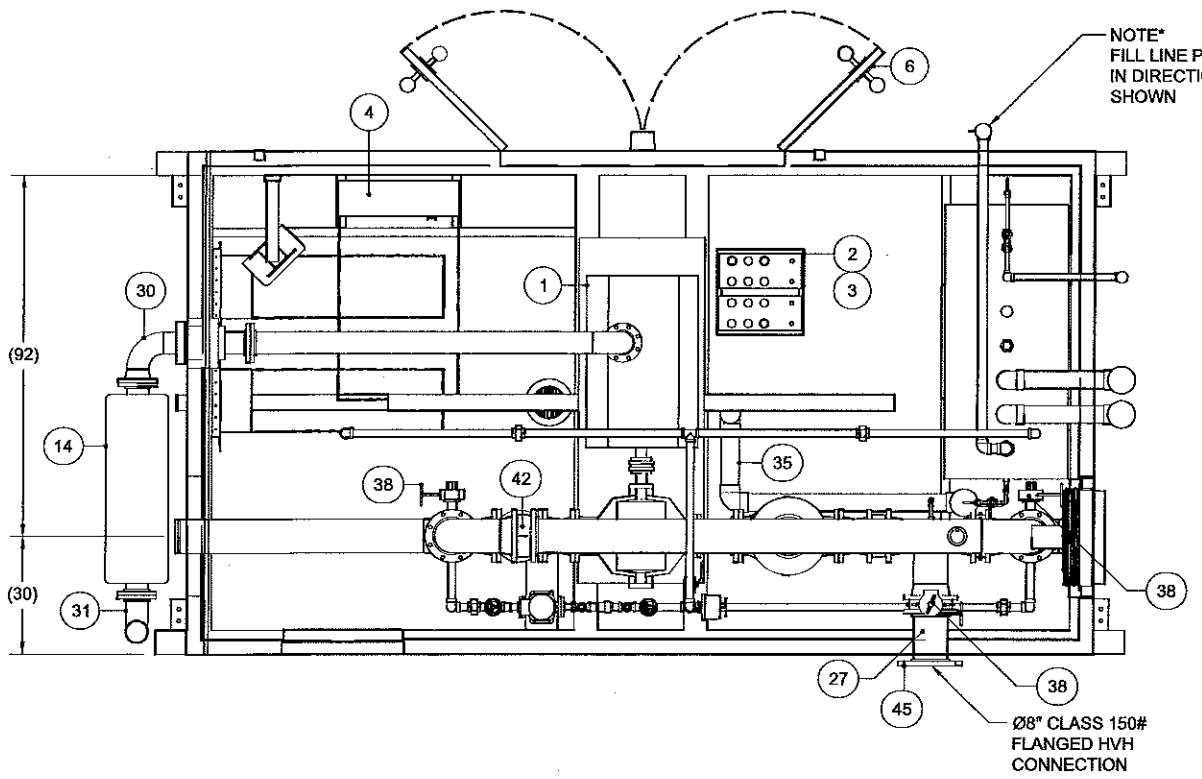
- Your Authorized Local Distributor -

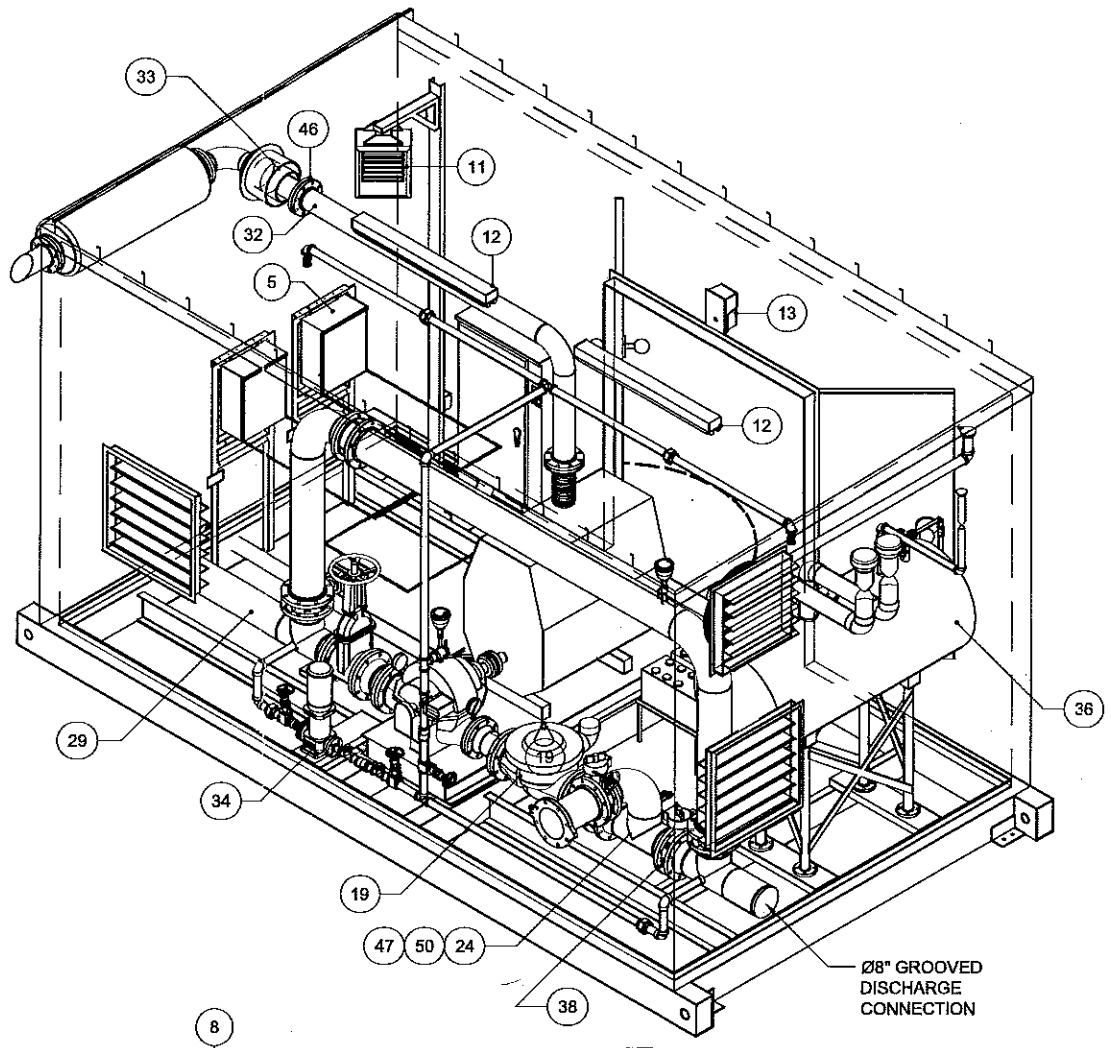
Fairbanks Morse

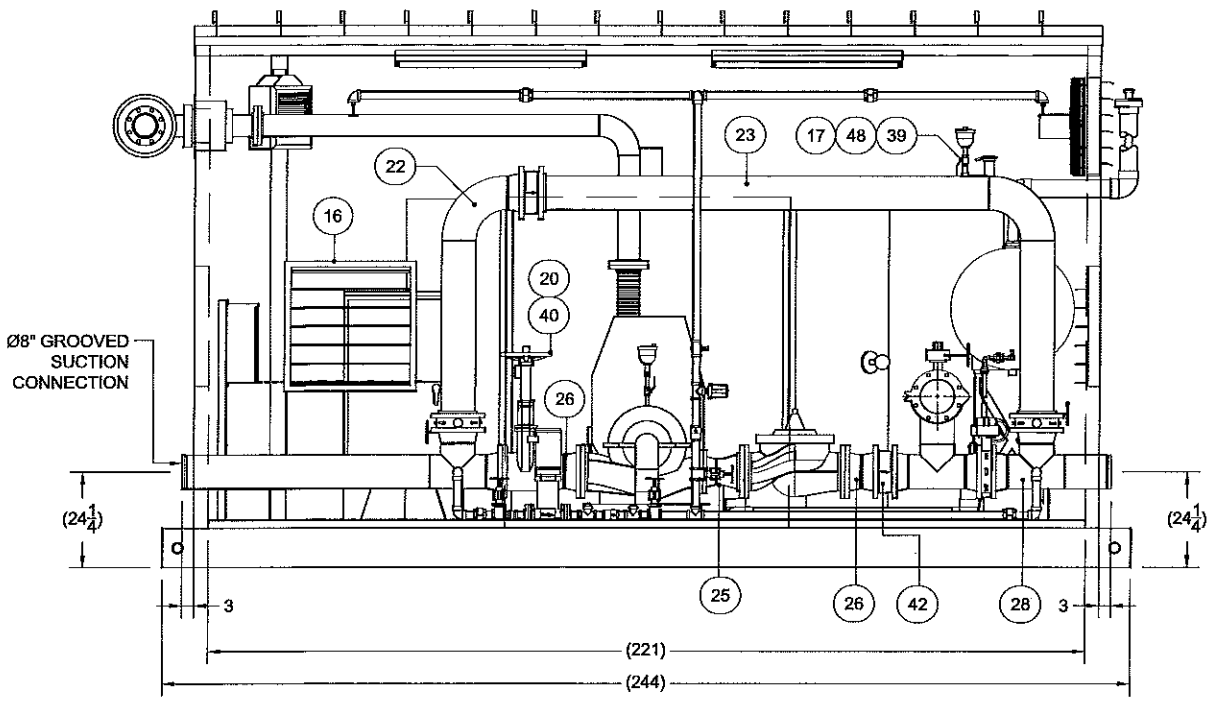
Pentair Pump Group

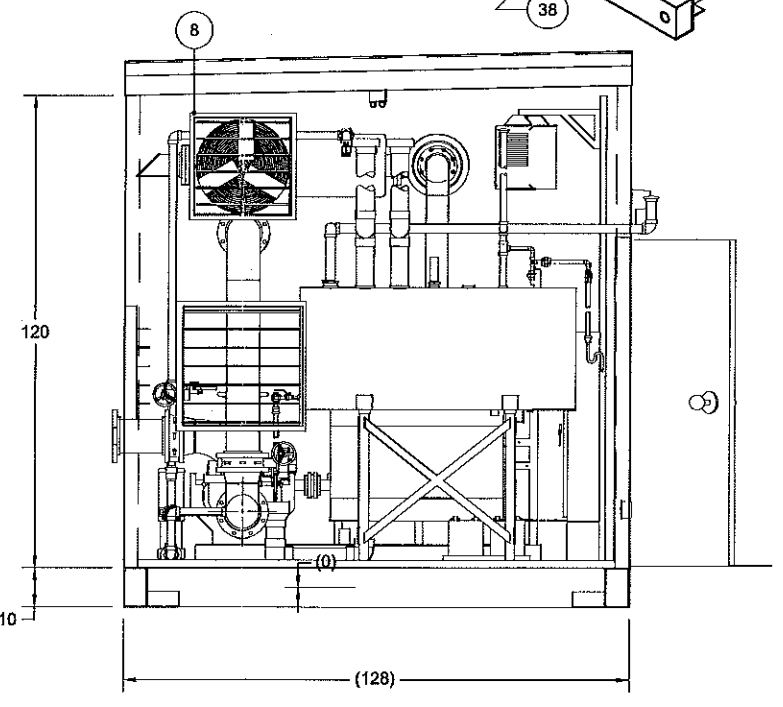
3601 Fairbanks Avenue
P.O. Box 6999
Kansas City, KS 66106-0999
Phone 913/371-5000
Fax 913/748-4025

FM305 02/02









SYM	QTY	PART	P/N
36	1	ASSEMBLY, TANK DUAL WALL	PAGE 19
35	1	ASSEMBLY, FUEL LINE TROUGH, 4"	PAGE 18
34	1	ASSEMBLY, JOCKEY PUMP LINE W/ SPRINKLER LINE, 1-1/4"	PAGE 17
33	1	ASSEMBLY, ROOF PLATE, 5"	PAGE 16
32	1	ASSEMBLY, EXHAUST, SPOOL, 5"	PAGE 15
31	1	ASSEMBLY, EXHAUST TIP, 5"	PAGE 14
30	1	ASSEMBLY, ELBOW, EXHAUST, 5"	PAGE 13
29	1	ASSEMBLY, TEE, FLOW, 8" (B) (SUCT CONN)	PAGE 12
28	1	ASSEMBLY, TEE, FLOW, 8" (A) (DSC CONN)	PAGE 11
27	1	ASSEMBLY, SPOOL, HVH, 8"	PAGE 10
26	2	ASSEMBLY, SPOOL, 8"	PAGE 9
25	1	ASSEMBLY, REDUCER,CONCENTRIC, 8" X 6"	PAGE 8
24	1	ASSEMBLY, ELBOW, HVH, 8"	PAGE 7
23	1	ASSEMBLY, FLOW-LOOP, 8" (CWB -B)	PAGE 6
22	1	ASSEMBLY, FLOW-LOOP, 8" (CWB -A)	PAGE 5
21	1	ASSEMBLY, SKID	PAGE 3
20	1	TAMPER SWITCH, OS&Y #2	826-OSY2
19	1	VAL, CLA-VAL, MODEL 90A-21, 8"	CS
18	1	VAL, AIR RELEASE, 175PSI MAX PRES, SS TRIM - 3/4"	CS
17	1	VAL, AIR RELEASE, 175PSI MAX PRES, SS TRIM - 3/4"	827-15A2
16	2	SHUTTER, WALL, GALV, 30"	986-1C055
15	2	OUTLET, GFCI WALL, 120V, 20 AMP	986-120V
14	1	MUFFLER, AURORA, JU6H-UF30, 5"	CS
13	1	LIGHT, EXTERIOR WALL MOUNT, W/LAMP & PHOTOCELL, 70W, 120V, BRONZE	986-5MM59
12	2	LIGHT FIXTURE, 4' WRAP AROUND, 2 LAMP, STANDARD BALLAST, 120V	986-LE120
11	1	HEATER, SPACE, 5KW, 208/3/60 24 V CONTROL	986-3UF82 / 986-6X966 / 986-2E569
10	2	GAUGE, 3-1/2", 1/4" LM, GLYCERIN FILLED - 300 PSI	CS
9	1	FLEX CONNECTOR, STAINLESS STELL CORRUGATED HOSE W/ WOVEN BRAID, 5"	CS
8	1	EXHST FAN, W/SHTR 24", 1/3HP,3270CFM, 15V, TE MTR(ORD WITH 2E816)	986-4C358 / 986-2E816
7	1	ENVIORMENTAL ENCLOSURE, JACOBS INDUSTRIES	PAGE 2
6	1	DOOR, 6"X7"	KYSOR
5	1	CONTROL PANEL, JOCKEY PUMP	CS
4	1	CONTROL PANEL, FIRE PUMP	CS
3	2	BATTERY, 4D	CS
2	1	BATTERY RACK, ITT 2 BATTERY	CS
1	1	PUMP, AURORA, 6-481-15, 8X6 / ENGINE, CLARKE JU6H-UF30,	CS

Parts List

NOTES:

1. FINISH: **RED, ENAMEL PAINT (INTERIOR PIPING AND SKID)**
   SAND TAN (EXTERIOR)
2. CONDITION POINT: **1250 GPM @ 60 PSI**
   40# PSI MIN TO 70# PSI MAX
   200# MAX WORKING PRESSURE
3. ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE: DO NOT USE FOR CONSTRUCTION PURPOSES UNLESS CERTIFIED.
4. (XX) INDICATE REFERENCE DIMENSIONS.
5. PIPE SUPPORTS NOT SHOWN FOR CLARITY.

CONT.

6. ALL WELDING DONE BY ASME CODE SECTION 9 CERTIFIED WELDERS.
7. FILL BASE WITH NON-SHRINKING, NON-FERROUS GROUT: FAILURE TO DO VOIDS TIGERFLOW WARRANTY.
8. ALL BLACK STEEL PIPING IS TO BE SHOT BLASTED.
9. ALL PUMPS WILL BE SKIP WELDED 4-12 (4" WELD EVERY 12" ON CENTER).
10. ALL SENSING LINES WILL BE INSTALLED 4" MIN. ABOVE PERIMETER SKID ELEVATION.
11. GLAND POCKETS PIPED THROUGH WALL.

CONT.

12. GLAND POCKETS AND COOLING LOOP TO BE RUN OUTSIDE OF BUILDING.

BOM CONT. ON PAGE 1A

TIGERFLOW
Engineered Systems to the World

4034 MINT WAY
DALLAS, TX 75237
PHONE: (800) 783-6756
FAX: (214) 333-2742
E-MAIL: engineering@tigerflow.com
WEB SITE: www.tigerflow.com

SUBMITTAL DRAWING

-ALL DIMENSIONS ARE REFERENCE ONLY
-DO NOT SCALE DRAWING

☑ MANUFACTURING DRAWING

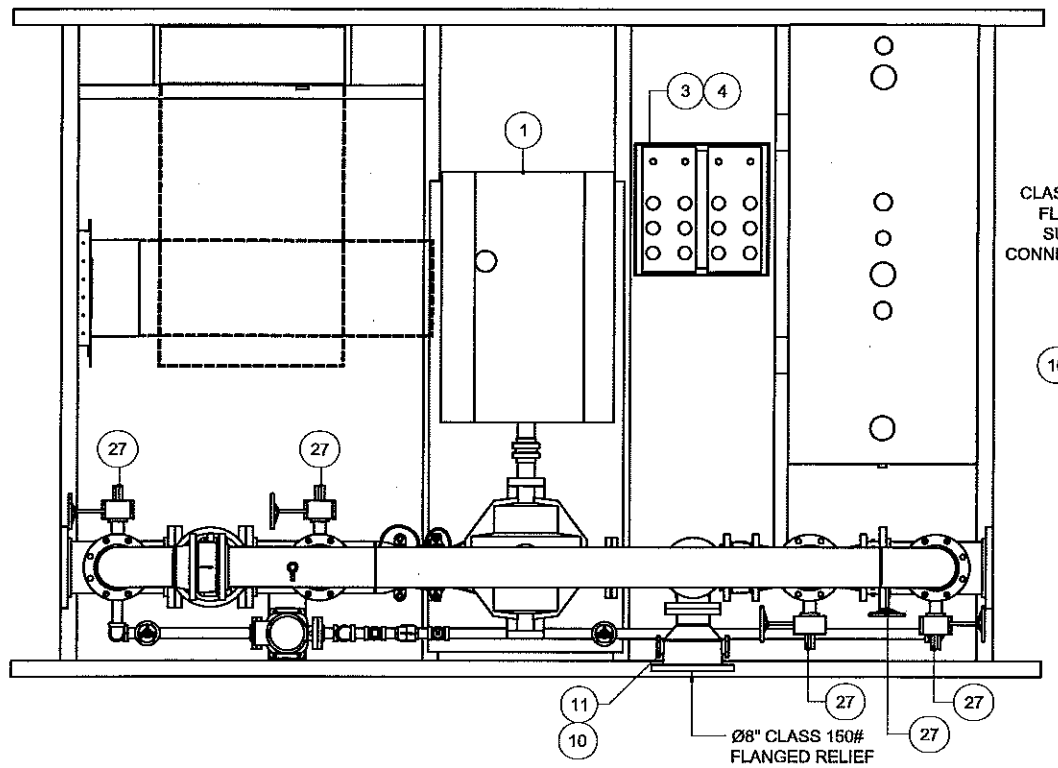
-LINEAR TOLERANCE ±1/8"
-ANGULAR TOLERANCE ±5°

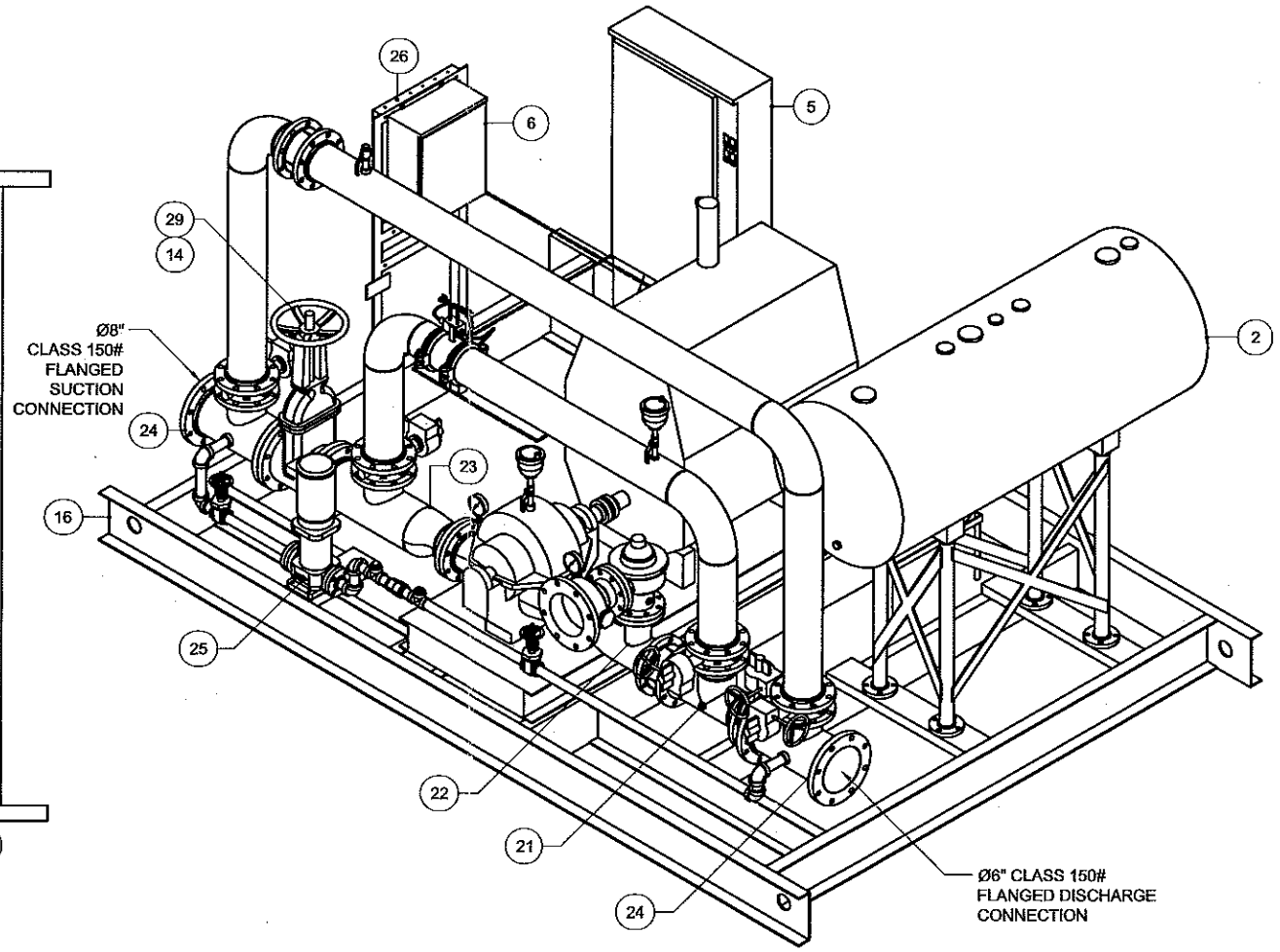
-DO NOT SCALE DRAWING
-DIMENSIONS ARE IN INCHES
-DIMENSIONING PER ASME Y14.5-1994

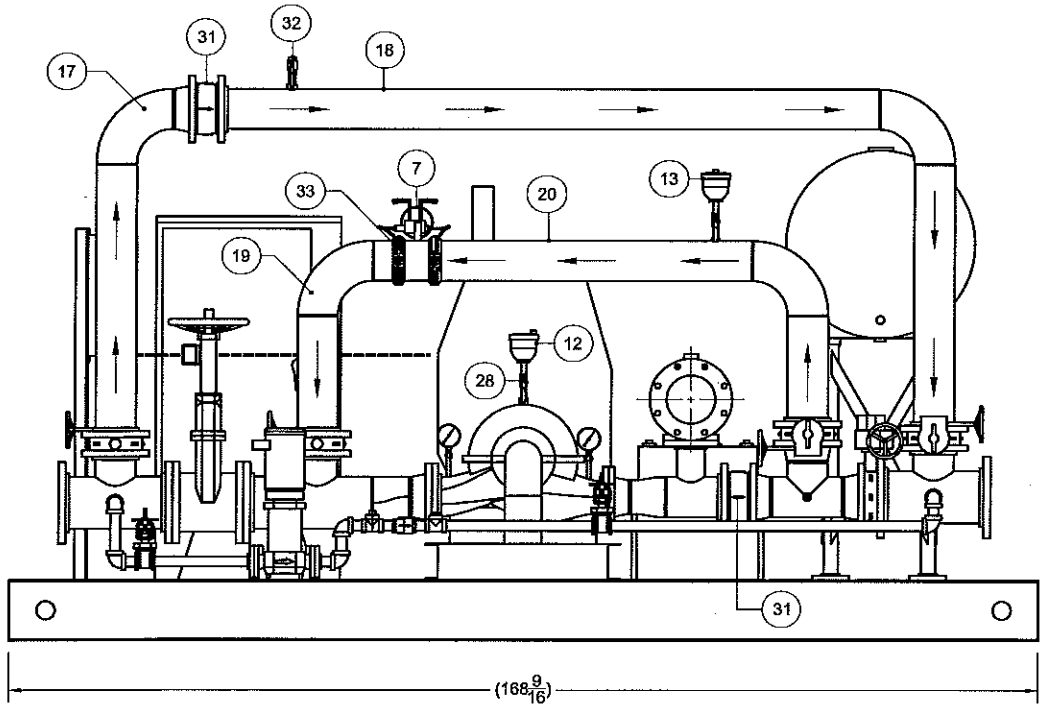
THIRD ANGLE PROJECTION

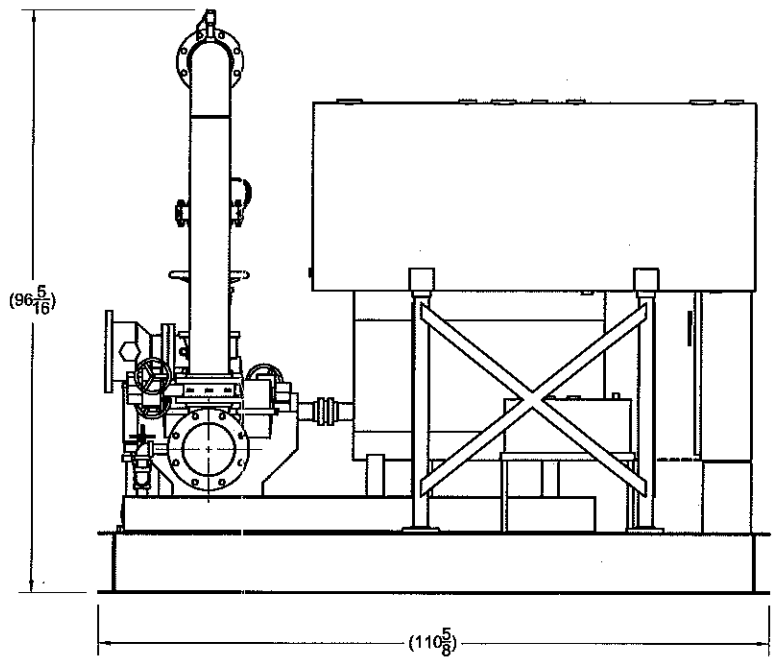
SCALE: 1/4"=1'-0"

DSN: D. LOWDERMILK — DATE: 01/06/05
CHK — DATE:
PRODUCTION #: 253094
PROJECT NAME: SEAGATE
NAME: OUTLINE
PAGE #: PAGE 1
DRAWING # — REV: A









NOTES:

1. FINISH: (SKID & PIPING) **RED ENAMEL PAINT.**
2. CONDITION POINT: **1000 GPM @ 100 PSI** SUCTION PRESSURE: **50 PSI MIN 55 PSI MAX.**
3. ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE: DO NOT USE FOR CONSTRUCTION PURPOSES UNLESS CERTIFIED.
4. (XX) INDICATE REFERENCE DIMENSIONS.

CONT.

5. PIPE SUPPORTS NOT SHOWN FOR CLARITY.
6. ALL WELDING DONE BY ASME CODE SECTION 9 CERTIFIED WELDERS.
7. FILL BASE WITH NON-SHRINKING, NON-FERROUS GROUT: FAILURE TO DO VOIDS TIGERFLOW WARRANTY.
8. **CPVC WATERTIGHT CONTAINMENT FOR FUEL LINE.**
9. **GLAND POCKET AND ENGINE COOLANT PIPED TO DRAIN.**
10. **SHOT BLAST ALL PIPE WELD ASSEMBLIES.**

SYM	QTY	PART	P/N
41	4	ISOLATION KIT - 6"	961-0060000
40	2	GASKET, RING, NON ABS 1/16" - 8"	967-0800
39	1	GASKET, RING, NON ABS 1/16" - 6"	967-0600
38	1	GASKET, RING, NON ABS 1/16" - 5"	967-0500
37	2	GASKET, RING, NON ABS 1/16" - 4"	967-0400
36	2	GASKET, RING, NON ABS 1/16" - 1 1/4"	967-0125
35	1	NIPPLE, BLK, A53, S/40 - 3/4 X 3	770-00750300
34	4	NIPPLE, BLK, A53, S/40 - 1/2 X 3	770-00500300
33	2	COUPLING, C-3 FLEX LT WGT, GRVD W/EPDM GSKT, MAX PRES 300# - 6"	926-GC30600M1
32	1	VALVE, BALL, FULL PORT, BRASS, FBV-3, THD - 3/4"	825-0546803
31	2	VAL, WAFER CHECK - 6"	830-906
30	2	VAL, TEST COCK - 1/4"	825-0006635
29	1	VAL, GATE, 125/150 CLASS/408RW OSY - 8"	825-0702330
28	2	VAL, BALL, FULL PORT, BRS, FBV-3, THD - 1/2"	825-0546802
27	5	VAL, B/FLY/WAFER STYLE/UL, FH/INDOOR/OUTDOOR/250 PSI - 6"	826-WD351080600
26	1	ASSEMBLY, PANEL STAND, 18-1/2"X68"	059-PA-C-01
25	1	ASSEMBLY, JOCKEY PUMP LINE, 1-1/4"	PAGE 12
24	2	ASSEMBLY, SPOOL, FLOW-TEE, 8" X 6"	PAGE 11
23	1	ASSEMBLY, REDUCER, ECCENTRIC, 8" X 6"	PAGE 10
22	1	ASSEMBLY, REDUCER, CONCENTRIC, 6" X 5"	PAGE 9
21	1	ASSEMBLY, FLOW-TEE, 6"	PAGE 8
20	1	ASSEMBLY, FLOW LOOP -B-	PAGE 7
19	1	ASSEMBLY, FLOW LOOP -A-	PAGE 6
18	1	ASSEMBLY, BYPASS, 6" (CWB-B)	PAGE 5
17	1	ASSEMBLY, BYPASS, 6" (CWB-A)	PAGE 4
16	1	ASSEMBLY, SKID	PAGE 2
15	2	ASSEMBLY, FIRE PUMP SENSING LINE, COPPER, 300# (NOT SHOWN)	063-FPS-01
14	1	TAMPER SWITCH, OS&Y #2	826-OSY2
13	1	VAL, AIR RELEASE, 175PSI MAX PRES, SS TRIM - 1/2"	827-15A
12	1	VAL, AIR RELEASE, 175PSI MAX PRES, SS TRIM - 1/2"	CS
11	1	WASTE CONE, 1000 GPM, 4"X8"	CS
10	1	VAL, MAIN RELIEF, 4"	CS
9	1	GAUGE, SUCTION, 3 3/4" DIAMETER, 1/4" - 30/160 PSI	CS
8	1	GAUGE, DISCHARGE, 3 3/4" DIAMETER, 1/4" 0/300 PSI	CS
7	1	FLOWMETER, GROOVED, AURORA, 1000 GPM, 6"	CS
6	1	CONTROL PANEL, JOCKEY PUMP	CS
5	1	CONTROL PANEL, FIRE PUMP	CS
4	2	BATTERY, 4D	CS
3	1	BATTERY RACK, ITT 2 BATTERY	CS
2	1	ASSEMBLY, TANK, DUAL WALL	CS
1	1	PUMP, AURORA, 5-481-11C_6X5 / ENGINE, CLARKE JU4H-UF24 / 110HP@1760 RPM, ODP	CS

Parts List

TIGERFLOW.
Engineered Systems to the World

4034 MINT WAY
DALLAS, TX 75237
PHONE: (800) 783-6756
FAX: (214) 333-2742
E-MAIL: engineering@tigerflow.com
WEB SITE: www.tigerflow.com

☐ SUBMITTAL DRAWING

-ALL DIMENSIONS ARE REFERENCE ONLY
-DO NOT SCALE DRAWING

☑ MANUFACTURING DRAWING

-LINEAR TOLERANCE ±1/8"
-ANGULAR TOLERANCE ±5°

-DO NOT SCALE DRAWING
-DIMENSIONS ARE IN INCHES
-DIMENSIONING PER ASME Y14.5-1994

THIRD ANGLE PROJECTION

SCALE: 3/8" = 1'0"

DSN: D. LOWDERMILK — DATE: 10/12/06
CHK — DATE
PRODUCTION #: 263471
PROJECT NAME: CABRILLO COLLEGE STRUCTURE
NAME: OUTLINE
PAGE #
DRAWING # — REV: A

PUMP REPAIR SERVICE CO.

405 ALLAN STREET, DALY CITY, CA 94014-1627
Telephone: (415) 467-2150 • Fax: (415) 467-7442

FAX TRANSMITTAL

Page 1 of 4

TO: *Winzler & Kelly C.E.*
ATTN: *Jay Winzler*
FROM: *Kevin Hall*
DATE: *5-Nov-08*

MESSAGE:

Jay,

Attached are some drawings and performance curve for a Peerless fire pump model 6AEF16 for the City of Pescadero. The pump is sized for 1,500gpm @ 250ft. TDH with 15PSI suction pressure. This primary duty point is in the middle of the curve, so we should have no problem taking the flow down to 750gpm (at a lower TDH I am assuming). This pump is a UL listed fire pump and would require a UL listed fire pump controller.

Budgetary $ for this pump (including skid, coupler and 125Hp motor) is $20,000.00

As always please call with any questions and thank you for calling Pump Repair Service Co.

-Kevin Hall

PEERLESS PUMP®

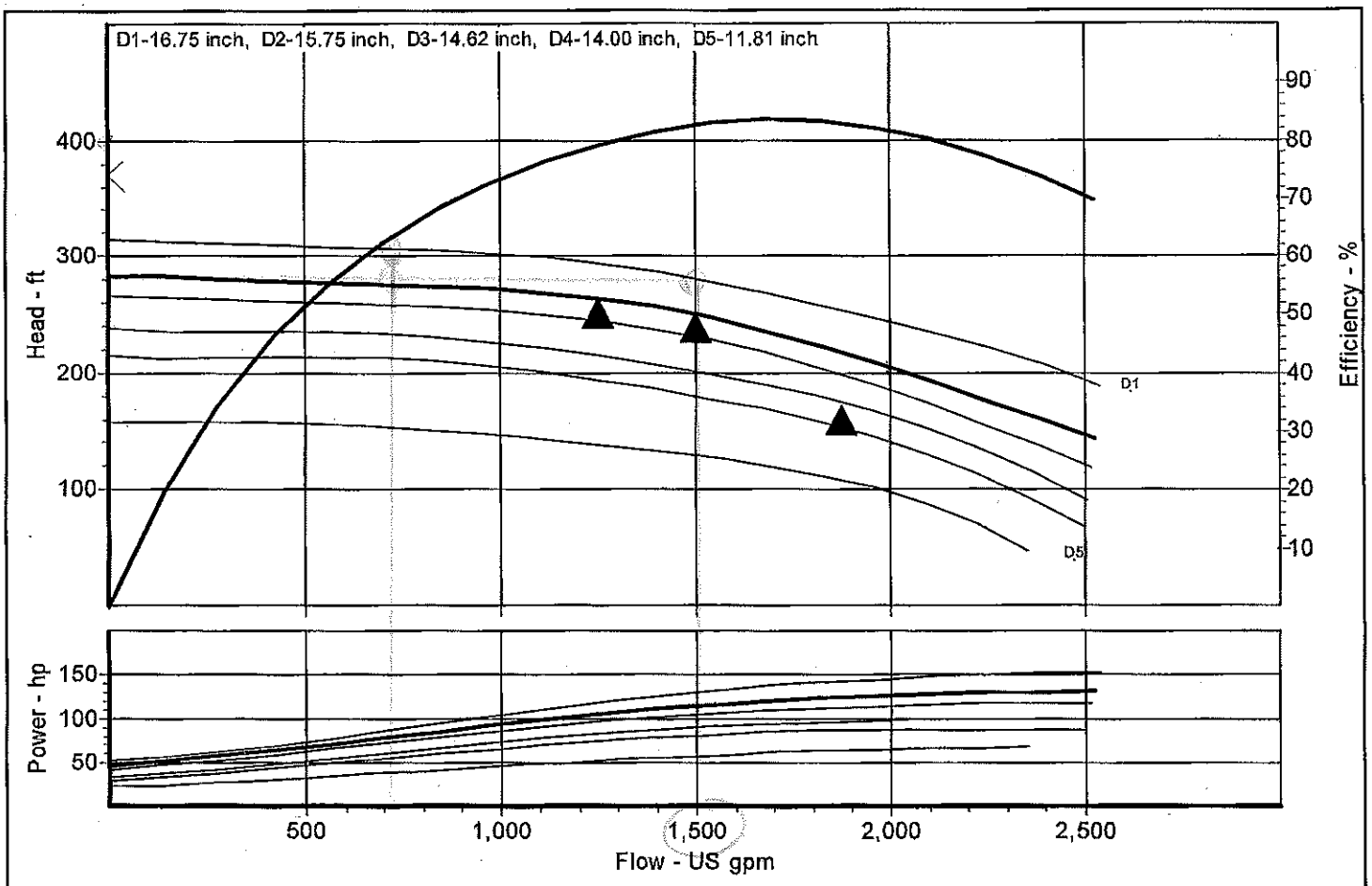
Customer :

In Rapid options/personalize replace this text with your company name

In Rapid options/personalize replace this text with your company address
In Rapid options/personalize replace this text with contact name
Phone Replace with your phone Number
Fax Replace with your FAX Number

Contact :
Project :
Phone : Fax :
Quote No. : US-3266-17 Page No. : 4 Date : Wednesday, November 05, 2008

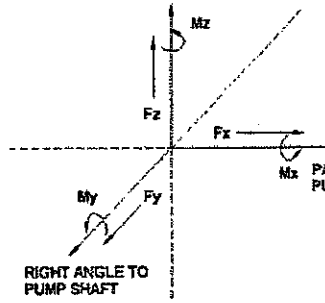
Pump Model:	**Peerless - 6AEF16**	Nom. Speed:	**1780**	RPM, 60 Hz Electric	Duty Flow :	**1500**	US gpm
Type:	**AEF - Horizontal Split Case Single Stage Fire**	Impeller Dia.:	**16.27**	inch	Duty Head :	**250**	ft
					Efficiency :	**82.6**	%
		Temperature:	**68**	°F	Power Required :	**114.7**	hp
		Viscosity:	**1.007**	cSt	NPSH Required :		ft
Curve No.:	**3136032**	Sp. Gravity:	**1.000**		Peak Power:	**131.2**	hp
Impeller No.	**2692932**	Fluid:	**Water**		Closed Valve Pressure	**283.9**	ft
Item :	**1**						
Your Ref.:		Tolerance :	**Hyd Inst-Peerless Std**				



Comments:
Performance curve represents typical performance, velocity head is included. NPSH data is not applicable per NFPA20 paragraphs 5.14.3.1 and 5.14.3.2.

PEERLESS PUMP®

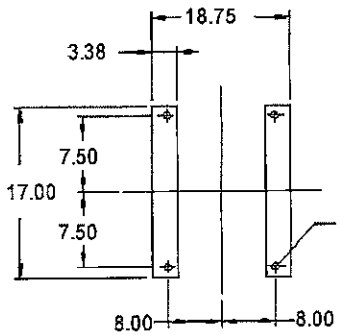
NOZZLE LOADING MAXIMUM FORCES & MOMENTS*



* The pump suction and discharge piping must be restrained and supported near the pump to avoid application of forces and moments to pump casing.

PUMP FLANGE	UNITS	AXIS Fx	AXIS Fy	AXIS Fz	UNITS	AXIS Mx	AXIS My	AXIS Mz
SUCTION	Lb	800	2000	800	Lb-Ft	2000	4000	2000
DISCHARGE	Lb	600	1500	600	Lb-Ft	1500	3000	1500
SUCTION	N	3559	8896	3559	N-m	2712	5423	2712
DISCHARGE	N	2669	6672	2669	N-m	2034	4068	2034

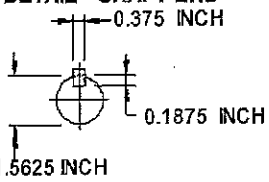
PLAN VIEW OF FEET



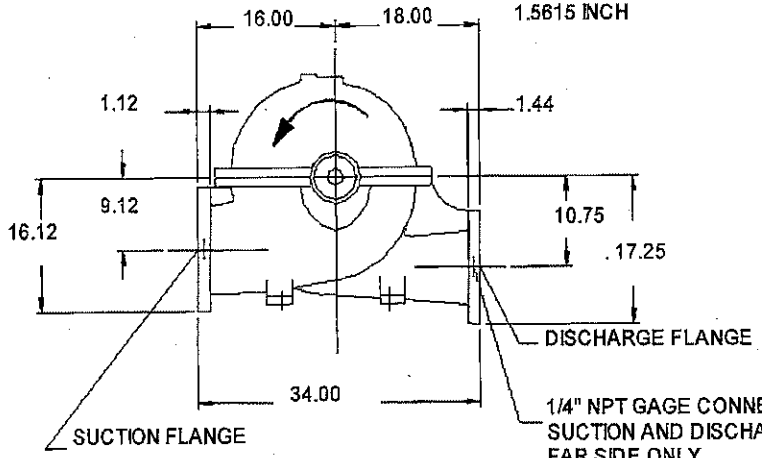
8 INCH SUCTION FLANGE
☐ 125 LB ANSI FLG DRILLING
☐ 250 LB ANSI FLG DRILLING

6 INCH DISCHARGE FLANGE
☐ 125 LB ANSI FLG DRILLING
☐ 250 LB ANSI FLG DRILLING
SOME HOLES MAYBE TAPPED

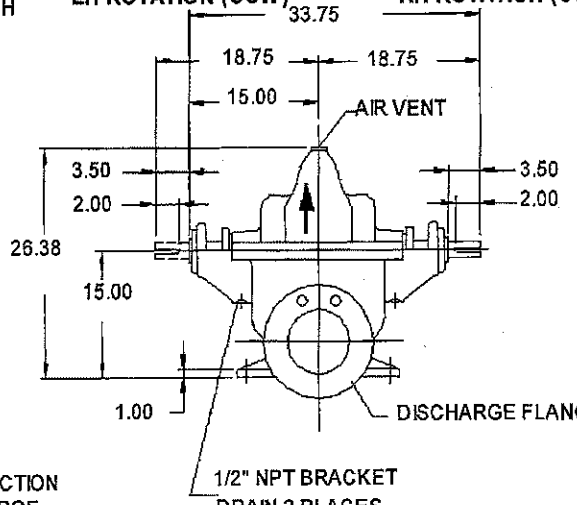
DETAIL - SHAFT END



A-A VIEW FROM DRIVER END
LH ROTATION (CCW)



A-A VIEW FROM DRIVER END
RH ROTATION (CW)



1/4" NPT GAGE CONNECTION
SUCTION AND DISCHARGE
FAR SIDE ONLY

AGENCY APPROVAL/LISTING: UL

PUMP WT 690 LB / 313 Kg

Dimensions in (inch)

Project :		**Capacity:**	1500 (US gpm)	**Frame/Model:**	444TS
Customer:		**Total Head:**	250 (ft)	**Elec. Spec.:**	3 Ph. 460 V. 60 Hz
Item No.:	1	**Pump Speed:**	1780 (RPM)	**Service Factor:**	1.15
Quote No. :	US-3266-17	**Impeller Dia.:**	16.27 (inch)	**Rotation:**	Clockwise
Pump Model:	Peerless - 6AEF16	**Power:**	125 (hp)	**Enclosure/Type:**	TEFC

PEERLESS PUMP®

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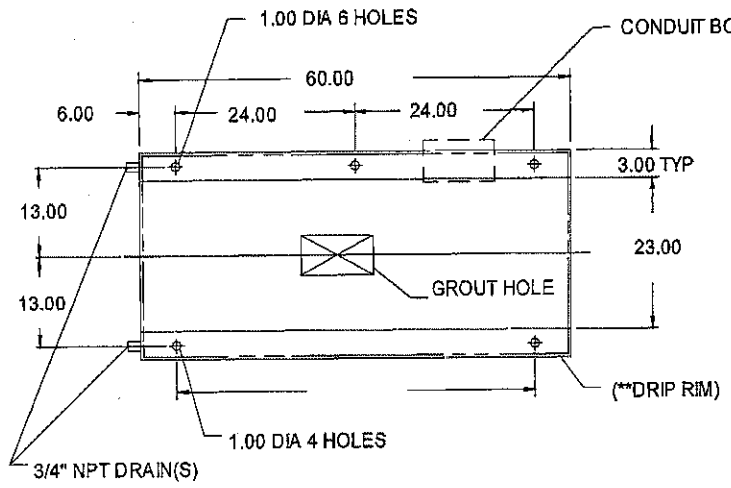
In Rapid options/personalize replace this text with contact name

Date : Wednesday, November 05, 2008

Page No : 1

AGENCY APPROVAL/LISTING:UL



8 INCH SUCTION FLANGE
☐ 125 LB ANSI FLG DRILLING
☐ 250 LB ANSI FLG DRILLING

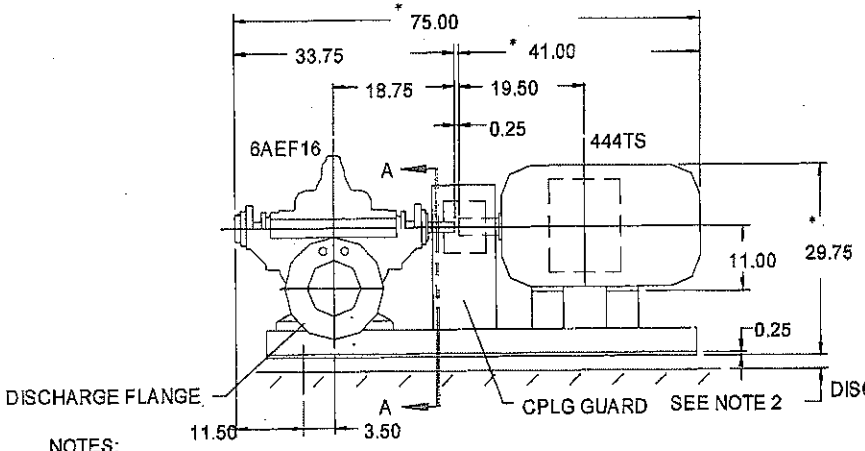
6 INCH DISCHARGE FLANGE
☐ 125 LB ANSI FLG DRILLING
☐ 250 LB ANSI FLG DRILLING

SOME HOLES MAY BE TAPPED

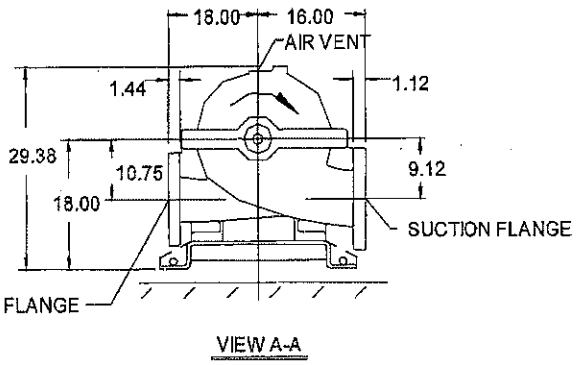
PUMP WT 690 LB / 314 Kg
CPLG WT 39 LBS 18 Kg
MOTOR WT 1100 LBS 500 Kg
BASE & CPLG GUARD WT 210 LBS 95 Kg

TOTAL WT 2039 LBS 925 Kg

☐ STEEL NON-DRIP RIM BASE FURNISHED
☐ STEEL DRIP RIM BASE FURNISHED (** SHOWN IN PHANTOM LINES)



RH ROTATION
CLOCKWISE



VIEW A-A

NOTES:
1. UNIT INSTALLATION & FINAL CPLG ALIGNMENT MUST BE IN ACCORDANCE TO BULLETIN 2880549.
2. CUSTOMER MUST FILL BASE WITH GROUT ALLOWING .75 TO 1.50 INCH OF GROUT BETWEEN FOUNDATION AND BOTTOM OF BASE.
*MAXIMUM DIMENSIONS, MAY BE LESS WITH DIFFERENT MAKE MOTORS OR ENCLOSURES.
INSTALLING CONTRACTOR (S) TO INSTALL EQUIPMENT IN ACCORDANCE WITH LATEST EDITIONS OF NATIONAL ELECTRIC CODE, LOCAL CODES AND NFPA PAMPHLET NO. 20 APPLICABLE

Dimensions in (inch)

Project :		**Capacity:**	1500 (US gpm)	**Frame/Model:**	444TS
Customer:		**Total Head:**	250 (ft)	**Elec. Spec.:**	3 Ph. 460 V. 60 Hz
Item No.:	1	**Pump Speed:**	1780 (RPM)	**Service Factor:**	1.15
Quote No. :	US-3266-17	**Impeller Dia.:**	16.27 (inch)	**Rotation:**	Clockwise
Pump Model:	Peerless - 6AEF16	**Power:**	125 (hp)	**Enclosure/Type:**	TEFC

PEERLESS PUMP®

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In Rapid options/personalize replace this text with your company address
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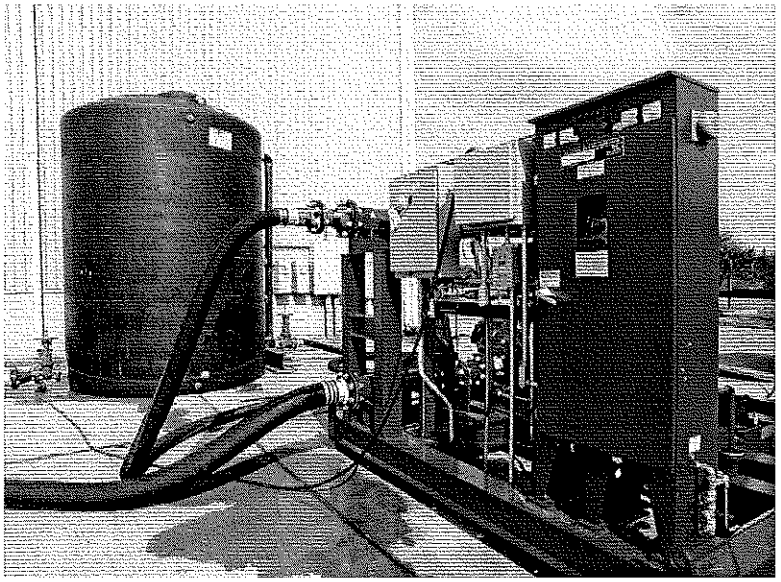
Date : Wednesday, November 05, 2008
Page No : 1



Peerless Pump

Fire Pump Systems

The Peerless Package

With over 75 years of experience, Peerless Fire Pump Packages provide a fire pump that's proven in thousands of installations worldwide. These systems are manufactured by an industry leader with vast experience in the fire protection field. When you require complete service, from engineering assistance to field start-up, you want a Peerless Pump.

Peerless Pump means years of experience in evaluating actual operating conditions to anticipate problems, needs and future requirements. Peerless Pump means field-proven experience in translating that information into a truly integrated custom-built Fire Pump Package that's as individual as the application demands.

Applications

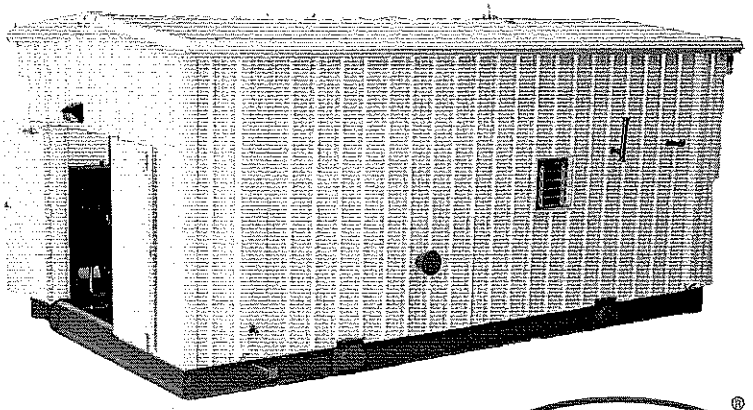
In packaged Fire Pump Systems, Peerless can design and build engineered systems from a simple pump and driver arrangement on a skid to a fully-enclosed, completely-integrated pump and control center, with a choice of diesel or electric drivers, and all the required controllers, fittings and ancillary equipment per **NFPA 20**.

Quality Engineering

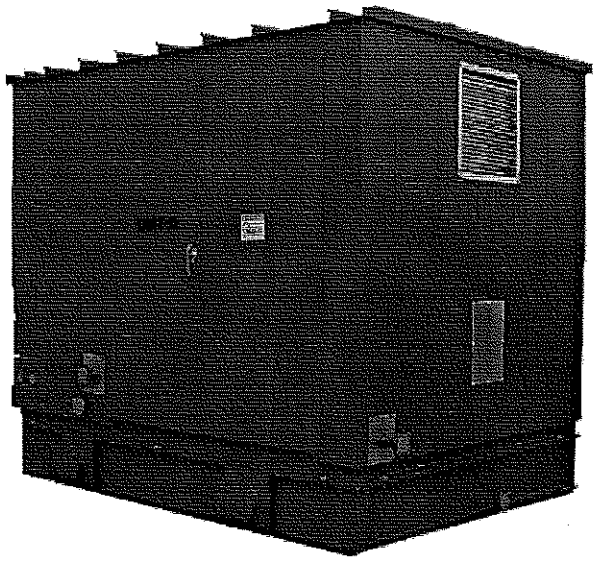
Peerless Pump designs tough, versatile products to meet your pumping needs. A complete line of Fire Pumps that are U.L. (Underwriter's Laboratories) listed and FM (Factory Mutual) approved. The industry's most comprehensive product line includes inline, end suction horizontal split case and vertical turbine models.

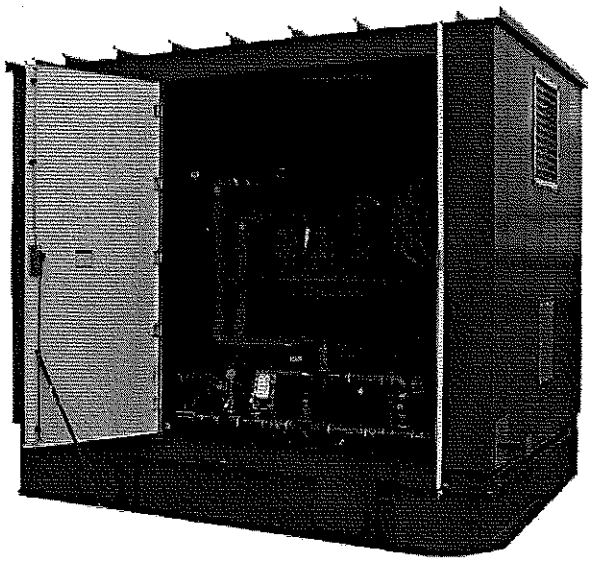
The Peerless UL/FM Fire Pump System

Designed to your specifications, Peerless Packaged UL/FM Fire Pumps come with or without enclosures, with one or more pump/driver combinations, and include controls with inlet/outlet piping/ valves and fittings per **NFPA 20**.



PEERLESS PUMP®





Accurate Predetermined Cost

In a component system, an accurate estimate of total costs is not always possible. Availability and interfacing of separately manufactured components can produce serious cost over-runs as well as unforeseen operational problems. With a Peerless Pump Package these headaches are eliminated. Total costs are accurately determined before installation. Provisions can be made for future expansion as well.

Features

Complete Unit Responsibility
State of the Art Engineering Designs
Value Added Services for Customer
Reduced Installation Costs
Worldwide Technical and Commercial Support
ISO 9001 Manufacturing Facility

Factory Testing

The fire pump, diesel engine and controllers are tested by their respective factories. The packaged system piping is hydrostatically tested to ensure piping integrity. An electrical test is performed to verify the function of each component. By taking the system approach to a pump package design, important safety features are integrated into the system.

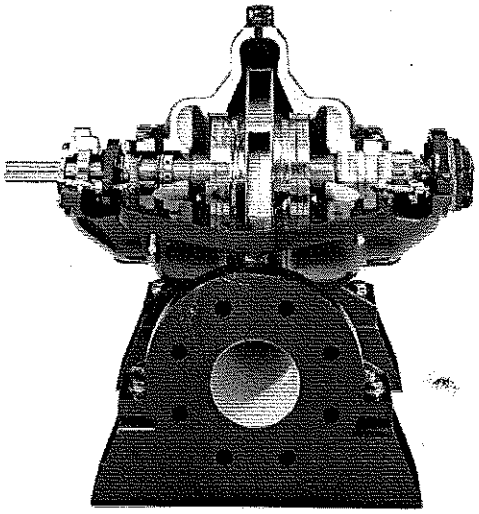
Single Source Service and Warranty

Peerless Fire Pump Packages will save you valuable time when servicing is required. Whether it's a relief valve, pump gauge, a control circuit, or installation supervision / start-up, our worldwide network of certified service engineers can do the job.

PEERLESS PUMP®
Peerless Pump Company
P.O. Box 7026
Indianapolis, IN 46207-7026
(317)925-9661, Fax: (317)924-7388
www.peerlesspump.com

ISO 9001

 Brochure B-1540



Peerless Pump

HORIZONTAL SPLIT CASE SINGLE STAGE DOUBLE SUCTION PUMP

The Versatile AE Pump

Using the latest technology, Peerless Pump engineered the AE Series pump to accommodate a variety of applications. The single stage, double suction, horizontal split case pump comes in forty-two different hydraulic configurations and twenty-five pump sizes. Discharge sizes range from two to ten inches. The AE has a wide selection of hydraulic performance envelopes, multiple mechanical configurations and several material options.

Applications

The AE Series pump handles water and other nonabrasive fluids. Applications vary from small, single pump commercial installations to large, multi-pump municipal water supply systems. The Peerless Pump AE Series gives superior performance in Agriculture, General Industry, Building Trade, Power Industry, Fire Protection, Municipal and Process applications.

Features

The AE Series pump uses **casing** material with a minimum of class 35 cast iron. To provide permanent alignment of bearings and all rotating parts, Peerless Pump casts the bearing bracket supports as a part of the lower casing half. Renewable bronze casing rings are doweled and shouldered in the casing. The double suction **impeller** is a single, cast bronze piece. Dynamic balancing gives the impeller vibration-free hydraulic and mechanical performance. The balancing also provides longer bearing and mechanical seal life. Keyed to the shaft with an 18-8 stainless steel key, the impeller aligns axially with threaded shaft sleeves. Grooved impeller skirts (in combination with casing rings) extend the life of critical clearances and increase the meantime between preventative maintenance (MTBPM).

Peerless Pump standard **mechanical seals** are mounted over a bronze shaft sleeve and rated for temperatures up to 225° F. The optional **packed stuffing boxes** hold a minimum of five packing rings. Split glands facilitate removal for repacking. The gland bolts are swing type and made of steel with 18-8 stainless steel nuts. Water seal piping and lantern ring are optional. As standard, the **upper casing** features a tapped and plugged seal flush connection.

Replaceable bronze **shaft sleeves** protect the carbon steel **shaft** through the stuffing box. The shaft sleeves extend beyond the mechanical seal flanges (or packing glands) for maximum shaft protection. O-rings seal the sleeves. Shaft and shaft sleeves are available in stainless steel. The **bearings** are single row, deep groove ball type and grease lubricated. Average life is 100,000 hours. Double row, outboard thrust bearings and oil lubrication are optional.

Quality Engineering

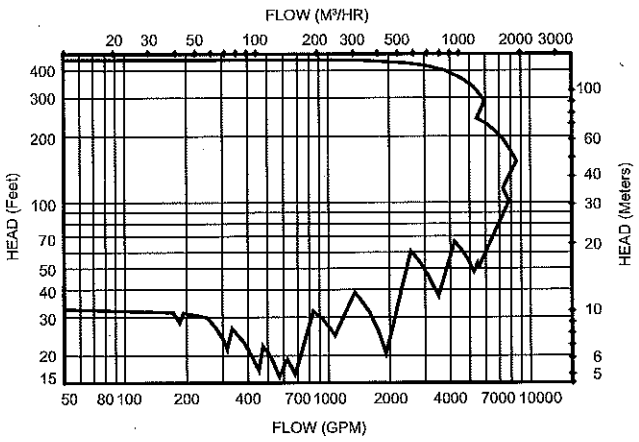
Peerless Pump designs tough, versatile products to meet your pumping needs. The AE Series delivers **variety**, **durability**, **standardized options** and **configurations** unequalled in the industry. Please contact your local authorized Peerless Pump sales office to find out more about the AE Series, options and prices.

Specifications

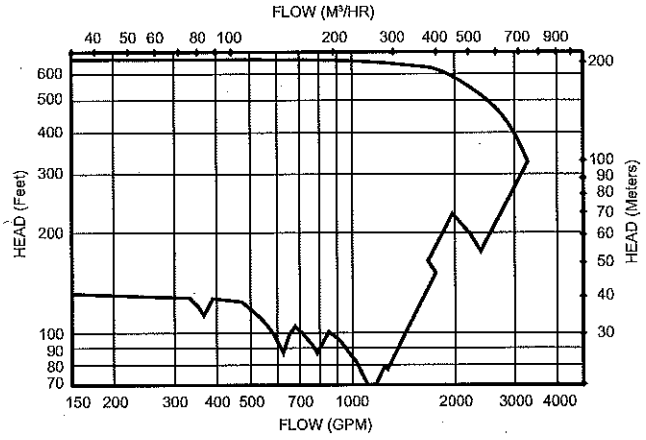
Capacities: ..... Over 8,000 gpm (1817 m^3/hr)
Head: ..... Up to 675 feet (206 meters)
Pressure: ..... Up to 510 psi (35 kg/cm^2, 3,514 kPa)
Horsepower: ..... Up to 550 hp (410 kW)
Temperature: ..... Up to 250°F (121°C)
Drives: ..... Motors, engines, steam turbines, combinations.
Liquids: ..... Water and clear liquids.
Materials: ..... Cast iron, bronze fitted as standard. Other materials available.

PEERLESS PUMP®

AE Series Range Chart - 1750 RPM



AE Series Range Chart - 3550 RPM



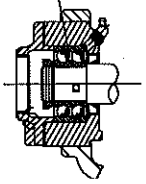
Bearings
Grease lubrication is standard. Oil lubrication is optional. Can be converted in the field with minimal effort. Average bearing life of 100,000 hours for long trouble free bearing operation with proper maintenance. Available with double row outboard thrust bearings.

Impeller
Dynamic balancing extends operation life of the pump.

Shouldered Case Rings
Provides positive position control to reduce recirculation losses for improved efficiencies. Pump can usually be returned to original hydraulic design through replacement of wear rings.

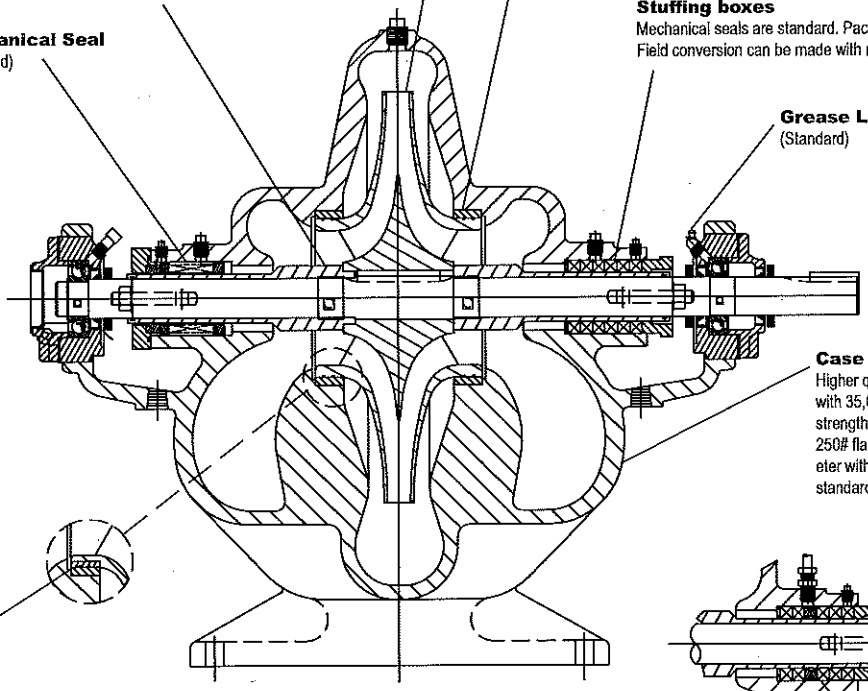
Socket Seal Assembly
Tested and approved to provide positive shaft sealing at all operation conditions. (Optional)

Mechanical Seal
(Standard)

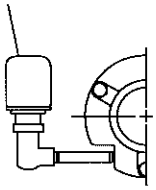


Stuffing boxes
Mechanical seals are standard. Packing is optional. Field conversion can be made with minimal effort.

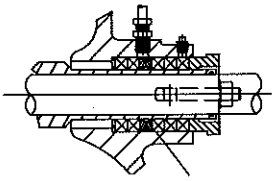
Grease Lubrication
(Standard)



Oil Lubrication
(Optional)



Case Assembly
Higher quality pump castings with 35,000 PSI or better tensile strength cast iron are standard. 250# flange thickness and diameter with 125# of 250# drilling standard on most models.



Grooved Impeller Rings
Grooved impeller ring (optional construction) or grooved impeller skirt (standard). Reduces recirculation losses better than standard impeller skirts. Maintains maximum pump efficiency for extended time periods.

Packing
(Optional) With or without lantern ring.

PEERLESS PUMP®
Peerless Pump Company
P.O. Box 7026
Indianapolis, IN 46207-7026
(317)925-9661, Fax: (317)924-7388
www.peerlesspump.com

ISO 9001

 Brochure B-1200