

PROPOSAL

**Submitted by the
Moss Landing Commercial Business Park, LLC**

To

Design and Build

The People's Moss Landing Desal Project

February 15, 2013

Moss Landing Commercial Park, LLC
449 Alvarado Street
Monterey, CA 93940

February 15, 2013

Monterey Peninsula Water Management District
c/o David J. Stoldt - General Manager
5 Harris Court, Building G
Monterey, CA 93940

Re: Response to Request for Qualifications Joint Participation in Desalination Facility

Dear Mr. Stoldt:

It is our pleasure to submit our response to the district's Request for Qualifications Joint Participation in Desalination Facility.

Situated at the 200-acre Moss Landing Commercial Park, the People's Moss Landing Project (PML) was launched in 2004.

According to the *Carmel River Dam Contingency Plan – Plan B Project Report* which was prepared for The Water Division of the California Public Utilities Commission and published in July 2002, out of the twenty-one possible water sites evaluated, the site of The People's Moss Landing Project (formerly the National Refractories & Minerals plant) was selected as a "Best" Apparent Site. In addition, in 2004 this site was declared by the Moss Landing Marine Laboratory as the most suitable location for a desalination plant in California.

The project relies on the existing subsurface intake and the pumping station at their existing seawater enclave next to the harbor built by Henry Kaiser in the 1950s. The outfall is a solid 52" concrete pipe. The proponents of the project included \$1,000,000 for repair and maintenance in the cost breakdown. The project is presently designed to deliver 10 MGD of high-quality drinking water at a projected cost of approximately \$1,349 per acre-foot per year. The project can be designed, assembled, and commissioned within approximately 18 months after acquiring of permits.

If the engineers determine to use the harbor intake, the advanced filtration system will reduce the intake and entrapment of microorganisms. This site has been in the seawater processing and development industry for over 60 years.

The People's Moss Landing Project will cost the ratepayers approximately \$12.78 per month. The developer is providing advances as follows:

- Free rent of the property up to production start
- 500k for the EIR to be reimbursed from bonds
- 200k for engineering to be reimbursed from bonds

The People's Moss Landing Project has many advantages including:

- Overall costs
- Land and infrastructure currently exists
- Currently zoned
- Focused EIR has been completed
- Professional team is in place
- Could provide a drought-proof source of water sooner than any other desal project

The final and most significant advantages of the People's Moss Landing Desal Project are the construction costs and yearly operation costs. As you will see below the construction is estimated at \$75,500,000 and the annualized costs for operation are \$12,304,000.

Cost of Construction of Desalination Plant Delivered to Seaside	10,700 kAFY
Intake/Outfall	\$2.0
Pretreatment & Residuals Handling	\$4.0
Desalination System (PF)	\$42.5
Distribution (Pipeline to Seaside)*	---
Post-Treatment	\$3.0
Site Structures (PF)	\$1.0
Plant Facilities (PF) Subtotal	\$52.5
Indirect Costs	
Implementation Costs (25% of PF)	Included
ROW, Easement and Land Costs*	---
Mobilization/Demobilization (2% of PF)	Included
Electrical, I&C Systems (18% of PF)	\$1.0
Engineering/Startup (15% of PF)	\$5.0
Additional Proponent Prescribed Costs	---
Subtotal	\$58.5
Contingency Allowance (30%)	\$17.0
Mitigation Allowance (1%)	-----
TOTAL	\$75,500,000

*Land: \$25,000,000 or a lease to be negotiated

*Pipeline to Seaside: 15 miles = 79,2000 L.F. @ \$2.50 per L.F. = \$19,800,000

Solar: 6 Megawatt = \$18,000,000

YEARLY OPERATION COSTS (10,700 kAFY)

Loan Payment on \$75,000,000 interest and principal @ 3% for 30 years = yearly \$3,015,000	
Monthly \$258,269 divided by 10,700 acre-feet= \$23.43 divided by 8.8 housing units/acre-foot = \$2.66 per house	Monthly \$2.66
Maintenance - Yearly \$4,000,000 divided by 10,700 acre/feet = 373.83 divided by 12 months = 31.00 divided by 8.8 housing units per acre-foot = \$3.50	Monthly \$3.50
Utilities – From solar farm, energy recovery system and discounted over the fence costs from PG&E. Approx.: \$500 per acre-foot per year, divided by 12 months = \$41.67 divided by 8.8 housing units per acre foot = \$4.73 per housing unit per 100 gallons per day	Monthly \$4.73
Delivered to distribution line in Seaside Approximate cost per housing unit per month \$10.89. This does not include the cost of the purveying system by Cal Am	Monthly Total \$10.89
Cost per acre foot per year: \$10.89 x 8.8 x 12 mos.	Per Year \$1,149
Annualized Cost (\$M/YR) \$1,149 x 10,700 acre-foot	Per Year \$12,304,000

Thank you for this opportunity. We at the People's Moss Landing Desal Project look forward to discussing with you further the great benefits of our project and how it will serve the best interests of the greater good.

Sincerely,
Nader Agha

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**PHOTOGRAPHS OF
EXISTING FACILITIES
INCLUDING
INTAKE AND OUTFALL**



Intake structure at the Moss Landing Harbor



Intake line



Intake line crossing Highway 1



9 wells under the Moss Landing Harbor

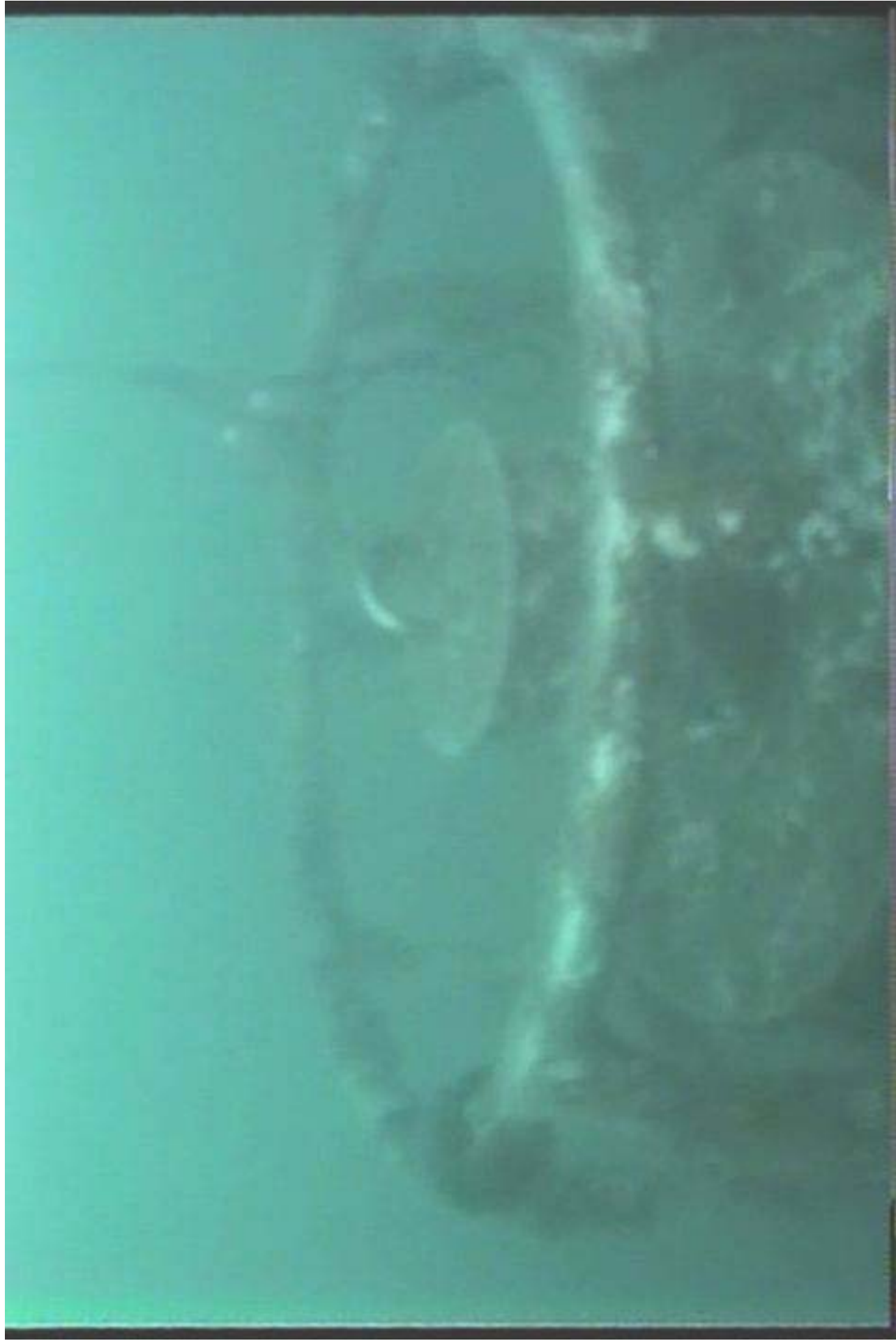


Supply lines



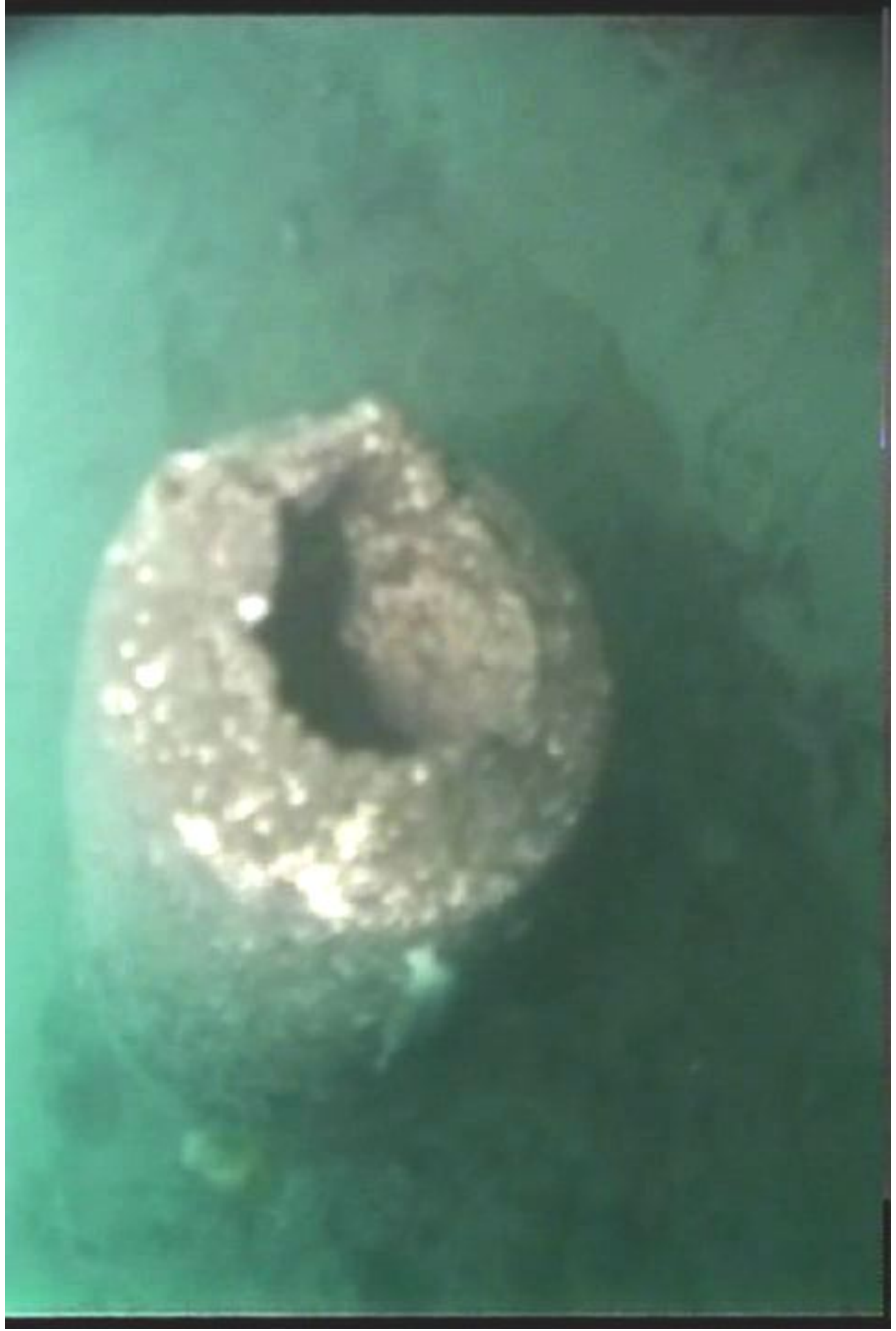
Supply lines

Top of manhole





Top of manhole



Discharge nozzle



Discharge nozzle

Dual pipe







Above ground WTR tanks





Water tanks



Electric Main Supply







12KV Supply from PG&E



180 & 200 Generators



2 Backup Wells producing 1000 GPM each



8" water line



**EXISTING – ONSITE
PORTABLE DESAL SYSTEM
CAPABLE OF PRODUCING 50,000 GALLONS A DAY**

THE PROPOSAL

Section 1: Requirements

Cover Letter: Each Qualifications Package must be accompanied by a cover letter not exceeding two pages and should provide organization information and Contact information as follows:

RESPONSE: Cover letter provided separately

Contact Info: The name, address, telephone number, and fax number of Developer's primary contact person during the solicitation process through potential contract award.

RESPONSE: Paul Hart, Attorney at Law, 16 W. Gabilan Street, Salinas, CA 93901, (831) 759-0900, fax (831) 759-0902

Section 2: Organization Information and Financial Strength

Provide a description of the type of organization (e.g. corporation partnership, including joint venture tams and subcontractors) and how long it has been in existence. Describe your capital structure. What financial resources does your organization intend to dedicate to the project in the next 18 months? Describe how you envision cost sharing in partnership with the District. Provide a copy of audited financial statements for the past two years, including annual reports, income statement, balance sheets, and statements of changes.

RESPONSE: Developer Moss Landing Commercial Park, LLC is a California limited liability company. The 200-acre site in Moss Landing was in 2003 by way of an IRS real property 1031 reverse tax-free exchange. The exchange accommodator took title to the property in a limited liability company by the name of "Revex 173, LLC", which shortly thereafter merely changed the name of the LLC to Moss Landing Commercial Park, LLC. The capital structure of this company consists of the 200-acre parcel as it now stands after making many millions of dollars of repairs and improvements, having an estimated net value after encumbrances of \$125,000,000.

Developer intends to devote to the project seven hundred thousand dollars (\$700,000) in the next eighteen months primarily to share in the cost of the EIR/EIS and for engineering costs. Developer further is willing to work with the public agency that builds the project in regard to deferring acquisition costs until bonds are sold that finance the project.

See balance sheets for 2010/2011 and Income Statement for 2010/2011.

Section 3: Technical Aspects

Team: Provide brief descriptions of each member of your team, both team members belonging to your organization, as well as contractors, sub-contractors, and third-party participants, who are related to any aspect of your project. Provide any contracts you have with the contractors, sub-contractors, and third-party participants. (See “Confidential or Proprietary Content” Section 7.2 below.)

RESPONSE: The team members of the People’s Moss Landing Project include:

- Mike Mickley, P.E., PhD (Compliance & General Control)
- Ben Movahed, P.E., BCEE of Watek (Engineering Corporation Design)
- Steve Brown, Principal, SMB Environmental, Inc. (EIR)
- Stan Lueck, RODI Systems Corp. (Construction)
- Don Chapin, Don Chapin Company (Construction)
- Gina Kathuria, P.E., LRM Consulting, Inc. (Permitting)
- John Miller, Structural Engineer, JAMSE Engineering, Inc. (Structural)
- Cameron A. Weist, Attorney at Law/Public and Private Financing (Bond Counsel)
- Richard Van Steenkiste, Ph.D., MAI, President Landmark Realty Analysts, Inc.
- Paul Hart, Attorney at Law
- George Schroeder, Attorney at Law

Source water Intake Strategy: Describe your feed water source and physical infrastructure for delivering it to the treatment facility. Identify any potential water rights or environmental litigation risks, or state why you perceive limited or no litigation risk with respect to water rights or environmental concerns? Can you demonstrate long-term (50 or more years) security and right to this water source? Describe and provide all legal agreements in place or expected to be in place demonstrating this secure right.

1. Describe your feed water source and physical infrastructure for delivering it to the treatment facility.

RESPONSE: The project will use an existing (with historical permitted use) intake owned by the Moss Landing Business Park, LLC. The existing 60 MGD seawater intake pump station was originally installed to serve the Kaiser Refractories Moss Landing Magnesia Plant back in (1940’S) that was located on the present MLBP site. The intake is in the Southeast portion of the Moss Landing Harbor (see Figure 1).

The harbor is flushed primarily by tidal forces (two high and low tides each day) and a qualitative estimate was that the harbor might be flushed on the order of 2 or 3 days, which is conducive to eliminating stagnant zones [1]. Some historical water quality information

indicates high turbidity and there is a concern for high organic levels due to hydrocarbons from boating activity in the harbor. The water quality conditions dictate the desalination system pre-treatment requirements and will be thoroughly assessed at the preliminary design study and addressed during pilot studies. The subsurface nature of the intake system serves to reduce these concerns due to the natural filtering process of Harbor water through the soil.

The intake pump system is capable of pumping more than 60 MGD feed water. The proposed 10 mgd desalination plant operating at 50% recovery would require a feed water flow of approximately 22 mgd (product water + concentrate + filter backflush and system rinse water). This flow level is well within the intake system capabilities.

The 1968 drawings of the remodeled station show the installation of nine pumps. This present intake pump station is a platform at Moss Landing Harbor containing nine (9) pumping stations and one stand-by with subsurface wells with an inlet pipe under Highway 1 going onto the property. This structure has been in place since the 1940's and was remodeled in 1968. All pumps are located in a building and supported on concrete structure. The pump station is equipped with a crane.

The pumps will be refurbished or replaced; however, only two (2) pumps are needed for use as the seawater intake pump station for the new desalination plant. The other pumps can be used as back up as needed. The pump bowls reportedly draw from below the harbor (subsurface) seafloor, but the actual depth is unknown. If needed to provide better water quality the vertical wells will be drilled deeper.

The pump station supplies water to the site through two 36-in diameter pipelines that cross beneath Hwy. 1 through a pair of 72-in corrugated steel conduits. One of the pipelines has been upgraded to steel throughout its length; while the second maintains a section of the original Redwood staved piping on site. Both pipes are partially buried on site at two locations for road access. The Redwood pipe converts back to steel where it is buried. At the present time, only the full-length steel pipeline is planned for use with the desalination plant. Welded repairs have been made at several locations. Both the steel and the Redwood pipes appear to be structurally adequate to serve as intake pipelines [2].

FIGURE 1 HERE MAP WITH ALL THE IDENTIFIERS



Figure 1. General map of proposed desalination plant site and landmarks.

There are two (2) other fresh water wells with a combined production of 2,000 GPM as a back-up system.

Should one alternate location be preferred, an intake pipe can be inserted into the existing 52" outfall pipe for intake from subsurface at the Monterey Bay.

There are four (4) above ground tanks that shall be dedicated to this project with a capacity of 20 MG per day as a second back up.

REFERENCES:

[1] Personal communication with Dr. Kenneth Coale, Moss Landing Marine Laboratories on February 13, 2012

[2] JAMSE report Structural Evaluation – Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs. August 14, 2012

1. Identify any potential water rights or environmental litigation risks, or state why you perceive limited or no litigation risk with respect to water rights or environmental concerns?

RESPONSE: There are no water rights issues.

3. Can you demonstrate long-term (50 or more years) security and right to this water source?

RESPONSE: There are no water rights issues contemplated due to establishing a long-term lease of sale of the 20-acre site.

4. Describe and provide all legal agreements in place or expected to be in place demonstrating this secure right.

RESPONSE: Not needed.

Outfall Strategy: Describe your outfall strategy, both physical infrastructure and contractual.

RESPONSE: The project will use an existing 52" concrete pipe outfall system installed in the 1940's and remodeled in 1972 to serve the Kaiser Refractories Moss Landing Magnesia Plant. The Moss Landing Commercial Park LLC, the proposed desalination plant site, owns the structure. The 52" concrete pipe extends along an easement from on-site Storage Reservoirs to an outfall in Monterey Bay as shown in Figure 1. The last 130 feet of pipe of the 2750-foot outfall pipe consists of a diffuser section, which has 32 nozzles placed to gradually diffuse the discharge to the ocean. The outfall is currently not in use. There is evidence from a video survey conducted sometime prior to 2008 of several areas of decoupling along the main

outfall alignment. According to the original plans, the outfall was installed below grade until the diffuser section. Portions of the main outfall appear to be currently uncovered; and one section shifted up—possibly as a consequence of the 1989 Loma Prieta earthquake. Many of the diffusers are clogged and covered with marine growth; and from the terminus of the outfall it appears it may be largely filled with sand—up to half of the circumference. Consequently rehabilitative work will be required to place the outfall into service.

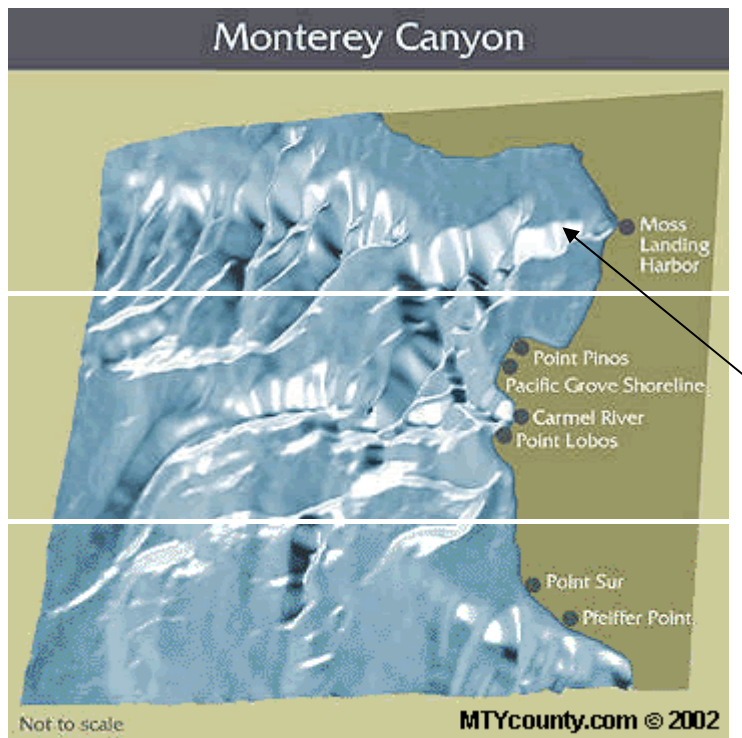
In a recent 2012 structural evaluation [2] photographs of the pipe interior reveal minor cracks that can be easily repaired with epoxy resin. After repair, the concrete pipe will be structurally adequate to serve as an outfall pipeline for the desalination plant.

A 2009 NPDES permit allows a discharge of up to 56 mgd for the calcium and magnesium depleted seawater discharged from the then existing Moss Landing Cement Company [3]. The proposed 10 mgd desalination plant operating at 50% recovery would discharge approximately 12 mgd effluent consisting of concentrate, filter flush water, and rinse water from the membrane cleaning operation. The discharge system is capable of handling flows well in excess of this level.

The minimum initial dilution factor of the un-repaired outfall diffuser system as determined for the 2009 NPDES permit was 33:1 (seawater: effluent) [3]. This level should meet the forthcoming revisions to the Ocean Plan that will likely stipulate that the discharge at the edge of the mixing zone be within 2-3 ppt ambient salinity (or equivalently within a certain percentage of ambient salinity).

Further, the discharge area has high activity being near the head of the submarine canyon that will aid in rapid dispersion of the discharge [1]. See Figure 2.

To be noted with regard to both intake and outfall. There is an extra 36" pipe outlet in the harbor that could be used for intake or outfall if necessary, reflecting the abundance of existing infrastructure for possible use.



Depiction of Monterey Submarine Canyon; note head of canyon near Moss Landing and discharge site

Figure 2. Monterey Submarine Canyon (from: http://www.mtycounty.com/mbs_pgs/mbscyn.html)

REFERENCES: [3] California Regional Water Control Board Central Coast Region NPDES permit No. CA0007005, Order No R3-2009-0002

Water Treatment Facility: Have you performed preliminary design of the pre-treatment, treatment, and storage facilities? When? What firm did the work? Please provide copies of any contractual agreements or permits that relate. Briefly describe your plant configuration and performance schema. Is there a process flow diagram? If so, please provide.

A preliminary design has not been undertaken. The project team includes an engineering company to conduct the 3 -5 month design study to begin within the next few months. This will be done upon the District's approval and paid for by developer – not the District or ratepayer.

The proposed treatment system would include inlet screens, booster pumps, single stage media/pressure filters, an ultrafiltration (UF) membrane treatment system, antiscalant dosing system, high pressure booster pumps with pressure exchange type ERDs, two pass RO system, post-treatment system, and product storage and distribution pump station. The RO system would operate at 40 to 50 percent recovery and limit operating flux to 8 GFD. The UF system would operate at a proposed flux of 35 GFD. The need for additional pre-treatment steps will be considered during the preliminary design study and determined in pilot tests.

Potential new considerations to be addressed at the preliminary design and piloting state include the two pass RO (as opposed to a one-pass RO) and additional pre-treatment, and increased redundancy.

Site Control: Describe siting of your project. Who owns the site? If not your organization, then please provide all legal agreements in place or expected to be in place demonstrating site control.

RESPONSE: Moss Landing Business Park, LLC owns the site. The MLCP site still contains infrastructure from the time it was employed as a magnesium extraction facility. The total site occupies roughly 200 acres; with a proposed 25-acre parcel offered for sale or lease as part of the proposed desal treatment plant. Available facilities offered for use include the following:

- Intake pumps and pipeline and outfall pipeline
- Seven above ground 5.0 MG concrete storage tanks and seven smaller tanks with a combined storage capacity of 45 million gallons
- On-site pumps and controllers to fill and drain the storage tanks
- A 12kV, 12,000 amp electrical service
- Three engine generators as a back-up (1-180 KW and 2-20 KW)
- Rail transportation terminal
- Non-exclusive easements for site access
- Non-exclusive use of a 2,000 GPM well as a back-up supply source
- A 50,000 GPD trailer-mounted pilot plant
- Up to 20,000 sq. ft. of existing buildings
- Extra 36" outlet in the harbor as a back-up for intake and outfall

Substantial site remediation and improvements have been made since 2003 [2], [4].

REFERENCE:

[4] Replacement Cost Appraisal Summary Report prepared by Landmark Realty Analysts, Inc. October 3, 2011.

Permitting: Have you started the CEQA (and NEPA, if necessary) process for your project? Identify the state and federal lead agencies. Identify the environmental consulting firm(s) you are dealing with for environmental studies. What is your strategy and timeline to obtain each of the following?

Coastal Development Permit

NPDES Discharge Permit Section

404 Permit

County Land Use Permit

Other governmental permits

Do you need for a permit o contract with the State Lands Commission? If so, describe the status. If not, justify your conclusion that none is needed.

RESPONSE: A formal CEQA and/or NEPA review process has not yet begun. However, a preliminary environmental issues and constraints report entitled *The Peoples Moss Landing Water Desalination Project Environmental Issues and Constraints Report, September 2012* has been prepared by SMB Environmental, Inc. SMB is also engaged and has submitted a proposal for undertaking the process with CEQA and possibly NEPA. We are in the process of identifying a California public agency to be the Lead Agency under CEQA. In addition, it is unclear as to the need for NEPA compliance since this proposed project is not seeking federal money for its implementation and therefore an EIS may not be required. In addition, the preliminary environmental issues and constraints report suggests that the proposed PML project, as it is currently defined, would be not result in any adverse impacts to federal species and therefore may not require a separate NEPA review. We fully understand that there may in fact be a “federal nexus” if the project could have potential impacts to federal species and/or requires a discretionary federal permit, entitlement, authorization, federal funding, or occurs on federal land. Our strategy is to work with all of the federal, state, and local agencies early on in the development of the environmental document and integrate all of the individual permit requirements into the EIR document so that permitting agencies can effectively use and/or adopt the EIR document to support the issuance of their permits or authorizations. As requested, summarized below is a discussion on our strategy and timeline to obtain the following:

☐ Coastal Development Permit

☐ NPDES Discharge Permit Section

☐ 404 Permit

☐ County Land Use Permit

☐ Other governmental permits

Coastal Development Permit

Development proposed within the Coastal Zone requires a Coastal Development Permit to be issued by the California Coastal Commission (CCC) except where the local jurisdiction has an approved Local Coastal Plan (LCP) in place. If an approved LCP is in place, primary responsibility for issuing coastal development permits shifts from the CCC to the local government (i.e. Monterey County) although the CCC will hear appeals on certain local government coastal development permit decisions. Regardless of whether a coastal development permit must be obtained from a local agency in accordance with an approved LCP, the CCC retains coastal development permit authority over new development proposed on the immediate shoreline, including intake and outfall structures on tidelands, submerged lands and certain public trust lands, over any development which constitutes a “major public works project.” (Pub. Res. Code §§ 30601, 30600(b)(2)). Early on in the development of the environmental document, we will work with the CCC to understand all of the permit issues associated with the Coastal Permit and permitting process and integrate all of the requirements into the EIR document so that the CCC or that County can effectively use and/or adopt the EIR document to support the issuance of their permits and/or authorizations. We are estimating that the project permitting for this project will take approximately 6 months once the EIR has been certified and adopted.

NPDES Discharge Permit

Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm water Runoff Associated with Construction Activity (General Construction Permit). The SWRCB established the General Construction Permit program to reduce surface water impacts from construction activities. The proposed project would be required to comply with the permit requirements to control storm water discharges from the construction sites. The General Construction Permit requires the preparation and implementation of a storm water pollution prevention plan (SWPPP) for construction activities. The SWPPP must be prepared before the construction begins. The SWPPP must include specifications for best management practices (BMPs) that would need to be implemented during project construction. BMPs are measures that are undertaken to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area.

Additionally, the SWPPP must describe measures to prevent or control runoff after construction is complete and identify procedures for inspecting and maintaining facilities and other project elements. Required elements of a SWPPP include:

1. Site description addressing the elements and characteristics specific to the site;
2. Descriptions of BMPs for erosion and sediment controls;
3. BMPs for construction waste handling and disposal;
4. Implementation of approved local plans;
5. Proposed post-construction controls; and
6. Non-storm water management.

Examples of typical construction BMPs include scheduling or limiting activities to certain times of year, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-storm water management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The RWQCB has identified BMPs in the *California Storm Water Best Management Practice Handbook* (California Storm water Quality Association, 2003) to effectively reduce degradation of surface waters to an acceptable level. Early on in the development of the environmental document, we will work with the Regional Water Quality Control Board to understand all of the permit issues and permitting process and integrate all of the requirements into the EIR document so that the Regional Water Quality Control Board can effectively use and/or adopt the EIR document to support the issuance of their permits and/or authorizations. We are estimating that the project permitting for this project will take approximately 3-4 months once the EIR has been certified and adopted.

404 Permit

The Clean Water Act (CWA) Section 404 establishes a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. The U.S. Army Corps of Engineers (USACE) and EPA share responsibility for administering and enforcing Section 404. USACE administers the day-to-day program, including individual permit decisions and jurisdictional determinations; develops policy and guidance; and enforces Section 404 provisions. EPA develops and interprets environmental criteria used in evaluating permit applications, identifies activities that are exempt from permitting, reviews/comments on individual permit applications, enforces Section 404 provisions, and has authority to veto USACE permit decisions.

There are several ways in which activities requiring Section 404 permits can be authorized:

- Standard permits can be issued in situations where, after a public notice and comment period, the USACE District Engineer determines that the proposed activity is not contrary to the public interest. USACE issues a public notice within 15 days of receiving a completed permit application. The public notice describes the proposed activity, its location, and potential environmental impacts and invites comments within a specified time period, typically 15 to 30 days. The public at large, as well as interested Federal, state, and local agencies, have an opportunity to comment on the proposed activity.
- Letters of permission can be issued in situations where the USACE District Engineer determines the proposed work would be minor, would not have significant individual or cumulative impact on environmental values, and will not encounter appreciable opposition. Concerned fish and wildlife agencies and, typically, adjacent property owners who might be affected by the proposal are notified, but the public at large is not. Section 404 letters of permission can be issued only in cases where, after consulting with certain Federal and state agencies, the USACE District Engineer has previously approved categories of activities that can be authorized by letter of permission procedures. Requesting a letter of permission may be an appropriate and relatively expedient means of complying with Section 404 for many relatively localized and non-controversial actions that require Section 404 compliance.
- General permits are often issued by USACE for categories of activities that are similar in nature and would have only minimal individual or cumulative adverse environmental effects. General permits can be issued on a nationwide ("nationwide permit") or regional ("regional general permit") basis. A general permit can also be issued on a programmatic basis ("programmatic general permit") to avoid duplication of permits for state, local or other Federal agency programs. A nationwide permit may authorize the mechanized clearing of riparian areas for the control of invasive species, but the appropriate USACE District office should be contacted to determine if a nationwide permit can be used to authorize a specific activity. In some USACE Districts, nationwide permits have been suspended or revoked, and Section 404 standard permits, letters of permission, regional general permits, or programmatic general permits are used instead.

In general, to obtain a Section 404 permit, applicants must demonstrate that the discharge of dredged or fill material would not significantly degrade the nation's waters and there are no practicable alternatives less damaging to the aquatic environment. Applicants should also describe steps taken to minimize impacts to water bodies and wetlands and provide appropriate and practicable mitigation, such as restoring or creating wetlands, for any remaining, unavoidable impacts. Permits will not be granted for proposals that are found to be contrary to the public interest. Compliance with the Endangered Species Act and/or Section 106 of the National Historic Preservation Act may also be required before a Section 404 permit can be issued.

On average, individual permit decisions (standard permits and letters of permission) are made within 2 to 6 months from receipt of a completed application. For activities authorized by general permits, decisions are usually made in less than 30 days. In emergencies, USACE may be able to expedite the permitting process. Expedited procedures are authorized on a case-by-case basis. Permit applications that require the preparation of an Environmental Impact Statement take an average of 3 years to process. Early on in the development of the environmental document, we will work with the USACE and/or EPA to understand all of the permit issues associated with the 404 Permit and permitting process and integrate all of the requirements into the EIR document so that the USACE or EPA can effectively use and/or adopt the EIR document to support the issuance of their permits and/or authorizations. We are estimating that the project permitting for this project will take approximately 6 months once the EIR has been certified and Adopted.

County Land Use Permit

The Proposed Project may require a conditional use permit consistent with the terms of the Monterey County Zoning Ordinance, which is issued by the appropriate planning authority, e.g., the Zoning Administrator or the Planning Commission. Early on in the development of the environmental document, we will work with the County to understand all of the permit issues associated with the County Land Use Permit and permitting process and integrate all of the requirements into the EIR document so that the County can effectively use and/or adopt the EIR document to support the issuance of their permits and/or authorizations. This should take 3-4 months once the EIR has been Certified and Adopted.

Other Governmental Permits

In addition, there are other numerous governmental and permits that must be obtained prior to the construction and operation of the proposed project. Table 1 below lists the major federal, state, and local permits, and approvals that are likely to be required. We will work

with each of these entities, as well as any other entities identified through the public review and comment process required by CEQA, to identify any and all permitting requirements and integrate them into the EIR document so that those entities can use and/or adopt the EIR document to support the issuance of their permits and/or authorizations. We anticipate that all of the permits can be obtain within 6 months once the EIR has been Certified and Adopted.

Table 1 Potential Regulatory Requirements, Permits, and Authorizations for Project/Action Facilities	
Agency	Type of Approval
Federal Agencies	
U.S. Fish and Wildlife Service (USFWS)	Incidental Take Statement in accordance with Section 7 of the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. 1531 et seq.
	Incidental Take Permit in accordance with the Migratory Bird Treaty Act (16 USC 703–711)
	Consultation and issuance of a biological opinion in accordance with ESA Section 7
	Consultation in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667c)
	Consultation with State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) in accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA)
National Oceanic & Atmospheric Administration (NOAA) – Fisheries	Authorization by the Monterey Bay National Marine Sanctuary Superintendant of federal, state and local agencies’ permits within the sanctuary in accordance with NOAA’s National Marine Sanctuary Program requirements for the MBNMS. (15 Code Fed. Regs. Part 922)
	Incidental Take Permit in accordance with Section 104 of the Marine Mammal Protection Act of 1972 (MMPA) (16 U.S.C. § 1374)
	Incidental Take Statement in accordance with ESA Section 7 (16 U.S.C. 1531 et seq.)
	Consultation and biological opinion in accordance with ESA Section 7

Table 1 Potential Regulatory Requirements, Permits, and Authorizations for Project/Action Facilities	
Agency	Type of Approval
	Consultation in accordance with Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act ("the Sustainable Fisheries Act") (16 U.S.C. § 1855(b))
	Consultation with the SHPO and/or THPO, as appropriate, in accordance with NHPA Section 106.
U.S. Army Corps of Engineers (USACE)	Permit in accordance with Clean Water Act Section 404 (33 U.S.C. § 1344)
	Permit in accordance with Rivers and Harbors Act Section 10 (33 U.S.C. § 403)
	Consultation under ESA Section 7
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
	Consultation with the SHPO/THPO in accordance with NHPA Section 106
State Agencies	
California Public Utilities Commission (CPUC)	Certificate of Public Convenience and Necessity (PUC Article 1)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
State Water Resources Control Board, Division of Water Rights	Order of approval
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
Regional Water Quality Control Board for the Central Coast Region	Compliance with National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated With Construction Activity
	National Pollutant Discharge Elimination System (NPDES) Permit in accordance with Clean Water Act Section 402 (33 U.S.C. § 1342)

Table 1 Potential Regulatory Requirements, Permits, and Authorizations for Project/Action Facilities	
Agency	Type of Approval
	Waste Discharge Requirements in accordance with the Porter-Cologne Water Quality Control Act (Water Code § 13000 <i>et seq.</i>)
	Water Quality Certification in accordance with Clean Water Act Section 401 (33 U.S.C. § 1341)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
California State Lands Commission	Amendment of Land Use Lease (Right-of-Way Permit) (Pub. Res. Code § 6000 <i>et seq.</i> ; 14 Cal. Code Regs. § 1900 <i>et seq.</i>)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
California Department of Fish and Game (CDFG)	Incidental Take Permit in accordance with the California Endangered Species Act (CESA) (Fish & Game Code § 2081)
	Lake/Streambed Alteration Agreement (Fish & Game Code § 1602)
	Consultation in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667c)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
California Coastal Commission (CCC)	Coastal Development Permit in accordance with the California Coastal Act (Pub. Res. Code § 30000 <i>et seq.</i>)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
California Department of Public Health (CDPH)	Permit to Operate a Public Water System (Health & Safety Code § 116525)

Table 1 Potential Regulatory Requirements, Permits, and Authorizations for Project/Action Facilities	
Agency	Type of Approval
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
California Department of Transportation (Caltrans)	Encroachment Permit (Streets & Highway Code § 660 <i>et seq.</i>)
Local Agencies	
Local Agency Formation Commission	Annexation of Project Facilities
Monterey County Public Works Department	Encroachment Permit (Monterey County Code (MCC) Chapter 14.04)
Monterey Peninsula Water Management District (MPWMD)	Water System Expansion Permit in accordance with Ordinance 96 of the MPWMD Board of Directors
Monterey Bay Unified Air Pollution Control District (MBUAPCD)	Authority To Construct and Operate

The various state, federal, and local lead agencies may include:

State lead agencies include:

- State of California (California Environmental Quality Act CEQA)- for EIR approval
- California Public Utilities Commission (CPUC) - for CPCN (Certificate of Public Convenience and Necessity)
- State Water Resources Control Board (SWRCB), Division of Water Rights
- Regional Water Quality Control Board (RWQCB) for the Central Coast Area - for Water Quality Certificate and for NPDES permit
- California Coastal Commission (CCC) - for Coastal Development Permit
- California State Lands Commission - for land use leases
- California Department of Fish and Game (CDFG)-
- California Department of Public Health (CDPH) - for certification as source of drinking water
- California Department of Transportation (Caltrans) - for utilities crossing state highways
-

Federal lead agencies include:

- U.S. Fish and Wildlife Service (USFWS) - for review and comment on 404 permit
- National Oceanic & Atmospheric Administration (NOOA) - Fisheries - for review and comment on 404 permit
- U.S. Army Corps of Engineers (USACE) - for 404 permit

Local Agencies include:

- Monterey County Public Works Department
- Monterey Peninsula Water Management District (MPWMD) - for water system distribution permit
- Monterey Bay Unified Air Pollution Control District (MBUAPCD)
- Monterey County Environmental Health Department - well permit if drilling is involved

Some permit approvals require prior approvals of other permits; thus there is a general sequence of approvals to be obtained:

- An environmental Assessment must be made
- An EIR/EIS must be completed (CEQA/NEPA compliance)
- A Certificate of Public Convenience and Necessity (CPCN) must be obtained from CPUC after certification of the EIR
- Jurisdictional Permits must be obtained for facilities impacting Waters of the U.S.
- NPDES Permits must be amended/obtained
- Coastal Development Permits must be obtained from the California Coastal Commission

All permits are typically in place before the Department of Public Health can certify a facility as a source of drinking water.

Our strategy is to begin interactions with the various groups in parallel and to establish the more exact necessity for and the sequence in applying for and obtaining the approvals. Due to the number of permits required, many permits will be applied for and sought for in parallel.

More broadly, the EIR and other permitting tasks and the preliminary design task will begin in parallel. It is anticipated that the entire permitting process will take approximately 18 months and thus allow for the preliminary design and pilot tests to be completed within the

same time frame. Since there is no federal money considered for the project, the EIS is not necessary.

It is to be noted that the use of and previous permitting of the existing intake and outfall system reflects that the system met previous environmental requirements. Repairs and improvements to the existing intake and outfall systems will be undertaken as necessary and have been part of previous project budget considerations.

REFERENCE:

[5] SMB Environmental Issues and Constraints Report, September 2012

Energy: What is your strategy for energy procurement? What is your estimated cost of energy? Do you have contractual agreements with other parties that affect procurement of your energy? Describe and provide all contractual agreements in place or expected to be in place relating to energy supply.

RESPONSE: Existing on the property is a 12KV infrastructure supplied from Dynegy. Power would be supplied at “over the fence” rate to be negotiated with NRG, the new owner of the power plant under a Power Purchase Agreement. It is estimated that the cost of electric energy is \$0.08/KWh. There are also three (3) generators on site, one 180 KW and two 200KW that can provide back-up energy. Also available could be a solar system, which should offset approximately 80% of power consumption requirements. Alternatively it can be used as a back-up system.

Third Parties: Does design or construction or your proposed desalination facility depend upon agreements or actions by third parties? If so, describe them. Describe and provide all legal agreements in place or expected to be in place related to third-party activities, if not already addressed earlier.

RESPONSE: See Section 2.

If your project involves the Moss Landing Power Plant, please describe how you intend to amend the CEC application/permit for Dynegy’s plants. How does CEC/FERC relicensing risk affect the security of your project’s source water, outfall strategy, or site control?

RESPONSE: See Energy section above.

Section 4: Business Terms

Describe what legal structure and business terms that you propose to be included in a cooperative agreement with the District. Do so for both the short-term environmental and permitting phase, as well as through the long-term design-build-operate phase. How does your organization expect to earn a return on its investment? What return do you anticipate?

RESPONSE: Moss Landing Commercial Business Park, LLC proposes the following:

- 1. MLCBP to design/build the project**
- 2. Monterey Water District to purchase the property for the price of \$25,000,000 or a 50-year lease with a 49-year option with terms to be negotiated.**
- 3. Free rent up to project start-up operation and revenue is generated.**
- 4. A \$500,000 deposit by the developer to cover the EIR reimbursable upon bond funding.**
- 5. \$200,000 by the developer to cover engineering reimbursable upon bond funding.**

Section 5: Litigation History (if any):

Provide litigation experience for your organization, for each individual within your organization (or that of all organizations included in the project team), and for any referenced third party. This statement shall apply to each member of your team. This litigation history shall include all claims and lawsuits that have been filed in the last five (5) years, any termination for default, all litigation by or against your organization, and any judgment entered for or against your organization. If there is not litigation history within the past five (5) years for your organization, for any named individual or for any referenced third party, please so state.

RESPONSE: No litigation by developer or any of the team members

Section 6: Exception

Submit any and all exceptions to this Request for Qualifications on separate pages, and clearly identify the top of each page with "Exception to Monterey Peninsula Water Management District for Qualifications – Joint Participation in Desalination Facility". Each Exception shall reference the page number and section number, as appropriate. Developer should note that the submittal of an exception does not obligate the District to revise the terms of the RFQ or Agreement.

RESPONSE: No exceptions

**CONSULTANTS
AND
REPORTS**

CONSULTANTS

Mike Mickley, P.E., PhD (Compliance & General Control)

Ben Movahed, P.E., BCEE of Watek (Engineering Corporation Design)

Steve Brown, Principal, SMB Environmental, Inc. (EIR)

Stan Lueck, RODI Systems Corp. (Construction)

Don Chapin, Don Chapin Company (Construction)

Gina Kathuria, P.E., LRM Consulting, Inc. (Permitting)

John Miller, Structural Engineer, JAMSE Engineering, Inc. (Structural)

**Cameron A. Weist, Attorney at Law/Public and Private Financing
(Bond Counsel)**

**Richard Van Steenkiste, Ph.D., MAI, President Landmark Realty
Analysts, Inc.**

Paul Hart, Attorney at Law

George Schroeder, Attorney at Law

MICKLEY & ASSOCIATES

Consulting Chemical & Processing Engineers

752 Gapter Road · Boulder, Colorado 80303

Phone (303) 499-3133 · Fax (303) 499-5305

11 February 2013

Nader Agha

Moss Landing Commercial Park, LLC

SUBJECT: Proposal for Technical Consultation on Moss Landing Commercial Park (MLCP) desalination project

The role of technical/engineering consultant to municipal-type projects is well established. As a minimum the consultant provides an as-needed service of independent technical review and comment for the client (in this case MLCP) on technical issues and work undertaken for the client by other technical groups. It is an on-going supportive role to assist MLCP in developing informed positions on technical issues. Some early efforts in this area include the forthcoming Environmental Assessment study and the preliminary design. Another area of support is assisting MLCP in obtaining permits.

My familiarity with the project history/background and the present phase lends itself well to the consultant position. My rates are attached.

I look forward to working with you and your team.

Sincerely,

Mike Mickley, P.E., Ph.D.

CONSULTING RATES – Michael Mickley, P.E., Ph.D.

<u>Days per Month</u>	<u>Daily Rate**</u>
1 - 2	\$1920 (\$240/hr)
3 - 4	1760 (\$220/hr)
5 or more	1600 (\$200/hr)
Expert Witness Rate:	\$2800 (\$350/hr)

**** Includes labor, overhead and fee**

Travel, long-distance telephone and other expenses are billed separately.

Non-working travel days charged at ½ day rate.

Note: rates are subject to negotiation

Resume – Dr. Michael Mickley

Dr. Mickley has over 44 years' experience in the field of desalination and process technology. Since 1990 most of Dr. Mickley's efforts have focused on addressing challenges of higher salinity water management. He has been principal investigator in several projects addressing water management issues that include:

- AwwaRF: *Membrane Concentrate Disposal*, 1993
- AwwaRF: *Major Ion Toxicity in Membrane Concentrate*, 2000
- Bureau of Reclamation: *Membrane concentrate Disposal: Practices and Regulation*, 1st edition 2001; 2nd edition 2006.
- Saint Johns River Water Management District: *Demineralization Plant Database*, 2002.
- Office of Naval Research: *Pretreatment Capabilities and Benefits of Electrocoagulation*, 2004
- WaterReuse Foundation: *Survey of Zero Liquid Discharge and Volume Minimization for Water Utilities*, 2008
- Office of Naval Research: *Field Tests for Pilot Electrocoagulation System*, 2008.
- Bureau of Reclamation: *Treatment of Concentrate*, 2009
- WaterReuse Research Foundation: *Development of a Knowledge Base on Desalination Concentrate and Salt Management*, 2012 (soon to be published)

Dr. Mickley was also a subcontractor in the following projects:

- WaterReuse Foundation project: *Beneficial and Non-Traditional Uses of Concentrate* where he authored the chapter on Salt Separation of Membrane Concentrate; 2006
- Bureau of Reclamation: *The Southern California Regional Brine – Concentrate Management Study – Phase I, (as subcontractor to CH2M HILL); 2010.*
- AwwaRF: *Guidelines for Implementation of Desalination Facilities, (as subcontractor to Stratus Consulting); 2011*

Two current projects in which Dr. Mickley is a subcontractor involve addressing regulatory policy:

- WaterReuse Research Foundation and Water Research Foundation project: *Desalination Concentrate Management Policy analysis for the Arid West*
- WaterReuse Research Foundation project: *Regulatory Workshop on Critical Issues of Desalination Permitting*

Dr. Mickley has collaborated with several engineering companies on projects evaluating saline water disposal alternatives. He has worked or is currently working as subcontractor to different engineering companies with several cities including Southern Nevada Water Authority, Thornton, Colorado, the City of Aurora, Colorado, the County of Maui, the City of San Antonio, City of Brighton, Colorado, and others (including projects in South Africa, Australia, and Oman in conjunction with Dr. Aro Arakel). These projects generally involve analysis of water quality and local regulatory policy to identify treatment/mitigation needs, evaluate treatment schemes, and evaluate wastewater management/disposal options. Within the past 7 years most of the projects have involved a wide range of industries and locations (produced water, mining water, food processing water, municipal wastewater effluent) involving more complex water conditions than generally found in municipal potable water treatment situations. Need for analysis of complex chemistries and the many chemical reactions that can take place, over the broad range of salinities, temperatures and pressures encountered in industrial waters (such as produced water), has resulted in the proficient use of OLI software. This software has a database of thousands of chemical compounds enabling simulation of redox reactions over a wide composition and operating conditions.

Dr. Mickley is recognized nationally and internationally as a leading expert in the issues of saline effluent management and in the past ten years has given invited presentations in France, England, Israel, Costa Rica, Cyprus, and across the U.S. His most recent presentations include:

- (December, 2004) 'Costs of Concentrate Management,' 2004 Middle East Desalination Cost Modeling Workshop, Cyprus, December 6-7.
- (December, 2004) 'Separation of Salts,' 2004 National Salinity Management and Desalination Summit, December 13-14, Las Vegas.
- (July, 2006) "Zero Liquid Discharge". AMTA Biennial Conference & Exposition Pre-Conference Workshop: *Concentrate Treatment Technologies*
- (June, 2007) "High Recovery and Zero Liquid Discharge Processes," 11th Annual Water Reuse Research Conference, El Paso, TX
- (July, 2007) "Feasibility of High Recovery and ZLD Technologies," AMTA Conference and Exposition: AMTA / NWRI Pre-Conference Workshop: *Inland Concentrate Management*. Las Vegas.
- (January, 2009) "Economics and Energy Requirements for Various Water Treatment / Brine Management Options," Mountain States Salinity Council 2009 Annual Salinity Summit, Las Vegas.
- (January, 2009) "Options, Challenges, and Opportunities in concentrate Management for Inland Desalination Facilities," Ground Water Protection Council 2009 UIC Conference, San Antonio.
- (July, 2010) "Overview of Global Inland Desalination Concentrate Management - Situations, Challenges, and Technologies," AMTA Annual Conference and Exposition, San Diego.
- (May, 2010) "Brackish Water Concentrate Management," CHIWWA Concentrate Management Workshop
- (March, 2012) "U.S. Municipal Desalination: Plant Statistics and Concentrate Management Practices and Issues," First Annual Joint Membrane Conference, AWWA/AMTA, Glendale, Arizona.

Recent other writings include:

- an October, 2005 State-of-the Science paper entitled "Membrane Concentrate Management" for the Joint Water Reuse and Desalination Task Force to be used as background for updating the National Desalination Roadmap
- Chapter 19 "RO Concentrate Management" in Mark Wilf's '*The Guidebook to Membrane Desalination Technology*' published by Balaban Desalination Publications. 2007.
- Arakel, A. & M. Mickley (2007). Membrane concentrate treatment for byproducts recovery and waste minimization. Ozwater Conference, Sydney, March 4-8, 2007.
- (as a co-author with Dr. Arakel) White paper entitled "Inland Desalination Brine Management" prepared for National Center for Excellence in Desalination, National Desalination Research Roadmapping Workshop, Freemantle, Australia, October, 2009
- White paper entitled "Brackish Water Concentrate Management" prepared for New Mexico State University and El Paso Water Utility, 2010.
- *U.S. Municipal Desalination Plants: Numbers, Types, Locations, Sizes, and Concentrate Management Practices*, IDA Journal, 4,(1),2012).
- *High Recovery Processing for Municipal Desalination: Approaches and Issues* (submitted to Desalination and Water Treatment) - with co-author A. Arakel

Dr. Mickley is on the editorial board and Desalination and Water Treatment. Additional information on Dr. Mickley and Mickley & Associates may be found at www.mickleyassoc.com.

EDUCATION

Ph.D., University of Colorado, 1976
 M.S., University of Colorado, 1970
 B.S., Illinois Institute of Technology, 1966
 All in Chemical Engineering (B.S. included a minor in Gas Technology)

REGISTRATIONS

Professional Engineer, State of Colorado
 # 18485



ENGINEERING CORPORATION

The Water Technology Engineers

Nader Agha
Holman Building
542 Lighthouse Avenue
Pacific Grove, CA 93950

February 12, 2013

**Response to the Monterey Peninsula Water Management District RFQ - Desal Plant
Memorandum of Agreement for Engineering Services**

This memorandum of Agreement was executed between WATEK Engineering Corporation, hereinafter referred to as WATEK and the project team formerly known as People's Moss Landing Water Desalination Project Team represented by _____ hereinafter referred to as the Client on February 12, 2013.

If the project is accepted to move forward, then the following will be WATEK minimum scope. Due to the nature and complexity of this project and many unknowns at this point, several tasks in this proposal cannot be budgeted at this time and are indicated with "To Be Determined (TBD)" fees. These items will be further defined after the Schematic Design Report is completed.

- 1) **Initial Site and Permit requirements Evaluation** - This task involves the following scope of services, with an estimated fee of **\$45,000**:
 - Visit the site and spend 4 days with 4 engineers to review site features, drawings and take critical measurements
 - Visually inspect existing structures for their useful life and improvement needs
 - Meet with permitting agencies to evaluate permit requirements
 - Review plats, right of ways and property information
 - Review previous studies, pilot reports and identify additional testing needs
 - Prepare a visit summary report
- 2) **Schematic Design Report** - This task involves the following scope of services, with an estimated fee of **\$160,000**:
 - Schematically define the major components of the facility
 - Generate alternatives for intake and discharge
 - Evaluate power requirements

- Prepare schematic drawings for main facilities, buildings and infrastructure
 - Prepare a hydraulic profile
 - Prepare a process flow diagram
 - Prepare mass balance and water quality summary
 - Size major process units
 - Prepare a single line electrical diagram
 - Prepare site layout drawings
 - Summarize calculations, assumptions and recommendations in a schematic design report with exhibits, drawings and a plan of action list
- 3) **Meet with Stakeholders to discuss findings and plan of action-** This tasks involves the following scope of services, with an estimated fee of **\$25,000**:
- Meet with stakeholders and permitting agencies to review the findings
 - Revise and finalize the schematic design report
 - Prepare a plan of action with major milestone schedule
- 4) **Design of facility** - This scope of this phase will be defined after task 3 is completed, with an estimated fee of **\$TBD**.
- 5) **Construction Services** - This scope of this phase will be defined after task 4 is completed, with an estimated fee of **\$TBD**.
- 6) **Testing of facility** - This scope of this phase will be defined after task 4 is completed, with an estimated fee of **\$TBD**.
- 7) **Training of Operators** - This scope of this phase will be defined after task 4 is completed, with an estimated fee of **\$TBD**.



On Behalf of WATEK
Ben Movahed, P.E., BCEE
President

WATEK Engineering Corporation

On Behalf of Client



ENGINEERING CORPORATION

The Water Technology Engineers

Nader Agha
Holman Building
542 Lighthouse Avenue
Pacific Grove, CA 93950

October 12, 2011

Ref: The People's Moss Landing Water Desalination Project

Mr. Agha

This is to inform you of our intention to participate in this very important project. WATEK engineering can provide complete process engineering support from the conceptual phases to project completion. These services typically include:

- Master plans and feasibility studies
- Cost estimating and project planning
- Detailed design and specifications preparation
- Bidding assistance
- Submittals and shop drawing reviews
- Facility testing assistance
- Operator training
- Performance phase services

We can gladly discuss the anticipated engineering involvement at our upcoming meeting and prepare scope and fee estimates when we have a better definition on WATEK involvement in this project.

In advance, we greatly appreciate the opportunity to provide engineering services to your organization.

Sincerely;

Ben Movahed, P.E., BCEE
President
WATEK Engineering Corporation

Proposal



The People's Moss Landing Water Desalination Project

Prepared by:



SMB Environmental, Inc.

February 6, 2013

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Project Understanding

The City of Pacific Grove (City), in association with Nader Agha of Desal America, is proposing to implement the Pacific Grove-Moss Landing Desal Water Supply Project (Project/Proposed Project) to alleviate the water supply and water quality deficiencies in the City of Pacific Grove's city limits within Monterey County.

A 1995 Order from the California State Water Resources Control Board mandates a replacement source for most of the water supply in the Carmel River watershed. Recently, the State Water Resources Control Board issued a Cease and Desist Order, which sets a schedule for reductions in diversions from the Carmel Valley alluvial aquifer. According to the order, California American Water (CalAm), the Monterey Peninsula's water provider, must cut back its water withdrawals from 10,730 acre feet per year in 2009 to 3,376 acre feet in 2016, a 70 percent reduction by 2016.

The proposed project would consist of a 10 million gallon per day (MGD) desalination facility to be located at the Moss Landing Commercial Park, adjacent to the Moss Landing Power Plant, on the former National Refractories and Minerals Corporation site. The approximately 200-acre site is presently zoned for light and heavy industrial use and contains approximately 300,000 sq. ft. of existing building space. Importantly for the proposed desalination project, the site is presently permitted for seawater intake and discharge of up to 60 MGD conveyed from existing pipelines and pumps station originally installed and permitted to support the magnesium extraction from seawater and refining operations previously conducted at the site, and to discharge water back to the ocean. The water produced by the proposed Project will be made available to the City of Pacific Grove via a new 15-mile pipeline facility that would interconnect with/to the existing CalAm water distribution pipeline facility serving the City and the Monterey Peninsula. Specifically, the Proposed Project will consist of the following major components:

- Screened, passive intake
- Intake pump station
- Pretreatment media filtration system
- 10 MGD seawater desalination system to be assembled on site
- Energy recovery system to reduce power consumption
- Post-treatment facilities
- Product water pump station
- Solids handling system
- Electrical power supply
- Solar 6-megawatt energy system
- 15-mile pipeline facility

SMB's role will be to prepare a legally-defensible EIR for this Project pursuant to the requirements of the California Environmental Quality Act (CEQA) and identifying the potential environmental consequences of constructing and operating the Proposed Project. The City will be the CEQA Lead Agency and Desal America will help the City and SMB with all of the technical details of the Project's proposed.

construction and operational plans so that a complete and accurate objective environmental analysis can be conducted on the Proposed Project pursuant to the requirements of CEQA.

Scope of Services

SMB has prepared the following scope of services, which describe the major elements of our work program to complete a legally-defensible, CEQA EIR. The major elements of our work program include:

- Prepare Project Description and Alternatives
- Prepare Notice of Preparation (NOP)
- Scoping Meeting(s)
- Conduct Agency Consultation
- Prepare an Administrative Draft EIR
- Prepare Screen-Check and Public Draft EIR
- Prepare Responses to Comments
- Prepare Final EIR, Findings, and Mitigation Monitoring and Reporting Program
- Public and Project Coordination Meetings

Description of Major Work Elements

Task 1 - Prepare Project Description and Alternatives

SMB will prepare an accurate description of the Project and associated alternatives using existing information on the Proposed Project as provided by the City and/or Desal America. Specifically, SMB will work with the City and Desal America to develop a complete and concise description of the Project that articulates the Project's goals and objectives, the geographic location and footprint for all the physical improvements associated with the Proposed Project, and a comprehensive description of the Proposed Project's technical, operational, economic, engineering, and construction features/details.

Deliverable

For this Task, SMB will prepare and submit an electronic copy (pdf) of the Project Description and Alternatives Chapter for the CEQA EIR for internal team review. After the City's internal team review and comment, this will be the basis for moving forward with the preparation of the CEQA EIR. Any changes to the Project Description and/or alternatives following the initiation of the environmental analyses, may necessitate the need for additional budget, scope, and schedule.

SMB has assumed that up to six alternatives, including the No Project Alternative, will be described in the Project Description and Alternatives Chapter and considered as part of the environmental analysis. For budgeting purposes, we have assumed that these alternatives will be analyzed at a level of detail commensurate with the requirements of CEQA and not at an equal-level of detail as required by the National Environmental Policy Act (NEPA).

Task 2 - Prepare Notice of Preparation (NOP)

SMB will prepare a NOP to meet the requirements CEQA. As part of this task, SMB will include a summary of the Project Description and alternatives as developed in Task 1 above. The NOP will identify the range of issues that will be considered in the EIR in addition to those issues anticipated to have no or less than significant impacts. For budgeting and schedule purposes, SMB has assumed that an initial study and environmental checklist will not be prepared in conjunction with the NOP.

Deliverable

For this Task, SMB will prepare and submit an electronic copy of an Administrative Draft NOP for the City's Internal Team review and comment. Upon receipt of a consolidated set of comments, SMB will then prepare thirty (30) copies of the NOP to undergo the 30-day public review. SMB will deliver the fifteen (15) required copies to the State Clearinghouse on behalf of the City. SMB assumes that the City will be responsible for the remainder of the mailings and any additional copies.

Task 3 – Conduct Scoping Meetings

SMB will attend and participate in two (2) public scoping meeting with the City staff to receive oral and written comments on the previously released NOP. SMB will assist by preparing a presentation to introduce the project and CEQA process, provide a sign-in sheet for attendees, answer questions related to the CEQA process, and compile notes regarding comments and issues raised at the meeting. After completion of the 30-day public review of the NOP, SMB will compile and summarize the major written and oral public comments in a brief memorandum and identify our approach to addressing these issues in the EIR.

Deliverable

SMB will prepare a power-point presentation for the Scoping Meetings. SMB will prepare a brief memorandum summarizing the written and oral comments received during the NOP process and our approach for addressing these comments in the EIR.

Task 4 – Conduct Agency Consultation

SMB staff will informally consult with the agencies that provided substantive comments during the NOP process or have expressed interest in a specific component of the project implementation. We have budgeted time for thorough and direct consultation with involved state, federal, and/or local agencies and other interested parties during the preparation of the EIR. For budgeting purposes, we assume that this effort will be limited to an effort not to exceed 80 hours. Additional effort to consult specific agencies will be performed on a time and materials basis outside this scope of work, as directed by the City.

Deliverable

SMB will prepare and deliver an electronic copy of all meeting notes to the City from each meeting with various agencies in as identified in Task 4 above.

Task 5 – Prepare Administrative Draft EIR

For this task, SMB will prepare an Administrative Draft EIR, consistent with the requirements of CEQA. First, SMB will compile comments from the NOP review process to refine the scope of services and consideration in the EIR. If there are significant changes to the Project Description, new alternatives identified, and/or requests/demands for more specific technical studies to be undertaken, then SMB reserves the right to renegotiate the scope and budget to better reflect the level of effort needed to successfully complete the CEQA process.

The Administrative Draft EIR document will contain the following contents:

- Executive Summary
- Goals and Objectives of the Project
- Documents Incorporated by Reference
- Description of the Proposed Project and Alternatives
- Description of existing environmental conditions within the Project area
- A discussion of potential environmental impacts associated with implementation of the Proposed Project using criteria outlined in Appendix G of the CEQA Guidelines, 2009 for the following environmental resources topics:
 - Aesthetics/Visual
 - Agricultural Resources
 - Air Quality and Climate Change
 - Biological Resources
 - Cultural Resources
 - Geology/Soils
 - Public Health and Safety
 - Hydrology/Water Quality/Groundwater/Marine Water Resources
 - Land Use Planning
 - Noise and Vibration
 - Public Services/Utilities
 - Recreation
 - Transportation/Traffic
 - Growth/Cumulative Impacts
- Description of mitigation for identified potentially significant environmental effects
- Discussion of a reasonable range of alternatives to be evaluated to reduce and/or avoid any identified environmental impacts identified above. For budgeting purposes, we have assumed a total of six (6) alternatives, including the required No Project Alternative will be evaluated in this EIR.
- Documentation of consultation and coordination with interested federal, state, and/or local agencies
- List of Preparers
- References and supporting information

In preparing the Administrative Draft EIR, SMB will describe the environmental setting and prepare an analysis of the direct and indirect environmental impacts of the Proposed Project(s). We will use tables, charts and graphics as appropriate to illustrate and help communicate the impact analyses. We will apply existing impact significance criteria as directed by the City and other responsible agencies for each issue and clearly establish whether an impact is significant or less than significant. Where appropriate, SMB will prescribe mitigation measures to reduce potentially significant impacts to a less than significant level.

Detailed below is a summary of our approach to addressing each of the key resource topics that will be considered in the EIR.

Air Quality and Climate Change. The Project is located within the northern portion of North Central coast Air Basin (NCCAB) and is subject to the jurisdiction of the Monterey Bay Unified Air Pollution Control District (MBUAPCD). The NCCAB is currently designated non-attainment for the State 8-hr ozone and 24-hour PM10 standards. Based on this attainment status, SMB will prepare a comprehensive air quality analysis that shall include an evaluation of both localized and regional air quality impacts based on the construction and operation of the proposed Project improvements.

The air quality analysis shall also include a discussion of the Project's potential to contribute to global climate change and will include an estimation of greenhouse gas emissions (i.e. carbon dioxide, methane, etc.) generated by long-term project operations. These estimates will then be compared to significance thresholds adopted by the MBUAPCD to determine the significance of the project's incremental contribution to global climate change impacts

Biological Resources. Based on a review of the California Natural Diversity Database (CNDDB), SMB anticipates that EIR will require an assessment of federally and state listed wildlife and plant species within the Project area, including the Monterey Bay. SMB will conduct a biological resources investigation for the Project area to support the preparation of the EIR. The biological resources investigation shall provide a description of the biological resources present within the Project area, including a description of the listed species and/or critical habitat, and a general indication of habitat suitability for any listed species. The biological resources investigation will include a discussion of how these resources may be affected by the Project along with recommended measures for mitigating potential impacts.

Cultural Resources. SMB will prepare the cultural resources section of the EIR that will include a description of the cultural setting of the Project Area, a description of regulatory requirements, investigation methods, investigation findings, a description of the impacts significance criteria used in the impacts analysis, and any identified impacts and mitigation measures, where available, that would reduce, avoid, or lessen impacts on cultural resources. This scope does not include an evaluation of subsurface components of prehistoric or historic-era sites. If potentially significant cultural or historical resources that cannot be avoided by the Project are identified, additional tasks not covered by this scope may be necessary.

Geology/Soils. SMB will summarize regional reports on soils, geologic materials, and groundwater levels. Using the soil maps produced by the NRCS and available subsurface data, we will identify soil types present at the Project site. We will map and identify key soil constraints of the site related to these associations and slope conditions. These constraints may include depth, permeability and susceptibility to high groundwater, and limitations for access roads. We will conduct a site reconnaissance which will verify the reported conditions and the current site status. SMB has not included additional geologic testing as part of this scope of work.

Public Health and Safety. SMB will assess the potential for the Project to create a significant hazard to the public through both construction and operation of the Project. We expect that hazardous materials and public health issues associated with project site will be limited; however, we will investigate these issues as part of the EIR as required by CEQA. SMB will review federal and State hazardous materials databases as well as visit the site to perform a cursory surface inspection to verify the absence or presence of potential sources of contamination.

Construction operations involve the use of heavy equipment, excavation, dewatering, and other functions that represent potential public safety issues. We will investigate all public safety issues that potentially are associated with the project and describe them in the EIR. We will discuss the potential for hazards from wildland fire and storing and using hazardous materials on the site. We will prescribe appropriate

mitigation measures to the extent necessary, which may include provision of adequate signage, fencing, or other preventative actions. If it is determined that asbestos is located within the Project Area, then additional scope and budget will be required to address this issue.

Hydrology/Water Quality/Groundwater/Marine Resources. SMB's approach to addressing potential effects to water resources will emphasize an accurate characterization of existing hydrology, drainage, groundwater, and water quality conditions to facilitate a comprehensive evaluation of potential CEQA impacts, permitting issues, and potential mitigation opportunities.

Land Use Planning. Existing onsite land uses and land uses in the immediate vicinity of the proposed project will be identified by SMB based on a review of local planning documents, available aerial photography, and a field reconnaissance. The EIR will evaluate the compatibility of the proposed project in relation to surrounding land uses and consistency with regional plans and programs, including the County plans and policies, including, but not limited to, the General Plan and Zoning Ordinance.

Noise and Vibration. Construction and operation of the Project has the potential to result noise impacts on sensitive receptors including local residents. SMB will describe and discuss existing major noise sources in the vicinity of the Project Area based on information available from the General Plan, field studies, and other sources. SMB will then estimate the potential change in noise levels for both construction and operation activities at noise-sensitive land uses in the project vicinity based on the project description (activity levels, locations of pumps and equipment, numbers of truck trips, and hours of operation). As appropriate, SMB will make recommendations for noise attenuating measures to be incorporated into the construction and design of the Project to reduce potentially significant noise levels to within noise standards established by the County.

Public Services/Utilities. SMB will coordinate with County staff and affected public service and utility purveyors to assess potential impacts of the Proposed Project. The following services, facilities, and utility systems will be considered as part of this evaluation: fire protection; sanitary sewer service, stormwater drainage, solid waste, and energy consumption.

Recreation. SMB will evaluate the potential for the project to temporary impact recreational uses within the area during construction and operation.

Transportation/Traffic. Construction of the Proposed Project has the potential to affect traffic and transportation in the residential area surrounding the Proposed Project. We will work with the City and appropriate agencies to incorporate avoidance and/or mitigation measures such as the development of a traffic and transportation plan, scheduling and/or staging construction segments, and other measures whenever possible to reduce these potential impacts to less than significant levels.

Aesthetics/Visual. The construction of the Project could have temporary and permanent visual impacts to the surrounding visual resources. As part of the EIR, SMB will evaluate existing visual resources within the Project area to determine the potential impacts to aesthetic resources. This will include an evaluation of the Project's impacts in relation to existing scenic vistas, state scenic highways, historic buildings, existing sources of light and glare, and the existing visual quality of sites and surrounding areas where new structural facilities would be located. SMB anticipates that visual simulation of the proposed facilities will not be necessary to support the impact analysis.

Agricultural Resources. As part of our reconnaissance of the Project area, SMB will document existing agricultural operations within the Project vicinity and evaluate the potential for the Project to impact these agricultural resources. SMB will also review the 2008 Farmland Mapping and Monitoring Program (FMMP) to determine if any of the project facilities would require the conversion of important farmlands to non-agricultural use.

Growth/Cumulative Impacts. SMB will prepare a separate chapter that addresses potential cumulative and growth inducing effects of the Project as well as other CEQA considerations. The analysis will examine

both cumulative impacts and the potential for growth inducement resulting from the proposed action. As for the cumulative analyses, we would focus the discussion on the change in the environment that results from the incremental impacts of the Project when added to other closely related, past, present or reasonably foreseeable, probable future projects.

Deliverable

SMB will prepare an Administrative and Screen-Check Draft EIR for internal team review.

Task 6 - Prepare Screen-Check and Public Draft EIR

SMB requests that the City consolidate comments into one marked-up copy or comment document containing all comments on the Administrative Draft EIR. Upon receipt of City's comments, SMB will revise the document to reflect the recommended changes and will prepare a Final Screen-Check EIR for final review by the City prior to going out for public review. After any minor changes, this version of the document will constitute the Public Draft EIR and will be distributed for a 45-day public review period. As part of this effort, SMB will prepare the necessary Notice of Completion (NOC) and Notice of Availability (NOA) documents and assist the City in distributing the Draft EIR to the Public. In order to avoid making and mailing out numerous unnecessary copies of the Draft EIR, SMB recommends sending out the NOA to all appropriate parties with information as to how to obtain a copy of the Draft EIR. SMB assumes that the City will be responsible for creating a distribution list and mailing list of the NOA and/or the EIR document.

Deliverable

SMB will prepare up to thirty (30) paper bound copies of the Draft EIR for distribution and will deliver fifteen (15) copies to the State Clearinghouse. SMB will also prepare electronic copies of the document that can be distributed or made available on the City's website as well.

Task 7 - Prepare Responses to Comments

Upon completion of the 45-day public review period, as required by CEQA, SMB will compile the comments received and prepare appropriate responses. The responses to comments package will include:

- Comment letters received during the public review period with individual comments delineated.
- Responses to each individual comment as prepared by SMB, other consultants, and/or City staff.

Due to the unpredictable nature of comments to be received, SMB reserves the right to evaluate the comments received to determine the ability to respond to the comments and complete the EIR within the budget and schedule proposed. A level of effort of 276 hours is assumed for preparation of responses. If the comments are such a nature that would require further and extensive analyses, evaluating different alternatives, and/or re-circulating the Public Draft EIR, SMB will require additional scope and budget.

Deliverable

SMB will prepare electronic copies of the draft response to comments and e-mail them out for internal Team review.

Task 8 - Prepared Final EIR, Findings, and Mitigation Monitoring and Reporting Plan

SMB will prepare an administrative Draft of the Final EIR, Findings, and Mitigation Monitoring and Reporting Plan (MMRP) that presents:

- Discussion of issues and responses to comments.
- Comment letters received during the public review period.
- Changes, corrections, or modifications to the Draft EIR resulting from the comments received. Changes will be made as errata to the Draft EIR; the entire text of the Draft EIR will not be revised and reprinted.
- Description of mitigation measures to be adopted as part of project implementation, including identifying responsible parties for mitigation implementation, monitoring, and approval.

SMB will submit an electronic copy of the Administrative Draft of the Final EIR, Findings, and MMRP to the City via e-mail for internal review and comment.

Deliverable

Upon receipt of City's comments, SMB will prepare a screen-check copy of the Final EIR, Findings, and MMRP. With the City's approval, SMB will then prepare up to twenty five (25) copies of the Final EIR, findings, and MMRP for public distribution. SMB will prepare, attend, and participate in one (1) City public hearing as part of the CEQA EIR adoption/approval process. Any further additional public meetings to be attended by SMB will be an out of scope work item, on a time and materials basis. Upon Project approval by the City Council, SMB will prepare the Notice of Determination (NOD) for CEQA purposes and deliver it to the State Clearinghouse.

Task 9 - Project Coordination Meetings and Project Management

SMB will provide effective Project management throughout the entire CEQA EIR process to ensure that a quality document is prepared on-time and within budget. In addition, SMB will participate in periodic Project coordination meetings throughout the duration of the CEQA EIR preparation Process. For budgeting purposes, SMB has assumed a total of six (6) Project Coordination meetings with City staff at their facilities to go over progress and discuss project related issues. For this task we have assumed a total of 64 hours for project coordination meetings. If other meetings are required, SMB will gladly attend at additional cost and will bill for those services on a time and materials basis.

Schedule

SMB proposes to complete a CEQA EIR as described above within 7 months from Notice to Proceed. This schedule is based on our assumption that we receive all required information from the City in a timely manner. We will make every attempt to meet the estimated schedule for those work tasks under our control.

Budget

SMB proposes to complete this EIR as described in the above Scope of Services for a total estimated budget of \$450,965 and will be billed monthly on a time and materials basis according to SMB's 2012 Fee Schedule. The following table summarizes the hours and costs by task.

Cost Estimate City of Pacific Grove- Moss Landing Desal Water Supply Project EIR

Task Description	Total Hours	Total Cost
1. Prepare Project Description and Alternatives	240	\$33,820
2. Prepare Notice of Preparation	64	\$10,120
3. Conduct Scoping Meeting	80	\$12,240
4. Conduct Agency Consultation	80	\$15,300
5. Prepare Administrative Draft EIR	1,838	\$260,300
6. Prepare Screen-Check and Public Draft EIR	180	\$27,900
7. Prepare Response to Comments	276	\$37,380
8. Prepare Final EIR, Findings, and MMRP	142	\$21,430
9. Project Coordination Meetings and Project Management	64	\$11,000
Subtotal	2,964	\$429,490
Direct Expenses		
- Travel, Copies, Fax, Phone, Mail, Etc.		\$21,475
GRAND TOTAL		\$450,965

Assumptions

The following assumptions were used in preparing this scope of work, budget and schedule:

- The level of effort assumes the City is the CEQA Lead Agency and that no other entities are involved, if additional cities decide to participate, additional scope and budget will be required.
- This document is for CEQA compliance only. If any NEPA requirements are deemed necessary and/or the inclusion of a federal agency as the NEPA Lead Agency, then additional scope and budget will be required.
- The level of effort for EIR preparation described herein is our best estimate based on current knowledge of the Proposed Project as provided by the City and/or Desal America. Changes in the Project Description once environmental analyses have begun will likely require additional scope and budget.
- Due to schedule considerations, the Notice of Preparation will include a brief identification of anticipated environmental issues, but will not include a complete Initial Study checklist.
- Once the Notice of Preparation is issued, it is assumed that the project description and alternatives will not change substantially and that the design of any project level facilities will not change.
- SMB will attend two (2) Public Scoping Meeting.
- The City will publish all public meeting advertisements.

- The City will provide comments on a single, annotated comment copy of the Administrative Draft EIR that provides clear direction for revisions. It is assumed that the City's comments would not require new analyses.
- Since it is difficult to gauge the level of public comment on the EIR, the scope of work described herein assumes up to 276 hours to provide written response to public comments. Should the estimated level of effort for preparing responses exceed the hours assumed, additional work would need to be authorized through a contract modification.
- SMB will attend one (1) public hearing for the Draft EIR.
- SMB will attend the certification hearing for the Final EIR.
- The project description and alternatives will not change once Administrative Draft EIR investigations are underway.
- The EIR will evaluate the "Proposed Project", the 'No Project' Alternative as well as up to four other alternatives. Alternatives will be analyzed at a level of detail commensurate with the requirements of CEQA.
- This scope of work does not include noticing for CEQA documents; noticing will be the responsibility of the City.
- Any special or public outreach or education activities other than that proposed in this scope of work will require additional scope and budget for SMB.
- Work will not be stopped or slowed by others beyond SMB's control.

Title
Principal

Education
B.S. in Business Administration-
Marketing, California State University,
Chico

B.A. in Geography, California State
University, Chico

Experience
22 years

Affiliations
Association of California Water
Agencies
Mountain Counties Water Resources
Association
WaterReuse Association

Summary

Steve Brown has over 22 years of experience specializing in providing environmental, regulatory, and public relations support for a variety of water resources, engineering, solid waste, and energy projects. He has direct experience in preparing environmental compliance documents to meet the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements, conducting management audits, following legislative and regulatory changes for clients, and coordinating public involvement programs for a wide variety of public and private projects.

Steve's broad background includes a strong understanding and knowledge of the institutional framework for allocating and managing water resources in California and the western United States. He has extensive experience and expertise in working on large, complex and controversial water resources projects including water supply development; flood control; groundwater recharge and conjunctive use; water transfers and exchanges; pipeline and conveyance; water treatment plant expansion; and wastewater reclamation and recycling.

In particular, Steve has significant experience and expertise in successfully completing environmental compliance documentation and obtaining all of the necessary federal, state, and local regulatory approvals for linear projects including pipelines and canals. Steve also has extensive public education experience.

Relevant Experience

The People's Moss Landing Water Desalination Project, Monterey County
Project Manager. Steve prepared a preliminary environmental issues and constraints evaluation report that addressed the potential environmental impacts of the proposed water supply project entitled "The People's Moss Landing Water Desalination Project" to provide the Monterey Peninsula Area in Monterey County California with a safe and reliable water supply of up to 10,700 acre-feet of water per year (AFY) or 10 million gallons per day (MGD) to offset mandated water supply diversion curtailments on the Carmel River. For this analysis, Steve reviewed prior and relevant existing technical and environmental documentation and used a modified CEQA environmental checklist to assess the potential impacts of implementing the Proposed Project/Action on endangered/threatened species, public health or safety, natural resources, regulated waters, and cultural resources, among others, to include and address specific issues associated with CEQA as well as NEPA.

Los Carneros Recycled Water Pipeline Project, Los Carneros Water District

Project Manager. Steve prepared an Initial Study/Mitigated Negative Declaration and an Environmental Assessment/Finding of No Significant Impact on the Los Carneros Recycled Water Pipeline Project which the Los Carneros Water District proposes to construct an approximately 12-mile recycled water pipeline to serve the 5,700 acres of agricultural land within the District. The Proposed Project consists of a 24- to 6-inch pipeline system that would connect to the planned 24-inch recycled water pipeline to serve the Stanly Ranch/St. Regis area from the Napa Sanitation District's Imola Wastewater Treatment Plant. The Los Carneros Project would connect to the end of the Stanly Ranch/St. Regis pipeline and construct a new pipeline system from that point on for approximately 12 miles through the District. The proposed pipeline system would be located primarily within existing roadway and would serve approximately 140 parcels or 3,400 acres of irrigatable lands within the District with a recycled water supply that meets Title 22 requirements of approximately 1,650 acre-feet per year. Steve coordinated with the District and the U.S. Bureau of Reclamation to ensure that the environmental document meet the requirements of CEQA, NEPA and the requirements of the Title XVI.

Folsom Water Supply and Conveyance Project, City of Folsom

Project Manager. Steve managed the preparation of the environmental impact report/environmental impact statement (EIR/EIS) for the City of Folsom's proposed Water Supply and Conveyance Project to serve the planned Folsom Specific Plan Area. The proposed development consists of 10,093 dwelling units on approximately 3,600 acres of land located south of Highway 50 and currently lacks a sufficient water supply. The City proposed to acquire the water rights totaling 8,000 acre-feet of water per year (AFY) from the Natomas Central Mutual Water Company (NCMWC) and convey it to the Folsom Specific Plan Area (FPA). Steve identified and evaluated the environmental impacts of the various alternatives to get the water to the Folsom Specific Plan Area which included pumping the water through the existing Freeport Water Project diversion facilities and conveying the water to the point where the pipeline owned by Sacramento County Water Agency (SCWA) and the other Freeport partner, East Bay Municipal Utilities District (EBMUD), splits (or bifurcation point). Steve then analyzed the environmental impacts of ten (10) water supply conveyance alternatives from the bifurcation point to the FPA at an equal level of detail, as is required under NEPA. Under the Proposed Off-site Water Facility Alternative – Gerber/Grantline Road Alignment and On-Site WTP (Proposed Off-site Water Facility Alternative), the City would construct a new 30-inch, raw-water conveyance pipeline and 10-mgd pump station that would connect with the existing Freeport Pipeline facilities located in an area just northeast of the bifurcation point at the intersection of Vineyard and Gerber Roads and would extend northeast approximately 16.5 miles from the bifurcation to the FPA and connect to a new 10 mgd water treatment plant (WTP) that would be located within the FPA. This pipeline length would result in a corridor under consideration of approximately 401- acres. The EIR was Certified and Adopted by the City Council on June 14, 2011. Subsequently, Steve prepared a CEQA Addendum to the EIR which analyzed proposed changes to the water supply from the NCMWC supply to a conserved water supply from the implementation of aggressive new water conservation measures within the City and conveyance through a new 4.5 mile 24-inch pipeline facility to the FPA. The City Certified and Adopted the proposed changes on December 11, 2012.

Ukiah Recycled Water Project, City of Ukiah

Project Manager. Steve prepared an Initial Study/Mitigated Negative Declaration for the City of Ukiah's Recycled Water Project. The purpose of the Proposed Project is to replace/augment existing water supplies in Ukiah Valley. Recycled water use within the Ukiah Valley would offset existing and future water demands for irrigation and frost protection of agricultural land, and in doing so, would support the local agricultural industry. It would also offset urban irrigation demands, ease storage limitations at the Ukiah

Wastewater Treatment Plant (UWWTP), and reduce treated wastewater discharges to the Russian River. The Proposed Project was developed through an extensive engineering and feasibility study process, culminating in a recommended or preferred alternative that would consist of 9.4 -miles of recycled water pipeline ranging in size from 8- to 16-inch to provide recycled water from the City's existing Ukiah WWTP to approximately 990 acres of agricultural and urban landscape irrigation lands within the Ukiah Valley. Specifically, a total of 44 parcels covering 703 acres would be supplied with 1,234 AFY of recycled water for irrigation purposes. In addition, about 284 acres would be supplied with 142 AFY of recycled water for frost protection. This document has been prepared in accordance with the California Environmental Quality Act (CEQA). The City is the lead agency under CEQA. In addition, the City is also seeking funds from the State Revolving Fund (SRF) Loan Program that is administered by the State Water Resources Control Board (State Board). The SRF Loan Program is partially funded by the U.S. Environmental Protection Agency (USEPA) and subject to federal environmental regulations, including the Endangered Species Act (ESA), the National Historic Preservation Act (NHPA), and the General Conformity Rule for the Clean Air Act (CAA), among others. Federal agencies have their own policies on how they comply with federal environmental laws. Instead of the National Environmental Policy Act (NEPA), USEPA has chosen to use CEQA as the compliance base for California's SRF Loan Program, in addition to compliance with ESA, NHPA, and CAA. Collectively, the State Board calls these requirements CEQA-Plus. As a result, Steve prepared this document to meet the CEQA-Plus requirements.

City of Pleasanton, Recycled Water Project

Project Manager. Steve prepared a preliminary environmental issues and constraints evaluation report that addresses the potential environmental impacts of the City of Pleasanton's (City) proposed Recycled Water Project to augment the existing surface and groundwater supplies within the City for the irrigation of landscape within the City. The Proposed Project/Action includes the upgrade and expansion of the Dublin San Ramon Sanitation District's (DSRSD) existing wastewater treatment plant (WWTP) to provide a recycled water supply of approximately 2,500 afy to meet recycled water demand in the City's service area and offset deliveries from the city's groundwater supplies and water supply purchases from Zone 7. All of the WWTP plant upgrades will be included within DSRSD's existing WWTP location and within existing facilities that were previously designed, sized, and constructed for this potential upgrade and expansion. All of the recycled water will be produced by the Dublin San Ramon Services District/East Bay Municipal Utilities District (DERWA). The Proposed Project/Action also includes the construction of up to approximately 20- miles (103,100 linear feet) of pipeline ranging in diameter from 6-inches to 36-inches and would be located primarily in existing roadways. In addition, the City is pursuing federal funding under the U.S. Bureau of Reclamation's (USBR) Public Law 102-575, Title XVI Water Reclamation and Reuse Program (Title XVI) from the State Revolving Fund (SRF) Loan Program that is administered by the State Water Resources Control Board (State Board) on behalf of the U.S. Environmental Protection Agency (USEPA). As a result, the Proposed Project/Action would be subject to the California Environmental Quality Act (CEQA) at a minimum where the City would be the CEQA Lead Agency to ensure that all of the applicable state environmental regulations are adhered to. If Title XVI funds are used, then USBR would be the lead agency under the National Environmental Policy Act (NEPA) to ensure that all federal environmental regulations are adhered to. Under the State Board's SRF Program, the State Board is responsible on behalf of the USEPA for ensuring that the project adheres to federal environmental regulations, including the Endangered Species Act, the National Historic Preservation Act (NHPA) and the General Conformity Rule for the Clean Air Act (CAA), among others. The USEPA has chosen to use the CEQA as the compliance base for California's SRF Loan Program, in addition to compliance with ESA, NHPA, and CAA. Collectively, the State Board calls these requirements CEQA-Plus. Additional federal regulations may also apply.

Harding Drain Bypass Project EIR, City of Turlock

Project Manager. Steve managed the EIR for the six-mile, 60-inch pipeline facility that would convey the City's tertiary treated water directly to the San Joaquin River for discharge and disposal, bypassing the Harding Drain. Steve assisted the City in developing the Petition for Change in Discharge for the State Water Resources Control Board, and permitting strategies for the necessary federal, state, and local permits and regulatory approvals, including a Section 404 Permit, 401 Water Quality Certification, NPDES Discharge Permit, 1601 Streambed Alteration Agreement, and encroachment permits. Steve also analyzed the environmental impacts of the upgrades to the City's wastewater treatment facilities to produce tertiary treated water.

Wastewater Pipeline/Outfall Project EIR, City of Ceres

Project Manager. Steve managed the environmental documentation and permitting for this 18-inch, 13-mile pipeline and pump station, planned to convey up to two million gallons per day (mgd) of primarily treated wastewater from the city's wastewater treatment plant to the city of Turlock's wastewater treatment plant. The project team developed a mitigation monitoring and reporting plan strategy to reduce the environmental impact to less-than-significant levels as well as a permitting strategy to obtain the necessary permits for construction.

Sanitary Sewer Overflow Elimination Program EIR, Vallejo Sanitation and Flood Control District

Project Manager. Steve managed the preparation of environmental documentation for the implementation of various project components, including the development of storage and conveyance improvements to eliminate unauthorized sanitary sewer overflows associated with the existing sewer system. He prepared addendums, initial studies, negative declarations and other CEQA documents, mitigation measures, and environmental training identified in the Program EIR.

Wet-Weather Storage Facility EIR, Vallejo Sanitation and Flood Control District

Project Manager. Steve managed the EIR preparation that evaluated the construction and operation of a new storage facility that would have a total capacity of approximately 8.6 million gallons.

Wet Weather Improvements Project, Central Marin Sanitation Agency

Project Director/Manager. Steve managed the preparation of an Initial Study leading to the adoption of a Mitigated Negative Declaration for the construction and operations of the Central Marin Sanitation Agency's (CMSA) proposed Wet Weather Improvements Project. The purpose of the improvements is to improve CMSA's wastewater treatment plant so that it can handle wet weather flows that meet a five year design flow event and accommodate an influent collection system hydraulic limit of 125 million gallons per day.

San Francisco Bay Division Pipeline 3 and 4 Crossover Facilities, San Francisco Public Utilities Commission

Environmental Project Manager. Steve managed the preparation of the Initial Study/Mitigated Negative Declaration for the San Francisco Bay Division Pipelines 3 and 4 Crossover Facilities Project. The project involves the construction of three crossover facilities to interconnect the San Francisco Public Utilities Commission's (SFPUC's) Bay Division Pipelines Number (No.) 3 and No. 4 of the 76-inch and 96-inch pipeline facilities to improve system reliability in the event of an earthquake. Crossover valves and connections would be constructed within subsurface, concrete-lined vaults, which would be approximately 61 by 35 feet in area and 20 feet deep. An emergency generator, propane tank, and communication equipment would be installed on two concrete pads adjacent to each vault, and at one location (Guadalupe River site), a third pad would support a transformer.

GET Water Supply Development, East Sacramento County Water Alliance

Project Manager. Steve provided project/program management consulting services to coordinate the technical and process-related activities associated with the settlement negotiations between the City of Folsom, Aerojet, Sacramento County Water Agency, and Golden States Water Company for the development and use of the groundwater extraction and treatment (GET) water supplies in east Sacramento County.

Folsom Water System Optimization Review Program, City of Folsom

Project Manager. Steve is assisting the City of Folsom with the development of its Water System Optimization Review (SOR) Program that it received a grant under the U.S. Bureau of Reclamation's (USBR) *Water for America Challenge Grant Program*. The City's proposed SOR will assess the potential to improve water conservation, increase water use efficiency, and enhance water management to ensure the long-term sustainability of the City's water supplies. Preliminary estimates suggest that the City can save and/or conserve approximately 5,000 to 10,000 acre-feet per year (afy) and make that water available for banking, sale, lease, or transfer. This represents 15 to 30 percent of the City's total water supply. Steve is working with the City and with potential regional partners and stakeholders to develop a conjunctive use program in the Sacramento County Central Groundwater Basin (Central Basin) to store that conserved/saved water for use in the dry and critically dry years as well as to make that water available for sale, lease, or exchange with other water users for regional water supply sustainability and/or mutual benefit.

Program in the Sacramento Valley for the U.S. Bureau of Reclamation

Project Manager. Steve managed the evaluation of 32 tributary streams in the Sacramento Valley for small dams and reservoirs to help reduce the peak flows that cause considerable flood damage. In addition, the program analyzed water supply development, groundwater recharge, as well as water transfer and exchange scenarios to make the best use of the available local water resources. The program also included the development of 10,000 acres of nonstructural measures and environmental enhancements that are consistent with current floodplain management practices. The program was developed in parallel with the development of a Programmatic EIS/EIR to meet both NEPA and CEQA requirements.

New Tanner Water Treatment Plant Project EIR, Amador Water Agency

Project Manager. Steve managed the preparation of the environmental impact report for the proposed New Tanner Water Treatment Plant Project. The purpose of the project is to replace both the existing Tanner and Lone conventional water treatment plants with a single microfiltration water treatment facility to achieve improved water quality, lower long-term operational and maintenance costs, provide operational flexibility, and meet future and potentially more stringent water quality requirements.

South Fork Stanislaus Water Supply Reliability Project, Tuolumne Utilities District

Project Manager. Steve managed the environmental evaluation and compliance activities associated with the review and analysis to determine viable alternatives to protect the Tuolumne Main Canal from natural and manmade disasters. The Tuolumne Main Canal was built in the 1850's and is still used by the Pacific Gas and Electric Company (PG&E) to convey water to generate hydroelectric power and to the TUD's water treatment plants, agricultural and irrigation customers. The main canal conveys water to approximately 85% of Tuolumne County residents. The canal is approximately 5.6 miles long and includes several wooden flume structures, one of which is over a mile long, and is susceptible to fire, landslides, and other natural and manmade disasters. Steve was responsible for evaluating the environmental issues and constraints associated with the engineering or management alternatives developed and prepared an environmental information

document analyzing the environmental impacts with the preferred project. TUD has received Grant Funding from the Environmental Protection Agency (EPA) and therefore the project must comply with both CEQA and NEPA.

Spring Gap-Stanislaus Hydroelectric Project, Tuolumne Utilities District

Environmental Compliance Project Manager. As part of a team assembled by TUD, Steve participated in the review and petition to change the conditions in the State Water Resources Control Board's (State Board) Draft 401 Water Quality Certification and Initial Study/Mitigated Negative Declaration for the re-licensing of the Spring Gap-Stanislaus Hydroelectric Project. TUD asserts that the conditions are inconsistent with the 5-year collaborative process agreed to by the other stakeholders and would result in TUD customers not receiving water in dry and critically dry years. The team evaluated the model and environmental documentation and determined that the potential impacts have not been adequately addressed in the environmental document. As a result, TUD has filed a petition for reconsideration to the State Board and is working with the Federal Energy Regulatory Commission (FERC) to delay issuing the re-license with the State Board's proposed 401 water conditions.

Jamieson Canyon Water Treatment Plant Improvements Project EIR, City of Napa

Project Director/Manager. Managed the preparation of an environmental impact report (EIR) for the proposed improvements to the City of Napa's Jamieson Canyon Water Treatment Facility (JCWTP). The goals and objectives of the proposed project are to upgrade and expand the existing 12 million gallon per day (mgd) plant to have an average treatment capacity of 20 mgd and a hydraulic peak hour treatment capacity of 24 mgd. These upgrades would enable the city to consolidate its current operational practices and costs from two other city-owned water treatment plants and operate the JCWTP predominately throughout the year. In addition, expanding the JCWTP would also allow the City to use and treat a greater portion of its allotment of State Water Project (SWP) water supplies that are delivered through the North Bay Aqueduct (NBA). The ability to more fully use its NBA water entitlements would enable the city to meet current and projected demands based on General Plan build-out in 2020 and provide contingencies for drought-proofing the city's water supplies.

Forbestown Ditch Evaluation Study, Yuba County Water District

Project Manager – Environmental Review. Completed an environmental review and assessment of the Forbestown Ditch as part of an overall engineering and environmental evaluation of the earthen ditch system that was originally constructed in the 1860's. The main ditch system includes several wooden flume and wooden pipeline facilities and extends approximately 41,500 feet and has an overall capacity of 40cfs with flows averaging 24 cfs during the irrigation season. In addition, the ditch system is a main source of drinking water for residents in Yuba County Water District's service area. The purpose of the study was to identify cost effective alternatives for reducing the amount of water lost to leakage/seepage, improving reliability of the water supply due to periodic mudslides and ditch failures in the steep foothill area, and most importantly improving the source water for potable purposes in the small rural communities. Alternatives considered ranged from piping all or portions of the ditch, lining all or portions of the ditch, and the no project alternative. The district applied for federal grant and loan assistance through the U.S. Department of Agricultural's (USDA) Rural and Community Development Program for water and wastewater utilities. As part of the evaluation, Steve prepared an Environmental Information Document (EID) that was submitted to USDA for their evaluation of the potential environmental effects and to determine what level of environmental review was necessary for satisfying the requirements of the National Environmental Quality Act (NEPA).

Harbor View Reservoir Replacement Project – Initial Study, City of Martinez

Project Director/Manger. Managed preparation of an Initial Study for the replacement of the City of Martinez's Harbor View Reservoir.

Folsom Lake Temperature Control Device Project EIR, El Dorado Irrigation District

Project Manager/Director. Led the team that prepared the EIR for the El Dorado Irrigation District (EID) on its Folsom Lake Temperature Control Device (TCD) Project. He prepared the environmental document on a fast-track basis within budget. The fast-track EIR was prepared on-budget and within five months from notice to proceed, allowing EID to certify the EIR and approve the project.

South Stockton Aqueduct IS/MND and EA/FONSI

Project Manager. Managed the environmental documentation for the six-mile, 42-inch pipeline to serve water to the South Stockton Area. Steve developed a strategy for the acquisition of all necessary federal, state and local regulatory approvals, including Section 404 Permit, 401 Water Quality Certification, National Pollutant Discharge Elimination System (NPDES) Discharge Permit, 1601 Streambed Alteration Agreement, and Encroachment Permits from the City, County and California Department of Transportation (Caltrans). The project was being funded by the U.S. Department of Commerce,

Mare Island Naval Shipyard EPA Water Infrastructure Grant Environmental Compliance

Project Manager. Managed the preparation of CEQA and NEPA environmental documentation for the rehabilitation and replacement of the sanitary sewer facilities at the former Mare Island Naval Shipyard. As part of the environmental review, Steve prepared an Environmental Information Document (EID)

Mid-Pacific Region of the U.S. Bureau of Reclamation

Indefinite Delivery/Indefinite Quantity (IDIQ) Contract/Program Manager. Responsible for day-to-day operations including tracking overall budgets and expenditures, assigning and coordinating appropriate resources, and managing the quality of deliverables for each of the individual task orders for a wide variety of planning studies and investigative services in the following disciplines: environmental compliance, water supply development, flood management, environmental restoration, water transfers, hydrology, groundwater, cultural and archeology resources, standard operating procedures, energy deregulation, and irrigation and drainage. In addition, Steve also served as project manager on several individual task orders.

Tuolumne County Watershed Assessment and Water Quality Plan

Project Director. Directed the development of a Watershed Assessment and Water Quality Plan for Tuolumne County. Emphasis of the Assessment is placed on lower-foothill watersheds within the Upper Stanislaus and Upper Tuolumne Rivers. As part of the project, Steve oversaw the development of a Surface Water Monitoring and Reporting Program for the county to initially assess cumulative or mass pollutant loading within six surface water features. Other deliverables included preparing a sediment characterization task for the Sullivan Creek hydrologic area.

Corning, Proberta, and Thomes Water Districts to the Gray Lodge Wildlife Refuge

Project Manager. Prepared an EA/FONSI for the transfer of 4,800 acre-feet of water. The water transfer proposal complied with the U.S. Bureau of Reclamation's Interim Water Transfer Guidelines under the Central Valley Project Improvement Act (Title XXXIV of Public Law 102-575).

CALFED Bay-Delta Program Long-Term Strategy

Project Manager. Steve participated in preparing reconnaissance level investigations for numerous water storage and water conveyance facilities that were considered in the CALFED Bay-Delta Program Long-Term Strategy to restore water quality and the ecosystem of the Sacramento/San Joaquin River and San Francisco Bay Delta Estuary.

Water Management Program, Arvin-Edison Water Storage District

Public Education. Developed materials for meetings with politicians, federal, state and local officials, other interested parties to explain the Arvin-Edison Water Management program and its benefits. The Program involved the Arvin-Edison Water Storage District transferring 350,000 acre-feet of its Class 2, "Wet Year" water to the Metropolitan Water District of Southern California over a 25-year period in exchange for the development and financing of 500 acres of spreading ponds, 15 extraction wells, and an intertie to the State Water Project via the California Aqueduct.

Sunrise Douglas Specific and Community Plans

Project Manager. Managed the development of a "wrap-up report" and a public education program for the project. The program focused on summarizing water demand and phasing of surface and groundwater; integration with the County of Sacramento's Zone 40 Conjunctive use Program; the potential for off-site groundwater contaminant plumes to migrate into the project area as a result of increased groundwater extraction; the current groundwater quality as it relates to the state and federal drinking water standards; and funding for the construction and operation of groundwater and surface water facilities.

Sacramento River Water Reliability Study CEQA/NEPA

Project Manager. As part of a large team, Steve assisted in managing the preparation of the environmental impact statement (EIS) and environmental impact report (EIR) for the Sacramento River Water Reliability Study (SRWRS). The study was initiated by the Bureau of Reclamation and Placer County Water Agency in 2002 on behalf of cost-sharing partners: City of Sacramento, the City of Roseville, Placer County Water Agency, and the Sacramento Suburban Water District. The goal of the SRWRS is to develop a water supply plan that is consistent with the 2000 Water Forum Agreement objectives to meet water supply needs of the Placer-Sacramento region to 2030 and promote ecosystem preservation along the lower American River. The plan would divert and distribute water from the Sacramento River for use in the service areas of cost-sharing partners. The Sacramento River diversion would provide additional water supply for planned development in the Placer-Sacramento region, reducing a portion of future diversions from the American River and further contributing to preservation of the lower American River. The diversion would also reduce groundwater pumping in the region, slowing the migration of large groundwater contaminant plumes to further protect the region's water supply reliability.

Broadview Water Contract Assignment Project, Pajaro Valley Water Management Agency

Project Manager. Managed the preparation of NEPA and CEQA environmental compliance documents for a Central Valley Project water service contract. The proposed imported water supply of approximately 27,000 acre-feet of water annually will provide help PVWMA meet the agricultural demands in the Pajaro Valley, help restore the groundwater basin, and alleviate seawater intrusion.

Delta-Mendota Canal Unit of the U.S. Bureau of Reclamation

Project Manager. Assisted in the preparation of an EA for the renewal of the long-term water service contracts for the Delta-Mendota Canal. The EA tiered off of the Programmatic Environmental Impact Statement for the implementation of the Central Valley Project Improvement Act (CVPIA) and NEPA compliance.

San Luis Unit of the U.S. Bureau of Reclamation

Project Manager. Assisted in the preparation of an EIS for the renewal of the long-term water service contracts for the San Luis Unit. The EIS tiered off of the Programmatic Environmental Impact Statement for the implementation of the CVPIA and NEPA compliance.

Systems Optimization Review Grant, City of Folsom

Project Manager. Helped obtain a \$500,000 Systems Optimization Review Grant from the U.S. Department of Interior, Bureau of Reclamation's Water for America Challenge Grant Program which will assess the potential to improve water conservation, increase water use efficiency, and enhance water management to ensure the long-term sustainability of the Folsom's water supplies. Preliminary estimates suggest that Folsom can save and/or conserve approximately 5,000 to 10,000 acre-feet per year (afy) and make that water available for banking, sale, lease, or transfer.

Eastern San Joaquin Basin Integrated Conjunctive Use Program EIR

Project Director/Manager. Managed the environmental review aspects for the development of a Program Environmental Impact Report (EIR) on the Eastern San Joaquin Integrated Conjunctive Use Program. The purpose of the Program is to implement a comprehensive, prioritized menu of water resources projects and actions to ensure the sustainability of groundwater resources in the San Joaquin Region. The 12 member agencies are employing a consensus based approach to collectively develop stakeholder-supported water resources projects that provide reliable water supplies to sustain the economic, social, and environmental viability of the San Joaquin County region.

Woodcreek North Well Project Initial Study/Mitigated Negative Declaration, City of Roseville

Project Manager/Director. Steve prepared an Initial Study and Mitigated Negative Declaration for the City of Roseville's Woodcreek North Well Aquifer Storage and Recovery Project. The proposed well was constructed and is 400 feet deep and produces up to 3,000 gallons of water per minute, and will be used to back up existing water supplies during critically dry periods. Permitting of injecting chlorinated water back into the well still has issues with the Regional Water Quality Control Board.

Stockton Blending Facilities Project, Cal Water

Project Manager/Director. Several of Cal Water's groundwater wells have arsenic concentration above the Environmental Protection Agency's (EPA) new maximum contaminant level (MCL) arsenic standard of 10 parts per billion (ppb). Steve prepared the Initial Study/Mitigated Negative Declaration that analyzed the potential environmental impacts associated with implementing the project, including blending affected groundwater with other surface water supplies with a 5-mile long, 24-inch pipeline blending facility to dilute the arsenic to acceptable levels.

Excelsior Groundwater Treatment Plant Environmental and Permitting Issues and Constraints Report

Project Manager. Managed the environmental documentation for the proposed Excelsior Groundwater Treatment Plant, Pipeline, and Storage Facilities Project to serve the Sunrise Douglas Community/ SunRidge Specific Plan of the Sacramento County Water Agency Zone 40 water service area. Steve developed a report that identified the issues and constraints of the construction and operation of the Proposed Project and developed a strategy for obtaining the necessary permits and approvals.

Groundwater Banking Project, Semitropic Water Storage District

Public Education. Developed a public education and public relations program for the project including creation of a brochure, table-top display, and an automated computer-driven presentation and educational slide show. He also wrote and submitted a winning entry and application for the Water Management Category of the Clair A. Hill Award. Winners were acknowledged at the Association of California Water Agencies' Spring 1995 Conference.

Wastewater Treatment and Reclamation Plant Upgrade Project EIR, City of St. Helena

Project Director/Manager. Managed the preparation of an environmental impact report for the City of St. Helena's proposed upgrades to its wastewater treatment and reclamation plant. The primary goal and objective of the Proposed Project is to provide the additional treatment capacity necessary at the WWTRP to

meet waste discharge requirements (WDRs) issued by the SFBRWQCB and to be consistent with the City of St. Helena's General Plan (1993a). Specifically, the goals and objectives of the Project are to construct facilities to ensure that: effluent discharged to the Napa River meets or exceeds the current discharge limitations; effluent applied to the spray field meets or exceeds the current and future WDRs reclamation quality; and effluent is treated to Title 22 tertiary standards in anticipation of future potential projects to deliver reclaimed water from the WWTRP to offsite locations for non-potable reuse.

Sacramento Area Flood Control Updated Environmental Documentation

Project Director. Oversaw the fast-track supplemental EIR that addressed floodway improvements capable of passing a 100-year flood event on several streams in Sacramento County. The supplemental EIR was prepared in less than five months.

Alturas Hydrologic Study and Stormwater Management Plan

Project Director. Oversaw the development of the Stormwater Management Plan for the City of Alturas, California. The project focused on reducing chronic flooding within the City and reducing nonpoint source impacts to the Pit River watershed. As part of the project, Steve consulted with the City, Regional Board, and Local RCD, and participated in developing runoff management strategies to alleviate flooding and non-point source pollutants. The ultimate outcome of the project supports the long-term goals and objectives of the CALFED Program.

Regional Stormwater Management Plan, Truckee Meadows Interlocal Stormwater Committee (TMISC)

Project Manager. Developed a program that was developed primarily through a series of interactive workshops with the TMISC and other stakeholders to determine the extent and location of existing stormwater quality problems, identify possible solutions, and reach consensus on what the specific goals and objectives of the program should be. The services provided included all aspects of NPDES stormwater permit support including: the development of best management practices (BMPs), a stormwater discharge monitoring program, illegal discharge detection and elimination controls, structural controls for water quality improvements, plans to regulate discharges to storm drains and water courses, and public education and participation programs.

Reclamation District 2035 (RD 2035) Diversion Fish Screen Project

Project Manager. Managed the preparation of an environmental review and analysis to meet the requirements of CEQA and NEPA. Steve prepared a combined Initial Study/Negative Declaration (IS/ND) and EA/FONSI for this project. He developed a strategy for the acquisition of all necessary federal, state and local regulatory approvals, including Section 404 Permit, 401 Water Quality Certification, NPDES Discharge Permit, 1601 Streambed Alteration Agreement, and Encroachment Permits. In addition, Steve oversaw the development of a Biological Assessment for the Bureau of Reclamation's consultation with the U.S. Fish and Wildlife Services. RD 2035 approved the project in December of 2003 and is currently awaiting funds for construction.

Patterson Irrigation District Fish Screen Project EIR/EIS

Project Manager. The new diversion would replace the existing diversion of 195 cfs with the same capacity, but a positive barrier fish screen to meet the requirements of the U.S. National Oceanic and Atmospheric Administration Fisheries and the California Department of Fish and Game's fish screen criteria, preventing the entrainment of fish in the pumped diversion. Steve prepared a combined IS/ND and EA/FONSI for this project and oversaw the development of an Action Specific Implementation Plan (ASIP) for consultation

with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and the California Department of Fish and Game. In addition, Steve developed a strategy for the acquisition of all necessary federal, state and local regulatory approvals, including Section 404 Permit, 401 Water Quality Certification, NPDES Discharge Permit, 1601 Streambed Alteration Agreement, and Encroachment Permits. In addition, the project included preparation of a Action Specific Implementation Plan (ASIP) for the Bureau of Reclamation's consultation with the U.S. Fish and Wildlife Services.

Meridian Farms Fish Screen Project

Project Manager. Managed the preparation of CEQA and NEPA environmental documentation for the construction and operation of the project. Steve prepared a combined IS/ND and EA/FONSI for this project and oversaw the development of an Action Specific Implementation Plan (ASIP) for consultation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and the California Department of Fish and Game. He also developed a strategy for the acquisition of all necessary federal, state and local regulatory approvals, including Section 404 Permit, 401 Water Quality Certification, NPDES Discharge Permit, 1601 Streambed Alteration Agreement, and Encroachment Permits.

Fairfield-Suisun Sewer District – Wind Energy Project

Project Manager. Prepared the Initial Study/Mitigated Negative Declaration to meet the requirements of CEQA for the Fairfield-Suisun Sewer District's proposed Wind Energy Project. The purpose of the project is to install approximately 200 kilowatts (kW) of wind energy power generation facilities that would provide up to 113,000 kilowatt-hours of wind energy power annually to offset some of the electrical demands of the District's wastewater treatment plant operations; thereby decreasing its carbon footprint for energy use and consumption. The district is proposing to install and operate four (4) 50-kW turbines that will harness renewable wind energy resources and provide total generation capacity of approximately 200-kW of renewable electricity. Each of the four wind turbines are approximately 100-feet tall and have a three blade rotor with a diameter of 50 feet. As part of the environmental analyses, Steve worked with California Department of Fish and Game to resolve bird and bat strike and mortality issues quickly and efficiently. Steve prepared and successfully completed the environmental review process within 2 months from notice to proceed.

Kramer Junction Pipeline, City of Adelanto

Project Manager. Managed the preparation of environmental compliance documents and permits for the construction of a 32-mile natural gas pipeline from Kramer Junction to the City of Adelanto, California. He successfully applied for and obtained a 401 Water Quality Certification for the 40 dry wash crossings from the Regional Water Quality Control Board, and assisted in obtaining the right-of-way grants and the development of the compensation agreements for the mitigation measures including the purchase of habitat for the desert tortoise.

Aliso Canyon and La Goleta Cushion Gas Project

Project Manager. Managed the preparation of environmental documentation for withdrawing cushion gas from two operational production fields in order to be able to market and sell this gas during the winter. The California Public Utilities Commission was the lead agency for compliance with CEQA and through successful discussions, the project qualified for a categorical exemption.

San Carlos Airport Master Plan Update EIR

Project Manager. Managed the preparation of the EIR for a highly controversial Airport Master Planning project at the San Carlos Airport. Local residents expressed concerns about more and larger aircraft using the airport as a result of the proposed project and the potential for increased noise, air quality, and traffic

impacts. As a result, the proposed project description has changed substantially from the 1997 Airport Master Plan originally prepared by another consulting firm. Steve acted as an independent/objective evaluator of the potential environmental impacts and prepared the EIR.

June 23, 2012

Desal America LLC

831-645-9711
7697 Highway 1 Moss Landing, CA 95039

Nader Agha
Moss Landing Commercial Park
Moss Landing, CA

Re: Quotation for 9 MGD Desalination Plant, Quote No. SL0611-01

Dear Nader:

We are pleased to provide a quotation for a 9 MGD (10,000 acre-ft/yr) reverse osmosis (RO) desalination system to be installed at the Moss Landing Commercial Park.

I. Introduction

This quotation is based upon the information available at the present time and incorporates a very conservative design. Here are some important items to note regarding this quotation:

Use of Existing Moss Landing Infrastructure

This quotation assumes that the existing Moss Landing infrastructure may be used with little modification. This includes the inlet, outfall, and buildings to house the treatment system, control room, laboratory, and administrative offices.

Conservative Design

This quotation is based upon a very conservative flux rate in the RO system. Also, this quotation is based on a recovery rate of only 40%.

II. Scope of Supply

Inlet Screen - Mechanical traveling screen with nominal screen opening of 5 mm.

Booster Pumps - Nine Fybroc 6x8x13 fiberglass pumps with 100 HP motors. Eight primary pumps, one standby.

Media Filters - The media filtration system comprises twenty-four 12 ft diameter fiberglass pressure vessels each holding 200 ft³ of high performance zeolite filtration media. The media filtration system also incorporates a backwash recovery system.

Low Pressure Piping - All low pressure piping is Schedule 80 PVC.

Scale Inhibitor Injection System - Chemical injection pumps and storage tanks for injection of scale inhibitor to RO inlet.

RO System - The RO system comprises 504 six element pressure vessels each with six 8" x 40" membrane elements. Average membrane surface area per element is 400 ft². This results in a very conservative flux rate of 7 GFD at a recovery of 40%.

High Pressure Pumps and Energy Recovery - Nine FEDCO 700 HP high pressure pumps with energy recovery turbines. Eight primary pumps, one standby.

High Pressure Piping - All high pressure piping is super duplex stainless steel.

Controls and Instrumentation - Complete PLC based monitoring and control system on each media filter/UF/RO train with full complement of sensors and analyzers for proper performance monitoring. All PLCs are networked to a central PC-based control console for monitoring and control of the entire system from a central point.

Electrical System - Power distribution and motor controls for the entire system. VFD's provided for RO high pressure pumps.

Post Treatment - Necessary chemical injection for pH control and recarbonation of RO permeate.

Membrane Cleaning System - Chemical tanks, pumps, filters, and controls for cleaning of the RO membrane elements.

Other Costs - The system cost quotation also includes costs for the following:

- Engineering and Outside Technical Consultants Required for the Treatment System
- Installation Labor
- Materials for Installation
- Installation Equipment Rental

III. Exceptions

The cost quotation in Section IV does not include the following:

- Any necessary pilot testing.
- Overall project management fees.
- Any engineering fees other than those related directly to the treatment system.
- Any modifications or additions to the existing inlet and outfall.
- Distribution of the product water including pipelines and pumping stations.
- Legal fees.
- Interest, cost of working capital, or insurance necessary during construction.
- Any major civil or construction work necessary to accommodate the desalination system at Moss Landing.
- Any permits, taxes, or other fees that might be required for the project or engineering costs required to obtain any necessary permits.

IV. Price and Terms

Price for the system as described in Section I is \$42,500,000. Terms are as follows:

- 10% due with order;
- 10% due upon completion of submittals;
- 10% due upon approval of engineering design;
- 60% due during progress of construction, billed on a monthly basis based upon progress and approval of client's technical representative;
- 10% due upon commissioning.

Please let me know if I can answer any questions or provide clarification.

Sincerely yours,

Desal America LLC

Stan Lueck
President

Mr. Joshua Moenning serves as the Systems Assembly Manager for RODI Systems. Mr. Moenning has 17 years of experience in construction, design and quality control management. After serving in a five year carpentry and construction design apprenticeship at Moenning Brothers Construction based in Nebraska, Mr. Moenning changed his focus to Production/Quality Control Management and held the position as Production Manager for two years at Moenning Brothers Construction. During this time he also held a part time position as a Boxline Manager at the largest UPS hub in the country. Moving up from there Mr. Moenning started his own subcontracting construction company and operated this company for six years. During the last two years of running his company Mr. Moenning took a position for Lowe's Home Improvement. Mr. Moenning left Lowe's after holding the positions of Zone Manager, Administration Manager and Operations Manager.

As the Systems Assembly Manager for RODI Systems, Mr. Moenning is responsible for ensuring that the water treatment and desalination systems produced by RODI Systems are constructed with the highest quality control standards in the industry. Along with this responsibility Mr. Moenning also participates in product development and design concepts for current and future water treatment systems. Mr. Moenning also contributes with his strong commitment to customer support after the sale of a water treatment system which can and has included systems start up, operator training and technical support.

Mr. Joshua Kane serves as Mechanical Designer for RODI Systems. He holds a Bachelor of Science degree in Mechanical Engineering from Union College and is responsible for 2D and 3D CAD modeling of RODI Systems equipment. Additionally, creation of schematic Process and Instrumentation Diagrams (P&ID's) for new equipment is his responsibility. He is experienced with AutoCAD, AutoSketch, Alibre Design, PLC ladder logic editing, mechanical, electrical, and pneumatic system design, and system construction.

Mr. Kane has extensive experience with computerized modeling of physical systems and phenomena, dating back to his college involvement with computational fluid dynamic flow visualization and finite element stress analysis. He has previously worked in production design and engineering for minimally invasive medical devices as well as performance auditing for medical equipment.

Mr. Kane has authored technical papers and introductory remarks for Halliday, Resnick, and Walker's Fifth Edition of Introductory Physics. At RODI Systems, he is heavily involved with the writing of operation and maintenance manuals for new equipment and standard operating procedures for internal procedures.

Ms. Patricia Vance serves as Vice President and Business Manager for RODI Systems. Ms. Vance holds a Bachelor of Arts degree in Business Administration. She has worked in the field of accounting, business and personnel management for the last 20 years. For RODI Systems, Ms. Vance is in charge of business operations including development and management of RODI's quality assurance and quality control program. She also is responsible for developing and maintaining RODI's in-house components inventory database. This database allows RODI to continuously track the inventory level and availability of the components used in system fabrication.

Before joining RODI Systems, Ms. Vance worked in the water treatment training field as the Business and Financial Manager. She coordinated training seminars nationwide and worked with companies to facilitate in-house training programs.

She most recently held the position of Director of Finance for a rehabilitation hospital. In that position she supervised the administrative departments and managed all of the finance related duties, including yearly financial audits, cost reporting, and bi-monthly reports to the Board of Directors.

STAN LUECK RESUME

Summary of Experience

Mr. Lueck holds a Bachelor of Science degree in chemistry and has spent the last 30 years as a technical professional. His experience began as an undergraduate research associate in surface chemistry, and since, he has been involved in numerous projects related to water treatment and environmental control. His client list includes Fortune 500 companies as well as federal government agencies.

For the last 25 years, Mr. Lueck has specialized in the area of water treatment. He has designed treatment systems, provided troubleshooting and membrane cleaning services, conducted pilot tests and feasibility studies, and developed monitoring and control systems specifically for reverse osmosis and ion exchange applications. Mr. Lueck has trained several hundred water treatment operators from around the world and he speaks regularly at national water treatment conferences. He has authored a number of articles in water treatment technical and trade journals and has served on the editorial board of *Separation and Filtration Systems* magazine. His professional affiliations include the American Membrane Technology Association, the North American Membrane Society, the Instrumentation, Systems, and Automation Society (ISA), and the American Society for Testing and Materials (ASTM). He previously served on a committee formed by the American Institute of Chemical Engineers to establish testing guidelines for reverse osmosis performance. He also served on committee D19 (water) of the ASTM.

Mr. Lueck is currently the President and principal owner of RODI Systems Corp., a New Mexico corporation specializing in membrane-based water treatment equipment for desalination, process water treatment, and wastewater treatment. RODI Systems also provides other products and services including control systems, monitoring systems, instrumentation.

Employment History

President, RODI Systems Corp., January 1995 – Present
Independent Consultant, May 1990 – June 1991 and March 1993 – January 1995
General Manager, Hawken Technologies, July 1991 – March 1993
Vice President and President, RMI Environmental Services, Inc., 1988 – June 1990
Project Manager, PEI Associates, Inc., 1981 – 1988

Education

Bachelor of Science, Chemistry, Baylor University, May 1979

Publications and Conference Presentations

Lueck, Stan. "Membrane Cleaning, Part I", Separation and Filtration Systems, May/June

1995.

- Lueck, Stan. "Membrane Cleaning, Part II", Separation and Filtration Systems, July/August 1995.
- Lueck, Stan. "Reverse Osmosis Treatment of Oil and Gas Produced Water", Industrial Water Treatment, July/August 1995.
- Lueck, Stan. "Membrane Cleaning, Part III", Separation and Filtration Systems, September/October 1995.
- Lueck, Stan. "Use of Ultrafiltration Pretreatment and Membrane Cleaning for the Elimination and Control of Colloidal Fouling in Reverse Osmosis Units", Presented at the 1995 Membrane Conference on Technology/Planning.
- Lueck, Stan. "Ensuring Success with Membrane-Based Water Treatment Systems", Presented at Filtration 1996.
- Lueck, Stan. "Ultrafiltration Pretreatment and Membrane Cleaning", Water Technology, February 1996.
- Lueck, Stan. "Computerized Data-Acquisition and Control Systems and Reverse Osmosis", Ultrapure Water, March 1996.
- Lueck, Stan. "Using Normalized Permeate Flow to Monitor RO Performance", Water Conditioning & Purification, November 1996.
- Lueck, Stan. "Computerized Data Acquisition and Reverse Osmosis", Presented at Watertech 1997.
- Lueck, Stan. "An Integrated System for Reverse Osmosis Monitoring", Presented at the 1998 Clemson University Filtration Seminar.
- Lueck, Stan. "Monitoring Seawater RO Systems", Presented at the American Desalting Association 1998 Fall Conference.
- Lueck, Stan. "Reducing RO Operating Costs with Automated Monitoring Technology", Presented at the 1999 International Water Conference (IWC-99-24).
- Lueck, Stan. "Enhancing the Measurement of Silt Density Index by Chemical Modification of the Sample Stream", Presented at the 2000 International Water Conference (IWC-00-28).
- Lueck, Stan. "Membrane Water Treatment Basics", Presented at the 2010 Summer Rocky Mountain Water Environment Association Training Seminar.
- Lueck, Stan. "Membrane Bioreactors", Presented at the 2010 Summer Rocky Mountain Water Environment Association Training Seminar.
- Lueck, Stan, Paul Sorenson, and Robert Wells. "Saving Water and Energy Using Ultrafiltration and Reverse Osmosis in a Dye House in Western Nebraska USA", Presented at American Association of Textile Chemists and Colorists 2010 International Conference.

Lueck, Stan, and Jeff Rhodes. "Desalination of Oil and Gas Produced Water and Its Potential as a Source of Fresh Water for Hydraulic Fracturing", Presented at Four Corners 2012 Oil and Gas Conference.

Summary of Services-Related Project Experience

- AES Deepwater, Pasadena, Texas. Troubleshooting RO Pretreatment, RO, and Primary Cation, Primary Anion, and Mixed Bed Ion Exchange System.
- AES Deepwater, Pasadena, Texas. On-Site Operator Training in RO and Ion Exchange.
- AES Deepwater, Pasadena, Texas. Feasibility Study for Treating Secondary Wastewater Effluent.
- Alaska Industrial Development and Export Authority, Healy, Alaska. System Audit on RO and Ion Exchange Boiler Feed System.
- City of Riesel, Riesel, Texas. Design and Protocol for RO Pilot Testing.
- Consolidated Industrial Services, Cheyenne, Wyoming, RO Pretreatment and RO System Troubleshooting.
- David H Paul Inc., Various Sites Throughout the U.S. and Canada, RO and Ion Exchange Operator Training.
- Dugan Production Company, Farmington, New Mexico. Cost Estimate for Treating Produced Water from a Natural Gas Well.
- Intel Corporation, Rio Rancho, New Mexico. RO System Troubleshooting.
- Modular Systems International Inc., Suez, Egypt. Evaluation and Re-Programming of RO Control System.
- Seawater Systems Inc., Los Cabos, Mexico. Evaluation of Seawater RO Monitoring and Control System.
- SeaWorld of Florida, Orlando, Florida. On-Site RO Operator Training and RO System Troubleshooting.
- Seven Seas Water Corporation, St. Croix, Virgin Islands. Evaluation of Seawater RO Monitoring and Control System.
- Siemens Westinghouse, Merida, Mexico. Startup Assistance and Troubleshooting of RO Boiler Feed System.
- Stewart and Stevenson Operations Inc., Umatilla, Florida. RO System Troubleshooting.
- Suez Hot Springs Power, Hot Springs, Arkansas. Operator Training in RO Monitoring.



February 1, 2013

Nader Agha
542 Lighthouse Avenue
Pacific Grove, CA 93950

Re: Pipeline cost estimate

Dear Mr. Agha,

As per our conversation about a potable water pipeline from Moss Landing area to the Peninsula, I can offer the following budget numbers.

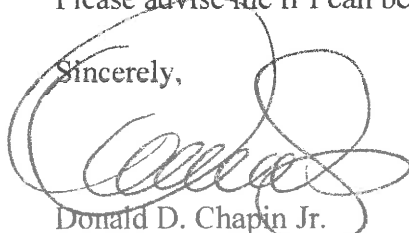
- Based on a pipeline approx. 24 inch in diameter.
- Pipeline to be HDPE or C-900.
- Pipeline to be placed in shoulder areas as much as possible and or non paved easements.
- Pipe is "transmission" in nature and does not have branches or numerous valves.
- Pipe has traditional bedding and backfill requirements for the area.
- Pipeline to be for potable water including disinfection as needed.
- Budget based on no specific plans or details available.
- Budget based on minimal traffic control needed.

With the above in mind, I judge a reasonable budget price to be between \$200.00 and \$300.00 per lineal foot. The lower cost would be the less complex pipeline that includes minimum cover, no surface repairs, etc. The higher would include road crossings, deeper sections, and more difficult areas of pipeline. For the purpose of a general budget at this time, I propose you use \$250.00 per lineal feet for this pipe.

Once plans and specifications are available, I am happy to provide you with a cost estimate that better reflects an engineered project.

Please advise me if I can be of any further assistance to you for this project.

Sincerely,



Donald D. Chapin Jr.
President.

GINA KATHURIA, P.E.

LRM Consulting, Inc.
San Mateo, CA 94010

Cell: 510-566-7220
E-mail: gina@lrn-consulting.com

Professional Profile

A seasoned, highly motivated manager with a successful track record in managing programs relating to permits, enforcement and toxic cleanups. Over 20 years of **diverse experience** in the field of environmental protection including work in private consulting, local and state government. Recognized for **exceptional problem solving** as well as the ability to negotiate, to foster consensus-building solutions, to multi-task, and to **get the job done**.

Recent Accomplishments

- Conducted over 75 enforcement actions (including ACLs, CAOs, and MMPs). *(Enforcement)*
- Played a role in issuing over 12 million in liabilities related to violations of the Clean Water Act *(Enforcement)*
- As Central Valley Region's Division Chief of the Permits Section, I significantly reduced the NPDES Permit backlog in just six months by bringing over 25 permitting actions to the Board. *(Region 5 Division Chief)*
- Gained expertise in NPDES permitting by bringing, over the course of 10 years, about 100 NPDES permits, to the Board for consideration and adoption. *(Region 2 Senior/Staff Engineer)*
- Permitted the first desalination plant in the Bay Area *(Region 2 Senior Engineer)*
- Successfully defended major permits in court proceedings
- Effectively trained administrative staff and students to manage a general permit and issue permit rescissions
- Created effective public and private partnerships in the area of pollution prevention and wastewater reuse
- Transitioned NPDES Permits to follow State Board Permit Template
- Attended over 10 job recruitment fairs (selected by State Board to speak at a recruitment event, attended by 200 people, about the benefits of working for the State)

Professional Experience

LRM Consulting, Inc, January 2013-present

Principal Engineer

Direct business development and provide consulting services in the areas of NPDES permitting, regulatory compliance, and groundwater cleanup. Also serve as principal engineer on technical projects related to Water Board Permits and other water permits (drinking water).

KCE Engineering, Inc, 2011– December 2012

President/Principal Engineer

Responsible for marketing and business development, directing the work of five other employees including admin, engineers, land surveyors, and landscape architects. Responsible for all company decisions regarding contract negotiations, payroll, etc. Also serve as principal engineer on all technical projects. Current project include designing underground fiber optic cables, stormwater management, and landfill design and management including monitoring groundwater wells. Manage contracts including negotiating prices, invoicing and payments.

Regional Water Quality Control Board-Central Valley Region, May 2008 – October 2008

Supervising Water Resource Control Engineer Control Engineer

Division Chief of newly formed Permits Section. Responsible for both NPDES program and non-Chapter 15 Program. Supervised 5 sections spread out in three locations, and over 30 staff.

- Consistently brought over 10 permitting actions per Board meeting
- Developed strategy to reduce backlog permit (over 100 permits backlogged) for non-Chapter 15 permits, strategy is being implemented even after my departure from Region 5
- Improved staff morale during extremely tough transition period (EO re-organized to centralize enforcement and permitting activities)
- Received outstanding performance review upon my departure back to Region 2

Regional Water Quality Control Board-San Francisco Bay Region, 1993– present

Senior Water Resource Control Engineer, 2001-2011

(NPDES Enforcement Section, 2008-2009) Direct all enforcement activities and General Permits for the NPDES Division.

- Supervise staff of 6 involving Engineers, Scientists, and Technicians
- Manage and track enforcement, sanitary sewer overflow (SSO), and general permit activities
- Increased productivity resulting in over 20 enforcement actions totaling close to \$5 million in the past five months

(DoD/DoE Section, 2005-2008) Directed cleanup and reuse activities for major military bases and Department of Energy sites. Familiar with all groundwater programs including, Site Cleanup, UST, Superfund (CERLCA, BRAC, FUDs), Landfills, and Refineries

- Supervise staff of 6 involving Engineers, Scientists, Geologists and Interns
- Direct case management for a variety contaminated sites including military bases, refineries, landfills, DoE sites, and UST sites

(NPDES Permit Section, 2001-2005) Manage all wastewater discharge permits in 7 out of 9 counties in the region.

- Supervise staff of 8 involving Engineers, Scientists, Technicians and Interns
- Direct case management for a variety of facilities including power plants, refineries, combined sewer systems, and wastewater treatment plants
- Strongly advocate and implement consensus-based approaches with interested parties to resolve as many issues as possible before public hearings for permit adoption

Associate Water Resource Control Engineer, 1993-1997, 1999-2001

(NPDES Permit Section, 1999-2001) Case handler of minor and major municipal NPDES permits and reclamation permits in Marin and San Mateo counties.

- Authored and shepherded to Board adoption one of the first NPDES permits using the SIP and CTR in the region
- Successfully issued five ACLs to collect over \$250,000 in fines

(DoD/DoE Section, 1993-1997) Project Manager for the clean up of contaminants on closing military bases for civilian re-use. Responsible for developing cleanup goals for contaminated groundwater, soils and sediments. Worked closely with other Water Board programs, local, state and federal agencies.

- Actively participated in the early transfer of clean military-owned parcels to local communities
- Discovered illegal filling of the Bay by the Navy and successfully issued an order requiring commensurate mitigation for wetlands loss
- Assisted in the redesignation of beneficial uses of groundwater in the City and County of San Francisco and East Bay Plain, as a member of the Groundwater Committee
- Participated in the creation of a methodology to develop aquatic protective TPH water quality goals, as a member of the TPH committee

California State Water Resources Control Board, October 1998 – December 1999

Associate Water Resource Control Engineer

Primary responsibilities include coordination with Cal-EPA, other BDOs, and USEPA, contract management, and training. Responsible for developing statewide policies, procedures, and guidance to improve NPDES permitting, and compliance monitoring.

- Project manager for special projects related to regulatory reform (permit consolidation and environmental management systems)
- Authored the Calculation of Effluent Limitations Section of the State Implementation Plan.

Cambria Environmental Technology, Inc, October 1997 –July 1998

Project Engineer/Marketing Manager

Project Engineer. Project Manager for a wide variety of field and office projects including: site assessment, investigation, feasibility studies, remediation system operation and maintenance, and regulatory agency negotiation. Primary responsibilities included technical support, project management, construction management and regulatory negotiations strategies for clients.

Marketing Manager. Job responsibilities included client networking to contribute to the growth and profitability of Cambria. Responsible for developing and implementing marketing strategies, responding to RFPs , writing proposals and conducting presentations.

San Francisco Redevelopment Agency, November 1996 - October 1997

Environmental Advisor to the City Administrator

Advisor to the City in subjects related to cleanup and reuse for Hunters Point Naval Shipyard. Worked closely with many local agencies including Redevelopment Agency, City Attorney, Public Works and responsible for making presentations to various public and government organizations. Provided technical review for environmental documents; assessment of environmental impacts from reuse; and guidance in local policy decisions.

Structural Evaluation
Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs
The People's Moss Landing Water Desalination Project
Moss Landing Green Commercial Park
Moss Landing, CA

August 14, 2012

A structural evaluation has been made by John A. Miller, S.E. of *JAMSE Engineering Inc.* (see attached resume) of the critical elements essential to the development of the The People's Moss Landing Water Desalination Project located at the Moss Landing Green Commercial Park. See page 4 for overall location of Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs. See page 5 for specific locations of Water Storage Reservoirs.

INTAKE PIPELINES

The existing intake pipelines consist of two 36" diameter pipes that extend from the Intake Pump Station located in the Moss Landing Harbor Marina to the site Storage Reservoirs. The two pipes pass along an easement under Highway 1 through two six foot diameter corrugated steel culverts. One pipe is steel over its entire length while the other is steel until it crosses Highway 1 when it converts to banded Redwood construction. Both pipes are partially buried on site at two locations for road access. The Redwood pipe converts back to steel where it is buried.

At the present time, only the full-length steel pipeline is planned for use with the desalination plant. Welded repairs have been made at several locations. Both the steel and the Redwood pipes appear to be structurally adequate to serve as intake pipelines. With hydraulic modifications, they could also be utilized as outfall pipelines.

OUTFALL PIPELINE

The existing outfall pipeline is a 52" diameter concrete pipe that extends along an easement from the site Storage Reservoirs to an outfall in the Monterey Bay. This concrete pipe is buried over its entire length at a depth of approximately 25 feet.

Photographs of the pipe interior reveal minor cracks that can be easily repaired with epoxy resin. After repair, the concrete pipe will be structurally adequate to serve as an outfall pipeline for the desalination plant. With hydraulic modifications, it could also serve as an intake for the desalination plant by inserting and stabilizing a 24" diameter steel pipe within.

Structural Evaluation

Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs

The People's Moss Landing Water Desalination Project

Moss Landing Green Commercial Park

Moss Landing, CA

August 14, 2012

Page 2

INTAKE PUMP STATION

The Intake Pump Station located in the Moss Landing Harbor Marina consists of seven large pumps that previously provided water intake for the site. The Station is supported on a concrete slab that is supported above the water line by concrete piles. The slab and piles appear to be structurally sound.

WATER STORAGE RESERVOIRS

There are presently 15 reservoirs available for water storage at the desalination plant: seven at 5.0 million gallons, three at 2.0 million gallons, three at 1.0 million gallons and two at 0.5 million gallons.

The seven 5.0 million gallon reservoirs are circular, open-top concrete tanks that are partially buried. Cracks and leaks in these tanks have been repaired and they appear to be structurally sound for the intended use as water storage for the desalination plant. These tanks presently serve a variety of water storage uses.

The three 2.0 million gallon reservoirs are on-grade, circular, open-top concrete tanks that are approximately 30 feet high. These tanks have been abandoned and are not needed for the desalination plant. However, if these tanks are ever used for water storage they must be repaired as they exhibit significant concrete spalls on the exterior. Repairs include removal of defective concrete, replacement of affected rebar and application of epoxy grout.

Two of the 1.0 million gallon reservoirs are on-grade, circular, open-top concrete tanks that are approximately 20 feet high. Minor concrete spalls on the exterior are evident. These two tanks were interconnected at one time and a large access opening occurs at the base of each tank. After closure of the openings and repair of minor spalls, the tanks appear to be structurally sound for the possible use as water storage for the desalination plant. These tanks are presently not in use.

The other 1.0 million gallon reservoir is an on-grade, circular, open-top concrete tank that is approximately 14 feet high. No significant concrete spalls on the exterior are evident. It appears to be structurally sound for the possible use as water storage for the desalination plant. This tank presently serves as a freshwater storage reservoir.

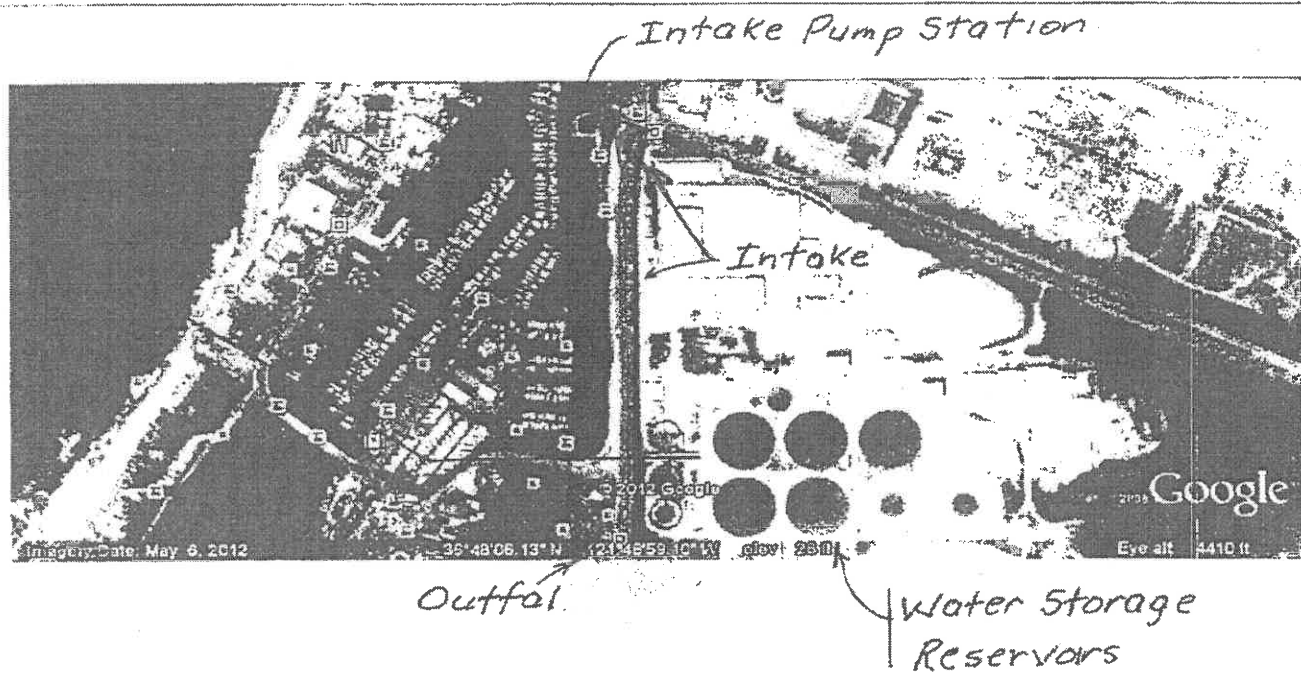
Structural Evaluation**Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs****The People's Moss Landing Water Desalination Project****Moss Landing Green Commercial Park****Moss Landing, CA****August 14, 2012****Page 3**

The two 0.5 million gallon reservoirs are on-grade, circular, open-top concrete tanks that are approximately 14 feet high. No significant concrete spalls on the exterior are evident. They appear to be structurally sound for the possible use as water storage for the desalination plant. These tanks presently serve as freshwater storage reservoirs.

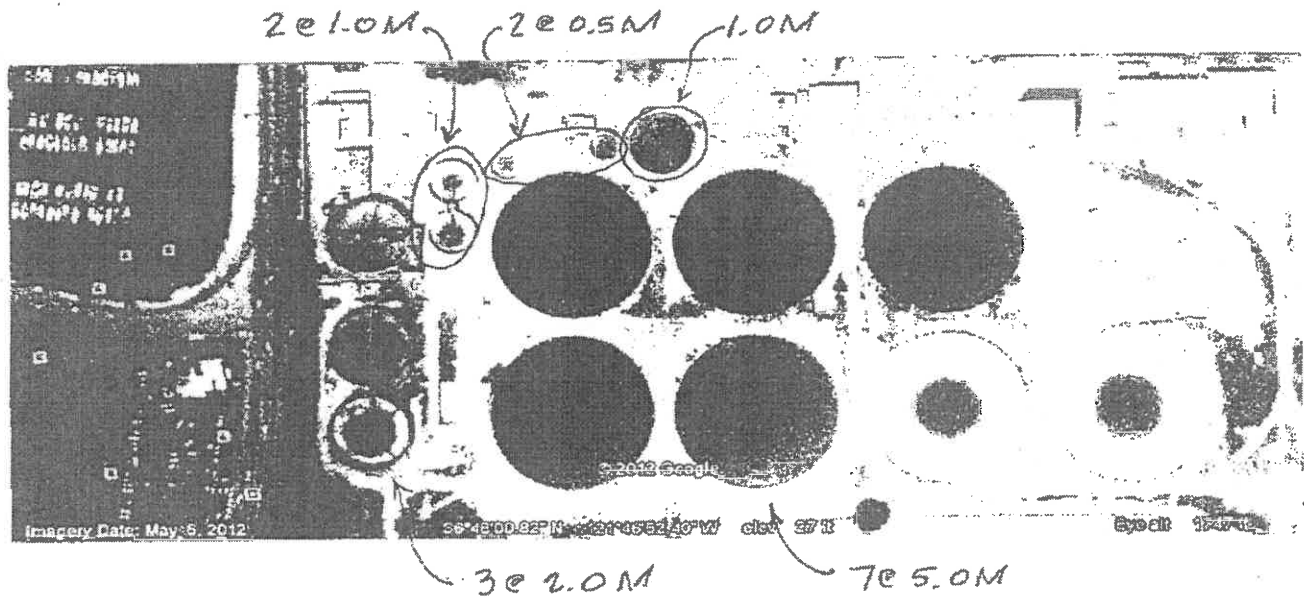
Prepared by: John A. Miller, S.E.
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(650) 239-3700 FAX
jamillerse@msn.com



Structural Evaluation
Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs
The People's Moss Landing Water Desalination Project
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John Albert Miller
Structural Engineer

JAMSE Engineering Inc.
489 Seaport Court, Suite 100
Redwood City, CA 94063
(650) 366-3700
(650) 239-3700 Fax
jamillerse@msn.com

EDUCATION:

The University of Michigan, Ann Arbor, MI, BSE (Civil Engineering)
The University of Michigan, Ann Arbor, MI, MSE (Structural Engineering)
U.S. Army Command & General Staff College, Fort Leavenworth, KS

PROFESSIONAL REGISTRATION:

Registered Civil Engineer: California #C17938
Registered Structural Engineer: California #S1617
Registered Professional Engineer: Arizona, Texas & Florida
Inactive Professional Engineer Registrations: Idaho, Michigan, Minnesota, Montana,
Nevada, Oregon, South Dakota, Utah, Washington and Wyoming

PROFESSIONAL SOCIETY MEMBERSHIPS:

American Society of Civil Engineers
Structural Engineers Association of Northern California
Earthquake Engineering Research Institute
Society of American Military Engineers
American Concrete Institute

PROFESSIONAL EXPERIENCE:

Mr. Miller has over 35 years of experience with the structural engineering design and management of public, private and military projects. He has directed the structural design of numerous schools, hospitals, hotels, detention facilities, parking garages, research facilities, commercial structures, housing projects, industrial buildings, blast resistant structures, bridges and hydraulic structures.

He has served as Engineer-of-Record for structural engineering and had project delivery responsibility of the following major projects:

Infrastructure Projects

- **Marina Coast Water District, Marina, CA: He served as Structural Engineer-of-Record for the design of a desalination plant located in Marina, CA. As a member of the Ionics, Santa Barbara, CA design team, he was tasked with the seismic strengthening of an existing building to accommodate the reverse osmosis process.**
- **Area Wastewater Reclamation Project, Carmel, CA: He performed administrative, technical and financial reviews for the design of a new \$34 million, 1.8 MGD tertiary treatment plant for the Pebble Beach Company.**
- **CSUMB campus Development: He directed the conversion of a portion of Fort Ord, CA from a military installation to an educational facility. He supervised the conversion of 22 buildings and related infrastructure for the opening of a new California State University campus.**
- **Tasman Corridor Light Rail Transportation (LRT) System, Santa Clara County, CA: He served as Project Manager for the structural design of all structures along the LRT corridor extension. In this capacity, He supervised the design of twelve LRT and Heavy Rail bridges with a total cost of structures of \$30 million.**
- **Cell Phone Transmission Facilities, San Diego, CA: On behalf of AT&T, he served as the consulting engineer for the structural design of cell phone transmission facilities throughout Southern California to include free standing towers and attachments to existing structures.**
- **Route 85 Highway Project, Santa Clara County, CA: As Project Manager, he supervised the structural design of three major bridges on Route 85 with a total construction cost of \$14 million.**
- **Routes 85/101 Interchange Structures, Santa Clara County, CA: As Project Manager, he supervised the structural design of the all bridges within the new \$11 million Route 85/101 Interchange.**

Hospital Projects

- Lytton Gardens Convalescent Hospital - Palo Alto
- Community Hospital of Monterey Peninsula - Monterey
- Santa Clara Valley Medical Center (SCVMC) Nursing Tower - San Jose
- St. Agnes Heart Center - Fresno
- Harris Methodist Hospital Expansion - Fort Worth, TX
- Sioux Valley Hospital Expansion - Sioux Valley, SD
- O'Connor Hospital Emergency Services Addition - San Jose
- St. Francis Hospital SB 1953 - San Francisco
- Natividad Medical Center SB 1953 - Salinas
- SCVMC Equipment Anchorages - San Jose
- SCVMC Strong Motion Instrumentation - San Jose
- SCVMC Nursing Tower SB 1953 Compliance - San Jose

Parking Garage Projects

- Market Street Parking Garage - San Jose (1500 spaces)
- San Jose State University West Garage - San Jose (1200 spaces)
- McCandless Towers - Santa Clara (1500 spaces)
- Mission Control Center, Onizuka AFS - Sunnyvale (800 spaces)
- Satellite Control Center, Onizuka AFS - Sunnyvale (800 spaces)
- St Agnes Hospital Parking Garage - Fresno (1200 spaces)

School Projects

- Gateway College of Extended Studies Building - San Diego State University
- Glasgow Hall Addition - NPS Monterey
- Peoria Elementary Schools 25, 26 and 27 - Peoria, AZ
- Gilbert Elementary School - Gilbert, AZ
- Queen Creek High School - Queen Creek, AZ
- Gas Dynamics Laboratory - Stanford University
- Publications Building - Stanford University

Building Projects

- Syntex Bioresearch Facility - Palo Alto
- Mervyn's - El Cajon and Rancho Cucamonga
- Great American Corporate Center - Santa Clara
- Kodak Headquarters - San Jose
- DeMonet Building - San Jose

- McCandless Towers - Santa Clara
- Mission Control & Satellite Control Centers, Onizuka AFS - Sunnyvale
- Motor Lodge Facility - Grand Canyon, AZ
- Corps of Engineers Visitor Centers - Sausalito, CA and Las Vegas, NV
- Marriott Suites Hotel - Costa Mesa and Newport Beach
- V.A. National Cemetery Maintenance/Admin. Buildings - Santa Nella and Riverside
- Police Station - Santa Cruz
- San Jose Water Company/Engineering Building - San Jose
- Seismic Strengthening Holman Building - Pacific Grove
- Gabilan Mixed Use Housing - Soledad

Earthquake Damage Assessment

- Earthquake Damage Assessment and Repair - San Jose State University
- Earthquake Damage Assessment and Repair - City of Santa Cruz
- Seismic Retrofit of Local Caltrans Bridges - San Francisco Bay Area
- Seismic Retrofit of COE Access Bridge - Black Butte
- Seismic Risk Analysis - Mervyn's Stores
- Seismic Hazards Reduction Assessment - San Jose State University

MILITARY SERVICE:

Prior to his civilian career, he served four years on active duty in two overseas assignments, Germany and Vietnam, as an engineer officer with the U.S. Army Corps of Engineers. In that capacity, he had responsible charge for the civil and structural design of many projects including bridges, airfields, schools, hospitals, port facilities, roadways, pipe lines and blast resistant structures.

While on active duty, he achieved the rank of Captain and his military awards include the Bronze Star Medal, Vietnam Service Medal, Jungle Expert Tab, and Parachutist's Badge. Subsequent to active duty, he served an additional 18 years in the U.S. Army reserves and retired as a Lt. Colonel. As a reservist, he served as an Admissions Liaison Officer for the U.S. Military Academy, West Point, and as Mobilization officer for the U.S. Army Corps of Engineers, Los Angeles District.

QUALIFICATIONS OF RICHARD VAN STEENKISTE, PH.D., MAI

Richard Van Steenkiste graduated from the University of Texas at Austin in 1963 with a Bachelor of Journalism degree in public affairs reporting. He received a Master of Arts degree from UT-Austin (1966) and a doctorate in economic and political geography (1970).

From 1970 to 1980, Dr. Van Steenkiste taught political and economic geography, as well as journalism, technical writing and public relations, at universities in Ohio and Texas. He became a sales associate with a real estate brokerage company in 1977, and in 1980 he left his faculty position to devote full-time to a real estate career. From 1982 to 1985 he was director of marketing and a commercial real estate broker and analyst for a brokerage and development company serving primarily European investors and clients. From 1985 to 1987, he was president and a principal in another commercial real estate brokerage company. In May 1987 he joined McCluskey-Jenkins Appraisal, Inc., in Austin, Texas, as a staff appraiser. Dr. Van Steenkiste became one of five equal owners of McCluskey-Jenkins Appraisal, Inc., and in January 1993 opened a California branch of the company, based in the Sacramento area. In mid-1994, he became the sole owner of the California company and changed the name to Landmark Realty Analysts, Inc.

Dr. Van Steenkiste has appraisal experience with vacant land, apartments, office buildings, retail centers, industrial buildings, hotels, residential and commercial subdivisions, and many types of special-purpose properties. For the past 20 years, he has completed appraisal assignments on these types of properties throughout northern and central California, as well as in the Carson City and Reno areas of northwestern Nevada. He is an approved independent fee appraiser for many California and Nevada banks, including Union Bank of California, Bank of America, Wells Fargo Bank, US Bancorp, Wachovia, Umpqua Bank, California Bank & Trust, Mutual of Omaha Bank, Bank of the West and others across the United States. He is a member of the national appraisal panel of Wells Fargo for hotel and motel valuations. He also undertakes appraisal assignments for private developers, investors, attorneys, and real estate consultants. Dr. Van Steenkiste is qualified as an expert witness in Federal Courts, U.S. Bankruptcy Courts, California Superior Courts, and state District Courts in Washington State, Nevada, and Texas.

Dr. Van Steenkiste was president of the ±225-member Sacramento-Sierra Chapter of the Appraisal Institute in 2006. He was Education Committee Chairman from 1995 through 1998 and was a member of the Board of Directors in 1998. In 1999, he was Program Chairman of the Chapter. He served a three-year term on the Board of Directors (2000-2002) and also has served on the Region I (West Coast) Ethics Panel of the Appraisal Institute. He was the newsletter editor in 2003, Secretary-Treasurer in 2004, and Vice President and the chapter's Region I representative in 2005. Together with Dr. Ko Wang, Newman Chair in Real Estate Finance and Chairman of the Department of Real Estate, Zicklin School of Business, Baruch College/CUNY, Dr. Van Steenkiste has written computer programs for sequential pure-pairing analysis of real estate sales comparables and discounted cash flow analyses for use in appraisals. Dr. Van Steenkiste is a certified instructor for the Appraisal Institute. He is also a founding member of the Designated Appraiser Coalition.

Appraisal Institute Course Work

Real Estate Appraisal Principles

Basic Valuation Procedures

Standards of Professional Practice, Parts A, B and C

National USPAP Update Course 2007, 2009 and 2011

Capitalization Theory and Techniques, Parts A and B

Case Studies in Real Estate Valuation

Valuation and Report Writing

Understanding Limited Appraisals & Appraisal Reporting Options: General

Qualifications of Richard Van Steenkiste, Ph.D., MAI

General Appraiser Market Analysis and Highest and Best Use
General Appraiser Curriculum Overview
Fundamentals of Separating Real Property, Personal Property and Intangible Business Assets

Other Pertinent Course Work, Seminars and Workshops

Location Theory
Economic, Urban, and Political Geography
Fundamentals of Location Theory and Market Analysis
Fundamentals of Real Estate Investment and Taxation
Advanced Real Estate Taxation and Marketing Tools for Investment Real Estate
Fundamentals of Commercial Construction
Commercial Office and Retail Leasing
PRO-JECT Discounted Cash Flow Program - Basic Course
California Assessment Bond Seminar - Appraisal Institute
California Wetlands Workshop - Appraisal Institute
Environmental Issues for Appraisers in the Sacramento Area - Appraisal Institute
Seminar on Analyzing Operating Expenses - Appraisal Institute
Seminar on the Internet and Appraising - Appraisal Institute
Workshop, Federal & State Laws & Regulations Concerning Appraisals - Appraisal Institute (instructor)
Workshop on Market Conditions in the Highway 65 Corridor, Placer County - Appraisal Institute
Seminar on Internet Search Strategies for the Appraiser - Appraisal Institute
Seminar on Valuation of Detrimental Conditions in Real Estate - Appraisal Institute
Seminar on Litigation Skills for the Appraiser: An Overview - Appraisal Institute
Appraisal Institute Instructor Leadership and Development Training Conference to qualify as an
Instructor for Report Writing and Valuation Analysis for the Appraisal Institute
Discounted Cash Flow Analysis Seminar – Appraisal Institute
Seminar on Geographic Information Systems (GIS) and Computer Mapping – Appraisal Institute
Seminar on Feasibility, Market Value, Investment Timing: Option Value – Appraisal Institute
Seminar on Appraisal Consulting – Appraisal Institute
Case Studies in Limited Partnership & Common Tenancy – Appraisal Institute
Appraisal Litigation Practice and Courtroom Management – Appraisal Institute
Supporting Capitalization Rates – Appraisal Institute
Rates and Ratios: Making Sense of GIMs, OARs and DCFs – Appraisal Institute
Going-Concern Valuation for Real Estate Appraisers – Appraisal Institute
Workshop on Reappraising, Readdressing and Reassigning: What To Do – Appraisal Institute
The Road Less Traveled – Special Purpose Property Appraisals – Appraisal Institute
Subdivision Valuation – Appraisal Institute
Workshop on Scope of Work – Appraisal Institute
Appraisal of Condominiums, Co-ops and PUDs – Appraisal Institute
Estimating Loss in Value – Appraisal Institute
The Essentials, Current Issues and Misconceptions in Appraising – Appraisal Institute
Attacking and Defending an Appraisal in Litigation – Appraisal Institute
Statistics Review With Appraisal Applications – Real Estate Econometrics
Summer Conference - 2008: “Green” Technology and Construction and Appraiser-Client Issues
Construction Defects, Cost Trends and Feasibility Analysis – Appraisal Institute
2009 Economic Forecast - Sacramento Region – Appraisal Institute

Qualifications of Richard Van Steenkiste, Ph.D., MAI

Business Practices and Ethics – Appraisal Institute

Summer Conference - 2009: Property Tax Appraisals; Assessment Bonds Valuation; USPAP Refresher;
Outlook Mid-Year 2009 – Appraisal Institute

2010 Market Outlook – Appraisal Institute

Instructor Leadership and Development Conference – Appraisal Institute

2013 Economic Outlook – Appraisal Institute

Pertinent Designations and Licenses

Member, the Appraisal Institute (MAI)
(# 9051)

California state certified general real estate appraiser
(# AG 017093, expires 11/1/13)

Paul Hart is an experienced litigator and trial attorney specializing in resolving agricultural business and general business disputes. Mr. Hart grew up in Central Indiana, the eldest child in a multi-generation farming family. Mr. Hart obtained a bachelor's degree in Biology from DePauw University (1991) and graduated cum laude from Northwestern School of Law at Lewis & Clark College (1996), in Portland, Oregon.

George Schroeder practiced law in Monterey, CA from 1960-2000, with an emphasis in real estate and estate planning. He was a member of the City of Monterey Planning Commission for four years, including two years as Chairman. Mr. Schroeder is a University of California at Berkeley undergraduate and a graduate from its law school, Boalt Hall, in 1958.

Cameron A. Weist areas of practice include: Securities Law, Government Contracts, State, Local & Municipal Law, Election Law, Joint Exercise of Powers Law, Bond Counsel, Public Finance, Disclosure Counsel, Underwriter's Counsel, Municipal Financing, Build America Bonds, Assessment District Bonds, Installment Sale Obligations, Water and Wastewater Revenue Bonds, Energy Revenue Bonds, Tax Credit Bonds, Recovery Zone Bonds, Tribal Economic Development Bonds, Capital Appreciation Bonds, Industrial Development Bonds, Tax Allocation Bonds, General Obligation Bonds, Leases, Promissory Notes, Auction Rate Securities, Derivative Securities, Reinvestment Contracts, Miscellaneous Variations of Swap Contracts

REPORTS

REPORTS

- 1. Permitting Matrix by Gina Kathuria, P.E., LRM Consulting, Inc.**
- 2. Independent Consultant Evaluation by Mickley & Associates**
- 3. Environmental Issues & Constraints Analysis Report by Steve Brown SMB Environmental, Inc.**
- 4. Structural Evaluation by John Miller Structural Engineer, JAMSE Engineering, Inc.**
- 5. Replacement Cost Appraisal Report by Richard Van Steenkiste, Ph.D., MAI, President Landmark Realty Analysts, Inc.**
- 6. Balance Sheet**

**Moss Landing Desalination Sea Water Reverse Osmosis (SWRO)
Permitting Matrix (Subject to Modification)**

Updated September 18, 2012
Created by Gina Kathuria, PE

Agency or Department	Permit or Approval	Notes
Federal Agencies		
Monterey Bay National Marine Sanctuary	Input via Water Board's NPDES permit (Section 404)	No direct permit issued, agency provides approval via Water Board NPDES permit
State Agencies		
Central Coast Regional Water Quality Control Board	General Construction Stormwater Permit NPDES Permit CA0007005 (renewal and/or amendment)	Fill out Notice of Intent Application NPDES Permit renewed every 5 years, and permit amendment can be initiated anytime
California Coastal Commission	Coastal Development Permit	In process
California Department of Public Health	Permit to Operate a Public Water System	
Local Agencies		
Monterey County Health Department	Permit to Construct and Operate Desalination Facility Hazardous Materials/Waste Related Permits	
Monterey County Planning and Building Inspection Department	Grading, Erosion and Control Permits	
City Departments	Building permits	

**Independent Consultant Review:
The People's Moss Landing Water Desal Project Proposal
March 2012**

**Prepared for:
The People's Moss Landing Water Desal Project**

**by
Mike Mickley, P.E., Ph.D.**
Mickley & Associates

Boulder, CO 80303
303 499-3133
mike@mickleyassoc.com

March 8, 2012

Independent Consultant Review: The People's Moss Landing Water Desal Project Proposal March 2012

SUMMARY

An independent review of The People's Moss Landing Water Desal Project proposal dated January 2012 has been conducted. There are no fatal flaws in the concept or implementation of it as described in the proposal. The unique aspects of the proposal include the location, availability, and zoning of the site and the availability of existing infrastructure which has been improved for desalination plant use. In the context of proposals that do not include such factors, they represent savings in both implementation time and cost.

The total project capital cost is on the low side of previous seawater desalination projects proposed for the Monterey region. The site owner states his position as seeking no profit on the desalination plant and viewing the project as one of giving back to the community for years of doing business in the region [1]. This is arguably one factor in leading to the low capital cost relative to previous regional proposals.

The proposed capital cost does not appear to be artificially low and is well within the range of historical global and U.S. seawater desalination plant costs.

There are three other projects that may be sited on or near the desalination plant site. The reason for mentioning them is to state their possible relationship with the desalination plant project and most importantly to stress that the desalination project is not dependent on these other projects.

- Biofuels/algae production project: This project will be completely separate from the desalination effort and will not affect the desalination project timing or cost.
- Salt recovery project: This project may eventually abstract salts from the desalination plant concentrate and thereby reduce or eliminate the need to discharge concentrate to the Bay. The project, however, will be funded and implemented completely separately from the desalination project and will not affect the desalination project timing or cost.
- Solar energy project: This project is included in the proposal as a means of providing a substantial portion of the project's required energy. The success of the desalination project, however, is not dependent on implementation of the solar part of the project.

Thus the desalination project efforts, including piloting, permitting, design, and construction, are not dependent on these projects.

Typical concerns associated with seawater desalination projects include:

- piloting
- permitting
- schedule
- use of environmentally state-of-the art intake and outfall technologies

As with any proposal at this stage of development, such concerns need to be addressed at the next project development stage. These and other concerns are discussed below. The potential impact of addressing these concerns (on possible increased project time and cost) is one reason for budget contingency fees. The concerns appear to be anticipated in the proposal and the proposed budget (and associated contingency fee) appears adequate to address these concerns.

The one recommended change to the proposal is to increase the proposed schedule by 4 months to allow more time for piloting and permitting tasks.

DETAILS

Overview

Information in the subject proposal (referred to hereafter as TPMLWDP proposal) was reviewed and evaluated to determine the general efficacy and accuracy of the conceptual design, plan, and other information in the proposal. The review was based on information gathered in the general areas of

- technical
- environmental/regulatory
- economic
- general/public/political,

with focus on the first three areas.

Background

The TPMLWDP proposal for a regional desalination plant is one of several that have been considered in recent years to address the objective of providing California American Water with a replacement water supply, and thus to resolve the issues associated with the State Water Resource Control Board Order No. 95-10 and the overdraft of the Seaside Groundwater Basin [2, 3].

As a result, the review and evaluation of the TPMLWDP proposal was aided by published information on other projects, including some comparative analyses of projects. The previous projects included one similar to the TPMLWDP project, in that it was based on a seawater desalination plant to be constructed on the same Moss Landing site and using much of the same existing infrastructure [2]. This project has been referred to in some documents as the Monterey Regional Seawater Desalination Project (MBRSDP). Important differences between the two same-site projects include:

- different project team
- different project size (20 mgd as opposed to the present TPMLWDP project size of 10 mgd)
- somewhat different source water
 - In the case of the MBRSDP project the source water was considered to be a mix of seawater from the existing intake associated with the site and, when available, return of cooling water from the adjacent Moss Landing Power Plant.
 - In the present TPMLWDP project the source water is considered to be seawater from the existing intake associated with the site or seawater obtained from the Bay via a new intake.

The review and evaluation included the following efforts:

- review of past same-site project studies/reports
- discussion with some present TPMLWDP team members
- discussion with regulatory groups associated with required permits

- discussion with Moss Landing Marine Laboratory
- comparison of TPMLWDP proposal information with information from other somewhat similar projects
- review of literature
- review of permit, appraisal, and other documents which the TPMLWDP proposal information is based on.
- review of potential project efforts by the site owner to create environmentally beneficial and sustainable businesses that will be on the same site as desalination project.

A list of references and contacts appears at the end of this memo.

General Findings

Project development stage

- Information in TPMLWDP proposal is at a mix of screening and conceptual levels of development - not uncommon to projects at this stage of consideration. As such projects move forward, they typically involve the lead agency hiring a consulting firm to do a more detailed analysis of project elements and a more detailed design suitable for competitive bidding of both the final design and construction of the desalination plant and other physical elements of the project.

Project site and condition

- Relative to many/most desalination projects at this project stage, availability of a secured and suitably zoned site is an advantage that can result in savings of time and cost associated with procuring a site.
- The existing infrastructure (buildings, storage tanks, pipelines, pumps, intake structure, outfall structure, roads, etc.) are documented in a real estate appraisal dated October 3, 2011 [4] and mentioned in two reports associated with the previous MBRSDP project [2, 3].
- The appraisal document includes a detailed description of the 55-acre site being considered for the desalination project. Parts of the appraisal are included in an appendix to this report.
- The 55-acre site has an appraised value (\$121,000,000) of nearly four times that proposed for sale to the project (\$30,000,000) [4], representing a cost savings relative to typical desalination projects.
- Portions of the infrastructure have been recently upgraded and made suitable for use with minimal restoration or upgrading (described in the appendix).
- The appraised value of the 55-acre site is divided into two components:
 - Land (with coastal access) - \$44,000,000
 - Existing improvements for a desalination plant - \$77,000,000
- It appears that substantial renovation and remediation of the site have taken place after Mr. Nader purchased the site in December, 2003 [4, 5]. Details are provided in reference 4.
- These land, infrastructure, and improvements are all real and positive factors as described in TPMLWDP proposal.
- None of the site clean-up was required by the EPA or the regional water quality control board. All of it was done voluntarily and paid for by Mr. Nader. The work, however, was done in conjunction with water board approval [5].
- Asbestos found in some of the structures was taken out; no urea-formaldehyde insulation was found.
- No soil or groundwater contamination was found on the 55 acre site. Some groundwater contamination on adjacent land occupied by the original Kaiser company is being monitored by

several wells and at one point an in-situ water treatment project was initiated to further reduce the groundwater contamination. The monitoring wells (not on the 55-acre site) show decreasing levels of contaminants and no further action is required. At some time the monitoring will no longer be required. This historic groundwater contamination on the adjacent property should have no effect on the desalination plant site or its operation.

- Thus the desalination plant site appears to be clean and suitable for the proposed desalination plant use.

Present NPDES intake and discharge permit

- The present permit (ORDER NO. R3-2009-0002; NPDES NO. CA0007005) is not suitable for discharging seawater desalination plant concentrate [6]. This is due to the process generating the effluent and the effluent itself being substantially different from the process and effluent in the existing permit. Thus the existing permit must be rescinded and a new NPDES permit obtained.
- Pre-dilution of concentrate by other source water is not allowed in California and in this way differs from general USEPA requirements [6, 7]. Thus mixing of concentrate with stored seawater and/or groundwater from wells on the plant site is not permitted.
- Forthcoming amendments to California's Ocean Plan will likely require discharges from coastal seawater desalination plants to have a salinity within 10% of receiving water salinity [6, 7]. With the use of diffuser technology, offering a high immediate dilution factor, this should not be a problem for the projected concentrate discharge.
- Other forthcoming amendments to the California Ocean plan will deal with intake requirements regarding impingement and entrainment [7]. For instance, the forthcoming Ocean Plan may also include a flow-based mitigation fee for addressing impingement and entrainment issues associated with intake structures [6].
- The discharge of a high salinity brine from the desalination plant should not have any effect on the Moss Landing Power plant intake due to their relative locations (see Figure 1). The planned and existing desalination plant outfall is in the Bay and the power plant intake is in the harbor. Further, the Bay discharge location is near the head of the Monterey Submarine Canyon which contributes to the high dispersion/mixing activity at the discharge site (see Figure 2).
- The discharge may have an effect, but not one necessarily of concern, on data from the Bay monitoring stations which routinely take data to observe the conditions of the Bay [8].
- Thus due to the location of the outfall in a region of high water activity near the entrance of the Monterey Submarine Canyon and to the planned use of a state-of-the-art diffuser system, the discharge of the concentrate should be well within environmentally-based regulatory limits.
- As mentioned below in relation to pilot tests, the eventual intake for source water may be in the Bay via an intake- outfall system utilizing portions of the existing outfall system.
- While this arrangement would likely provide higher quality source water than that from the harbor, it may not be necessary - in which case the existing intake site will be used.

Intake

- The existing intake is in the Southeast portion of the harbor relatively near where the Moho Cojo Slough and the Old Salinas River portions of the harbor meet (see Figure 1 map).
- The intake pump system is capable of pumping 60 mgd feed water [2]. The proposed 10 mgd desalination plant operating at 50% recovery would require a feed water flow of approximately 22 mgd (product water + concentrate + filter backflush and system rinse water). This flow level is well within the system capabilities.

- The harbor is flushed primarily by tidal forces (two high and low tides each day), and a qualitative estimate was that the harbor might be flushed on the order of 2 or 3 days, which is conducive to eliminating stagnant zones [8].
- Historical water quality information is available which indicates high turbidity [3].
- There is a concern for high organic levels due to hydrocarbons from boating activity in the harbor. One indication of low levels of organics [2] has been called into question by another report [3]. High organic levels in the feed water to a desalination plant require more extensive pre-treatment to protect the membrane elements from fouling.
- The harbor is subject to some level of agricultural runoff by high rain activity and subsequent flow into the harbor by the Old Salinas River [4]. The concern raised is for the organic content of the feed water and the variability of feed water content with time.
- Plans and budget include improving the existing intake structure [1].

Pre-treatment and piloting

- A key desalination plant component is the pre-treatment system required to allow efficient and cost-effective operation of the membrane system. There is a trade-off between the extent and costs of pre-treatment and the frequency (and thus cost) of periodic membrane cleaning. As discussed with reference to the intake location the harbor feed water may differ from open Bay water in ways requiring more substantial pre-treatment.
- The major question is what pre-treatment system is required to address concerns associated with possible high organic, high turbidity, and high variability harbor feed water.
- Reference 2 contains a good discussion of pre-treatment concerns and treatment options including the possible need for Dissolved Air Flotation (DAF) to address concerns associated with high organic levels.
- For seawater desalination, determination of pre-treatment needs is a prime function of pilot tests. For higher quality feed water the pilot test can be shorter and focused on confirming the pre-treatment system. For lower quality feed water the pilot test can be longer and focused on defining the appropriate pre-treatment system.
- Thus the feed water quality is a factor in determining the length and complexity of pilot plant testing needed to define the extent of pre-treatment required and the complexity and cost of the pre-treatment system.
- It appears that the concern for source water quality has been anticipated and included in the project budget.
- More specifically, the pilot test will include feed from both the existing intake area and also from in the Bay. For the pilot test using Bay source water, it will be obtained through the existing 56" discharge pipe and outfall structure. In the eventuality of the full-sized plant using source water from the Bay, a smaller pipe can be inserted into the 56" outfall pipe and extended several hundred meters past the current outfall position. The annular region between the outside of the inserted pipe and the inside of the existing larger pipe can be used for concentrate discharge [1]. The diffuser system would need to be modified to accommodate for this arrangement.
- The design and components of the existing seawater pilot plant will need to be reviewed for conducting the pilot tests. While other equipment may need to supplement the existing pilot system, its availability should translate into time and cost savings to the project.

Outfall

- The outfall is in the Bay (see Figure 1 map).
- There is photographic evidence of damage to the outfall structure [3] in terms of joint disconnections and clogged diffuser ports.
- The power plant intake is in the harbor (see Figure 1 map) and likely not influenced by a high salinity discharge in the Bay [8].
- The discharge might affect monitoring activity in the highly studied/monitored Bay - but this will not necessarily be a problem [8].
- The discharge is through a 620-foot, 51-inch (inside diameter) outfall/diffuser system. The last 130 feet of pipe consists of a diffuser section which has 32 nozzles placed to gradually diffuse the discharge to the ocean. The 2009 NPDES permit allows a discharge of up to 56 mgd for the calcium and magnesium depleted seawater discharged from the then existing Moss Landing Cement Company [9]. The proposed 10 mgd desalination plant operating at 50% recovery would discharge approximately 12 mgd effluent consisting of concentrate, filter flush water, and rinse water from the membrane cleaning operation. The discharge system is capable of handling flows well in excess of this level.
- The minimum initial dilution factor of the unrepaired outfall diffuser system as determined for the existing NPDES permit was 33:1 (seawater: effluent) [9]. This level should meet the likely forthcoming amendment to the Ocean Plan that will stipulate that the discharge at the edge of the mixing zone be within 10% of ambient salinity.
- Further, the discharge area has high activity near the head of the submarine canyon that will aid in rapid dispersion of the discharge [8]. See Figure 2.
- If as a result of pilot tests the desired feed water source is the Bay rather than the harbor, the outfall structure will need to be modified as discussed in the pre-treatment and piloting section.

Energy requirement

- A nominal energy requirement for seawater reverse osmosis desalination is 13.6 kWh/kgal of product water. For a 10 mgd facility this translates to an energy requirement of 6.7 MW.
- The proposed solar energy system was stated as generating 6 MW, which would supply a substantial percentage of the energy need.

Desalination plant conceptual design

- Seawater membrane desalination plants are fairly standard in terms of general design, and the components mentioned in the proposal are consistent with standard practices.
- While the salinity and ionic makeup of seawater are regionally quite consistent, water quality can vary significantly from site to site in terms of turbidity, suspended solids, and organic content.
- As mentioned several times above with regard to intake, pre-treatment, and piloting, the feed water in the harbor may have high turbidity and high organic levels that require more than normal pre-treatment and piloting. These items have been anticipated in the proposed pilot tests and in the project costing [1].
- Size of available buildings appears adequate to house the desalination facility.
- Other system components, depending on more detailed design considerations, will likely be standard.

Permitting (general)

- The listing of permits appears complete. Similar lists have appeared in various reports and conceptual design documents for California desalination sites.
- The complexity of permitting seawater desalination plants in California is well known. It is imperative to interact in depth with multiple regulatory groups as early as possible in the consideration of a desalination plant. This is crucial because final design and subsequent construction depend on permitting.
- Obtaining a new NPDES permit for the proposed location does not appear to be unusually difficult given the favorable discharge location and use of state-of-the art intake structure to address impingement and entrainment concerns.
- This and the attainment of other permits assumes, as a footnote in the proposal says, 'no extraneous, unnecessary, or political interference' which, unfortunately, frequently occur.

Project schedule

- The proposed schedule is ambitious. It would require time-efficient public agency decision making, pilot testing/definition of the pre-treatment system, and permitting.
- For this reason, I suggest adding four months to the proposed schedule, primarily to the time before construction.

Project financing

- This is one area the reviewer is not qualified to comment on beyond seeing that the terms and approach appear to be consistent with current practices.

Other projects associated with the site or nearby

1 - Bio fuel venture [10]

Although not mentioned in the proposal, an effort has been made to investigate and initiate study of seawater to feed biofuels and algae harvesting operations. The biofuels and algae producing efforts have multiple potential benefits ranging from providing an alternative source of fuel, providing a source of animal feed, and employing local people. This project will be completely separate from the desalination project and will not affect the piloting, permitting, scheduling, or cost of the desalination project.

2 - Salt recovery venture

- The previous owner of the site, Kaiser Industries (plant referred to as Kaiser National Materials and Refractories), used the site to remove calcium and magnesium from seawater, obtaining seawater via the existing intake, and discharging calcium and magnesium-depleted seawater via the existing outfall.
- The intent of Desalt America, LLC, mentioned in the proposal, is to recover various constituents from the concentrate as commercial grade salts or constituents that can be transformed into value-added products.
- Recoverable salts include magnesium hydroxide and sodium chloride (common salt).
- Magnesium hydroxide is used in water and wastewater treatment as well as feedstock for recovering magnesium metal. Sodium chloride is used in food and industrial processes; many industries require bulk salt supply. Magnesium can be used in building materials.

- The salt removal process typically involves high alkaline water processing, which can also be used for carbon capture since high alkaline water can absorb CO₂ from the atmosphere and upon further processing convert it to calcium carbonate.
- Such an activity would not be part of the publicly owned desalination plant but of a separate company (Desalt America LLC) that would provide the service and conduct all marketing and sales.
- The reason for including comments about this effort, which is substantially separate from the desalination plant effort, is to examine the possible linkage between the two efforts.
- The processing steps involved in multiple salt recovery typically amount to a high water recovery process which results in minimizing the concentrate volume. In the extreme it may be a zero liquid discharge process converting all solids in the concentrate to commercial products (in some cases to a mixture of commercial products and solid waste), thereby eliminating the need for discharge.
- In the present case, the additional processing required to remove salts would take place using the desalination plant concentrate as feed water.
- The timing, schedule, piloting, and cost of the salt removal project are independent of the desalination project.
- Upon possible implementation of the salt recovery effort, the salt recovery entity (DESALT AMERICA) will use the concentrate from the desalination plant (without additional cost to the desalination plant or DESALT AMERICA). The desalination plant NPDES permit would need to be modified to reflect this change in the outfall discharge.
- Removing salt by further processing the concentrate can serve to reduce environmental concerns associated with the desalination plant discharge.

3 - Solar system

- The proposed solar system will produce 6 MW of energy at a capital cost of \$18,000,000.
- The acreage required for 6 MW is on the order of 35 to 50 acres, suggesting that the sizing of the solar facility was based on available acreage after the desalination plant construction.
- I have been told the cost of \$18,000,000 is from a bid; however I have not seen the bid. The figure is on the low side of historical bids on other large solar projects [11]. However, given the continuing improvements in photovoltaic collectors and the size of the project, the amount the \$18,000,000 figure appears reasonable.
- The proposed on-site solar system can provide a large portion of the energy requirement and can also serve to reduce the carbon footprint of the desalination plant.
- The desalination plant project, however, is not dependent on the solar plant effort, as a standard source of electricity is possible.

Pipeline

- The proposal includes a map of the proposed pipeline alignment (path).
- The cost of the pipeline is based on the reasonable assumption of \$250/LF for installation.
- Much of the proposed distribution pipeline path is along railroad right-of-way and permission will need to be obtained from the Union Pacific Railroad. Where Monterey County right-of-way is involved, permissions will be obtained through the County of Monterey Public Works Department [12].

Railroad spur access at the plant site

- The access will provide both a cost and environmental benefit to the project.

Project cost

- The proposed total cost, \$128,650,000, presented on page 10 of the proposal, is made up of the separate parts of:
 - desalination plant \$57,000,000
 - land purchase \$30,000,000
 - solar system \$18,000,000
 - pipeline \$18,650,000
 - miscellaneous \$5,000,000
- The land purchase at \$30,000,000 is set by the owner.
- The site appraisal for the 55 acre site is for a total of \$121,000,000 consisting of two components:
 - Land (with coastal access) - \$44,000,000
 - Existing improvements for a desalination plant - \$77,000,000
- The solar system cost at \$18,000,000 was based on a bid.
- The pipeline cost at \$18,650,000 appears reasonable based on a cost of \$250/LF.
- The capital cost of the proposed desalination plant is assumed here to be \$62,000,000 (= \$57,000,000 + \$5,000,000). This figure does not include infrastructure costs which would normally be included in desalination plant costs. It is difficult to estimate what this figure would be given that not all infrastructure on the 55 acre site will be used for the desalination project.
- Further, the previous project also planned to use existing infrastructure on the site. So for comparison purposes, this difficult to estimate cost is not included in either capital cost.
- The approaches taken here to estimate the capital cost of the desalination plant are:
 - #1 - comparison with specific historic and relevant costs for similar systems
 - #2 - use of cost predictors
- Approach #1:
 - The previous same-site project [2] listed a project capital cost of \$145,200,000 for a 20 mgd desalination plant and transfer pipeline based on 2006 dollars. Land (site) is not purchased but is rented and the total cost does not consider a solar system. The cost of the transfer pipeline is \$19,500,000. The desalination plant cost is taken to be \$125,700,000 (= \$145,200,000 - \$19,500,000).
 - Comparing desalination plant and transfer pipeline costs for the two projects requires adjusting the 2006 costs for inflation to a present day cost using a factor of 1.12 (based on yearly inflation rates). This gives a 20 mgd desalination plant cost of \$140,250,000 (= \$125,700,000 * 1.12) and a pipeline cost of \$21,800,000 (= \$19,500,000 * 1.12).
 - The desalination plant comparison becomes \$140,250,000 for the previously proposed 20 mgd plant versus \$62,000,000 for the currently proposed 10 mgd plant.
 - The previous project has a unit capital cost of \$7.0/gpd (= \$140,250,000/20 mgd) whereas the proposed project has a unit capital cost of \$6.2/gpd (= \$62,000,000/10 mgd). Normally the larger plant would have a lower unit capital cost due to economies of scale.
 - From this approach, the previous project value of \$140,250,000 for a 20 mgd plant appears high or the proposed value of \$62,000,000 for a 10 mgd plant appears to be low.
 - The difference in unit cost may be due to profit which is part of the previous project but not of the proposed project; it may also be due to anticipated legal and administrative costs in anticipation of legal issues - something that the present proposal proponent does not anticipate. It may also be due to a higher contingency factor assumed in the previous project.

- Approach #2:
 - In late 2009 John Tonner developed a seawater reverse osmosis chart showing the relationship between capital cost and plant size [13]. It is based on data of worldwide plants and represents an average obtained by curve fitting many data points.
 - The chart suggests that capital costs for a 20 mgd plant, adjusted for inflation to present day, would be about \$100,000,000 and for a 10 mgd plant about \$56,000,000. This data suggests that the previous project value of \$140,250,000 for the 20 mgd plant was high and that the \$62,000,000 value for the proposed 10 mgd plant is reasonable.
- It should be noted that the capital costs for the Tonner chart are total costs and thus include a profit. As noted above, the present proposal does not include a profit - as the only financial benefit to the owner is associated with the sale (undervalue) of the land.
- Approach #2:
 - A recent study [14] examining historical and more recent costs of seawater reverse osmosis desalination plants reached the following conclusions:
 - More recent costs are not significantly different from inflated historical costs.
 - The typical range for unit capital costs for facilities of 10 mgd and greater is \$4 to \$6/gpd.
 - Note that the proposed unit capital cost is \$6.2/gpd (\$62,000,000/10,000,000 gpd). Note also that this calculation used the \$62,000,000 value for the desalination plant - one that, as stated above, is a low side estimate of the proposed cost of the desalination plant as presented in the proposal. Thus the proposed unit capital cost may be somewhat greater than \$6.2/gpd.
- While cost comparisons with other seawater desalination plants are always difficult due to each site being different, each design having somewhat different concerns, and reported costs being developed on different bases, the above analysis supports the proposed capital cost of \$62,000,000 for the 10 mgd desalination plant appears to be well in agreement with historical and more recent desalination plant costs.

REFERENCES

- [1] personal communications with Nader Agha.
- [2] *Monterey Bay Regional Desalination Project: Conceptual Design Report* by Pajaro/Sunny Mesa Community Services District in Cooperation with Poseidon Resources Corporation, March, 2006
- [3] *Final Report: Evaluation of Seawater Desalination Projects Proposed for the Monterey Peninsula.* submitted to the Monterey Peninsula Water Management District ; prepared by GEI/Bookman Edmonston, Separation Processes Inc, and Malcolm Pirney Inc., February 20, 2008.
- [4] *Replacement Cost Appraisal Summary Report* prepared by Landmark Realty Analysts, Inc. October 3, 2011.
- [5] personal communications with Sam Bose, former facilities manager with Kaiser National Materials and Refractory, February 24 and March 5, 2012.
- [6] personal communications with Dr. Peter von Langen, Central Coast Regional Water Quality Control Board, on February 9, 10, 28 and March 5, 2012.
- [7] personal communication with Dominic Gregorio, State Water Resources Control Board, on February 13, 2012.
- [8] personal communication with Dr. Kenneth Coale, Moss Landing Marine Laboratories on February 13, 2012.
- [9] California Regional Water Control Board Central Coast Region NPDES permit No. CA0007005, Order No. R3-2009-0002
- [10] personal communications with Ryan Brown, CEO Urban Algae, Inc. on March 1, 3, 5, 2012.

APPENDIX A: Portions of Site Appraisal Report [1]

from Improvements Description (page 10-11)

The Moss Landing Commercial Park is already improved with 34 industrial buildings as well as concrete tanks sufficient to hold 44 million gallons of water. Some of the buildings on site were originally constructed as long ago as the mid 1940s and early 1950s. Others were constructed more recently up into the 1980s. However, extensive renovations, removal of interior subdivisions and old equipment and machinery and more recent accurate measurements and calculations of space put the total size of the building improvements at 318,552 square feet. Please see the Site Map in the Appendix which shows the distribution of the buildings on the site and their measured dimensions.

Two of these buildings are being held in reserve for use by the proposed desalinization plant. Building One is a warehouse building built in 1965 containing 20,800 square feet. It is a metal-frame building with metal siding on a concrete slab foundation and has direct access to a rail spur along its south side. The building dimensions are 80' x 260'. It has been completely refurbished and is in good condition as a shell building, meaning that interior finishes will be done to the user's needs and specifications.

The second building reserved for the desalinization project use is Building 16, which was built in 1982. It is a three- to four-story metal-clad building with a concrete frame containing 14,050 square feet. It also is a refurbished shell building with interior finishes to be done to a user's needs and specifications.

Both buildings have new or partially new exterior siding and have been recently painted. The appraiser considers the effective age for the buildings to be 10 years, with a remaining economic life of at least 35 years.

The former park rehabilitation manager, Sam Bose, estimated that all the existing improvements (excluding ± 20 acres of the land originally set aside for the desalinization plant) lie on approximately 90 acres of the total usable site area of ± 164.89 acres. As noted, the desalinization plant was originally expected to occupy 20 acres. However, the anticipated site has been expanded to 55 acres in order to include a six megawatt solar electric plant which will provide power for the desalinization plant and the rest of the park.

The existing improvements for the proposed desalinization plant also include seven five-million-gallon in-ground concrete water tanks into which seawater can be pumped to begin the process of extracting salt and other minerals. These tanks have been cleaned, refurbished, resealed and tested. The Calera Cement

Company on site uses some of these tanks for demineralizing seawater and would share the tanks with the desalinization plant. There is a market for some or all of the salt and minerals removed from the water.

The improvements also include three three-million-gallon above-ground concrete tanks and three one-million-gallon above-ground concrete tanks that can be used to store desalinized water. These tanks are in basically sound condition but do need cleaning and some minor refurbishing.

The improvements also include an extensive system of pipes, valves and pumps to bring water in from the bay and move water around on site from one tank to another as it is processed. This includes two 36-inch diameter intake pipes and two outfall pipes, both concrete, and one of which is 54 inches in diameter that goes out to 300 feet deep in Monterey Bay. The pipes go under Highway 1 into the Moss Landing Harbor Marina, and the bay pipe goes under the marina and the marina parking lot island, under the commercial harbor, under the island on which the Marine Laboratory sits, and out into the bay. The pipes were installed in the 1940s by Kaiser Industries and are essentially irreplaceable today given the development that has occurred in Moss Landing in the decades since the pipes were built. They have been recently inspected and are in good condition, needing only some minor repair and cleaning. As noted, some of them are being used already by the Calera Cement Company operations in the Moss Landing Commercial Park.

Overall, the basic infrastructure for a seawater desalinization plant is mostly already extant in the Moss Landing Commercial Park. The original facility built by Kaiser Industries was essentially a water demineralizing plant, the purpose of which was to remove desired minerals – principally magnesium – from the seawater. The demineralized water was then pumped back into the ocean. The facilities were used for this purpose into the 1980s. Today, using modern technology, the same infrastructure can be used as the basis for a modern state-of-the-art high-technology water desalinization plant that can provide millions of gallons of potable water that can be put into the domestic water systems of Monterey County.

The existing improvements in the portion of the Moss Landing Commercial Park that is the subject of this replacement cost analysis were constructed to extract minerals from seawater. The facilities are still viable and usable today, and their projected use as the basis for a modern seawater desalinization plant constitutes the highest and best use of the subject land and improvements today.

regarding cleanup, decontamination of land and groundwater (page 10-11)

Since the date of the most recent purchase, the owner has cleaned up the property by removing old industrial equipment and interior partitioning from the buildings on site, renovating and painting the exteriors of the buildings, cleaning up and decontaminating the land and ground water, and planning for new uses such as a water desalinization plant and new industrial, warehouse and office uses of the renovated buildings. The current owner reportedly has spent more than \$30 million to date on these activities and expects to spend perhaps a few hundred thousand dollars more before all the work of redeveloping the property is done. As of the date of this valuation, most of the large concrete water tanks on the property have been cleaned, repaired and sealed for use by one of the tenants as a “green” cement pilot manufacturing plant or for future use as part of a water desalinization plant.

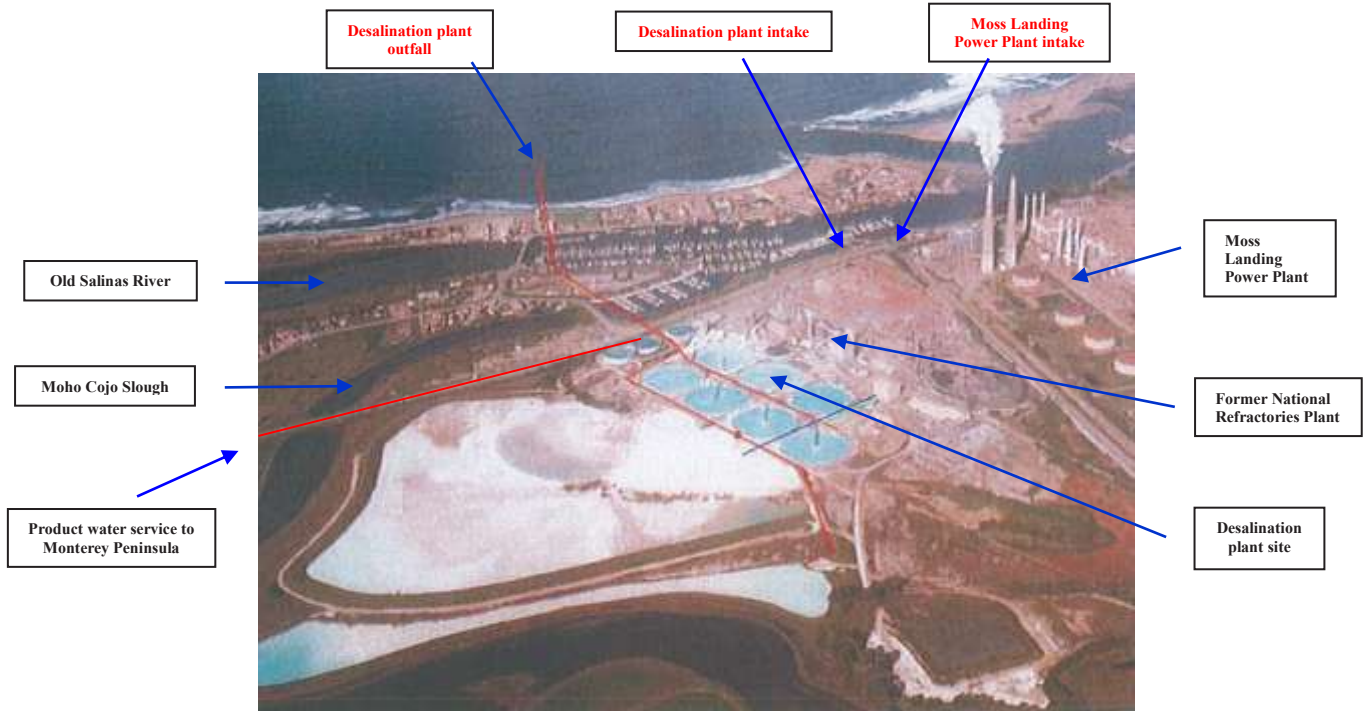
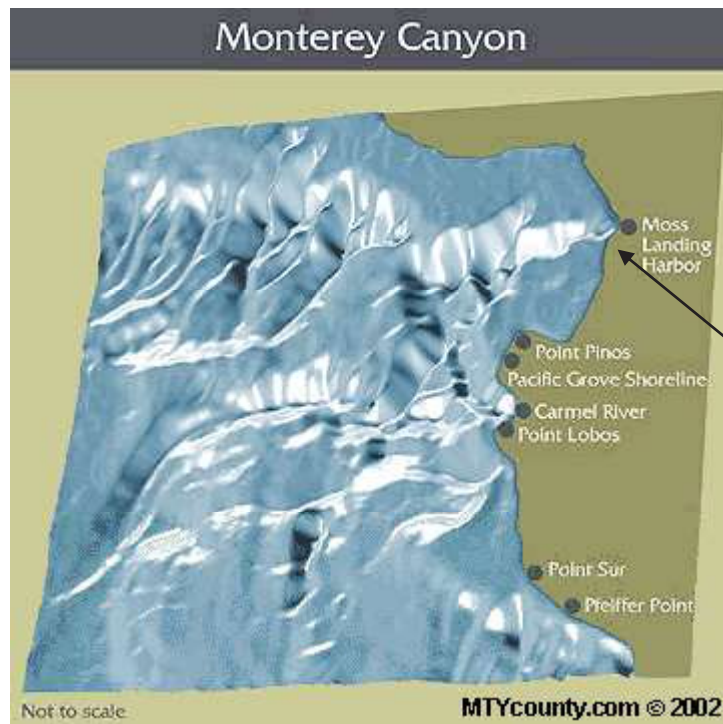


Figure 1. General map of proposed desalination plant site and landmarks.



depiction of Monterey Submarine Canyon; note head of canyon near Moss Landing and discharge site

Figure 2. Monterey Submarine Canyon (from: http://www.mtycounty.com/mbs_pgs/mbscyn.html)

Michael Mickley, P.E., Ph.D.

Dr. Mickley has over 44 years of experience in the field of membrane and process technology. He is recognized nationally and internationally as a leading expert on the issues of saline effluent management, and in the past fifteen years has given invited presentations in France, England, Israel, Costa Rica, Cyprus, and across the United States.

Since 1990, most of the Dr. Mickley's efforts have been focused on the area of membrane concentrate and salinity management. As a consultant to major engineering companies, he has prepared site-specific evaluations of disposal options for several national and international desalination projects. Research projects have been funded by AwwaRF, Bureau of Reclamation, Office of Naval Research, and WaterReuse Research Foundation (WWRF), all addressing various concentrate management issues. His most recent WWRF 2011 report entitled *Development of a Knowledge Base for Desalination Concentrate and Salt Management* is a background reference report for the future development of concentrate management guidelines. Dr. Mickley has also published numerous other articles and white papers on desalination and concentrate management.

Dr. Mickley has collaborated with several engineering companies on projects evaluating concentrate disposal alternatives for industrial and municipal clients. In municipal projects, he has worked, or is currently working as subcontractor with several cities/agencies including Southern Nevada Water Authority, Thornton, Colorado; City of Aurora, Colorado; County of Maui, Hawaii; City of San Antonio, Texas; City of Brighton, Colorado; City of Melbourne, Australia; and many others.

He has worked on industrial projects in South Africa, Australia, Oman, and Kazakhstan, as well as in the United States. In most of these situations, the general task is to identify and evaluate concentrate disposal options and to assist in developing of conceptual designs for water treatment and concentrate management solutions.

Dr. Mickley has also been the principal investigator in several projects addressing membrane modification, membrane process pre-treatment, effluent management issues, and high recovery processing of water and wastewater.

Dr. Mickley holds a Ph.D. from the University of Colorado, 1976, an M.S., University of Colorado, 1970 and a B.S., Illinois Institute of Technology, 1966. All degrees were in Chemical Engineering (B.S. included a minor in Gas Technology). He is a Professional Engineer, State of Colorado (#18485).

Dr. Mickley is on the editorial board of [Desalination and Water Treatment](#). Additional information on Dr. Mickley and Mickley & Associates may be found at www.mickleyassoc.com.

Extended Resume – Dr. Michael Mickley

Dr. Mickley has over 44 years' experience in the field of membrane and process technology over 4 phases of work.

- PhD thesis work involved 1) using a laser interferometer to measure concentration gradients close to the membrane surface, and 2) detailed mathematical modeling of membrane transport through the membrane.
- Work at a medical device company (Cobe Laboratories in Lakewood, CO) maker of artificial kidneys and artificial lungs (both membrane devices). Work include designing membrane units, quality control of the manufacturing process, and development of flat sheet and hollow fiber membranes, and development of a plasmaphoresis system.
- Work at a consulting company (Corry and Associates of Lakewood CO), as a project manager overseeing and conducting research in several areas including multiphase flow through pipelines, scaling of reverse osmosis membranes, complexing, ultrafiltration removal, and de-complexing of various feedwater constituents, and chemical modification of polymeric membranes.
- Formation of Mickley & Associates in 1984 for the purpose of focusing on Dr. Mickley's areas of interest - primarily membrane and water treatment technology.

From 1984 to 1989 most of the research consisted of development of methods to graft functional groups onto existing polymeric membranes. The work was funded by a series of SBIR grants. Since 1990 most of Dr. Mickley's efforts have focused on challenges of membrane concentrate (more generally, effluent) management and conceptual design of high recovery water treatment processes. Most of the projects have been in two areas:

- contract research studies
- consulting for industrial and municipal clients

Other areas of work have included:

- due diligence investigations/evaluation of technologies
- expert witness
- piloting of technologies
- discharge permitting

REPORTS:

Dr. Mickley has been principal investigator in several projects addressing membrane modification, membrane process pre-treatment, effluent management issues, and high recovery processing of water and wastewater that include:

- various SBIR reports - 1984-1989
- AwwaRF: *Membrane Concentrate Disposal*, 1993
- AwwaRF: *Major Ion Toxicity in Membrane Concentrate*, 2000
- Bureau of Reclamation: *Membrane concentrate Disposal: Practices and Regulation*, 1st edition 2001; 2nd edition 2006.
- Saint Johns River Water Management District: *Demineralization Plant Database*, 2002.
- Office of Naval Research: *Pretreatment Capabilities and Benefits of Electrocoagulation*, 2004
- WaterReuse Foundation: *Survey of Zero Liquid Discharge and Volume Minimization for Water Utilities*, 2008
- Office of Naval Research: *Field Tests for Pilot Electrocoagulation System*, 2008.
- Bureau of Reclamation: *Treatment of Concentrate*, 2009

- WateReuse Research Foundation: *Development of a Knowledge Base on Desalination Concentrate and Salt Management*, 2011 (final report submitted)

Dr. Mickley was also a subcontractor in several report projects:

- AwwaRF: *Guidelines for Implementation of Desalination Facilities*, (as subcontractor to Stratus Consulting); 2001
- WateReuse Research Foundation: *Beneficial and Non-Traditional Uses of Concentrate* (as subcontractor to CH2M Hill); 2006
- Bureau of Reclamation: *The Southern California Regional Brine – Concentrate Management Study – Phase I*, (as subcontractor to CH2M HILL); 2010

CONSULTING:

Dr. Mickley has collaborated with several engineering companies on projects evaluating concentrate disposal alternatives for industrial and municipal clients. In municipal projects he has worked or is currently working as subcontractor to different engineering companies with several cities/agencies including Southern Nevada Water Authority, Thornton, Colorado, the City of Aurora, Colorado, the County of Maui, the City of San Antonio, City of Brighton, Colorado, City of Melbourne (Australia) and others. Industrial projects have been in South Africa, Australia, Oman, and Kazakhstan, as well as in the United States. In most of these situations the general task is to identify and evaluate concentrate disposal options and to assist in developing of conceptual designs for water treatment and concentrate management solutions. Engineering companies have included:

- CH2M Hill
- Black & Veatch
- R.W. Beck
- Brown and Caldwell
- Burns & McDonnell
- Montgomery, Watson, and Harza
- NRS
- Geo-Processors
- Lockheed Martin

PRESENTATIONS:

Dr. Mickley is recognized nationally and internationally as a leading expert in the issues of saline effluent management and in the past fifteen years has given invited presentations in France, England, Israel, Costa Rica, Cyprus, and across the U.S. His most recent invited presentations include:

- (December, 2004) '*Costs of Concentrate Management*,' 2004 Middle East Desalination Cost Modeling Workshop, Cyprus, December 6-7.
- (December, 2004) '*Separation of Salts*,' 2004 National Salinity Management and Desalination Summit, December 13-14, Las Vegas.
- (July, 2006) "*Zero Liquid Discharge*". AMTA Biennial Conference & Exposition Pre-Conference Workshop: *Concentrate Treatment Technologies*
- (June, 2007) "*High Recovery and Zero Liquid Discharge Processes*," 11th Annual Water Reuse Research Conference, El Paso, TX
- (July, 2007) "*Feasibility of High Recovery and ZLD Technologies*," AMTA Conference and Exposition: AMTA / NWRI Pre-Conference Workshop: *Inland Concentrate Management*. Las Vegas.
- (January, 2009) "*Economics and Energy Requirements for Various Water Treatment / Brine*

- *Management Options,*" Mountain States Salinity Council 2009 Annual Salinity Summit, Las Vegas.
- (January, 2009) "*Options, Challenges, and Opportunities in concentrate Management for Inland Desalination Facilities,*" Ground Water Protection Council 2009 UIC Conference, San Antonio.
- (July, 2010) "*Overview of Global Inland Desalination Concentrate Management - Situations, Challenges, and Technologies,*" AMTA Annual Conference and Exposition, San Diego.
- (May, 2010) "*Brackish Water Concentrate Management,*" CHIWWA Concentrate Management Workshop

PAPERS:

Recent writings include:

- (as a co-author) an AWWA Residuals Committee White Paper entitled "*Current Perspectives on Residuals Management for Desalting Membranes*" (December 2004 issue of AWWA Journal)
- an October, 2005 State-of-the Science paper entitled "*Membrane Concentrate Management*" for the Joint Water Reuse and Desalination Task Force to be used as background for updating the National Desalination Roadmap
- Chapter 19 "*RO Concentrate Management*" in Mark Wilf's '*The Guidebook to Membrane Desalination Technology*' published by Balaban Desalination Publications. 2007.
- Arakel, A. & M. Mickley (2007). *Membrane concentrate treatment for byproducts recovery and waste minimization.* Ozwater Conference, Sydney, March 4-8, 2007.
- (as a co-author) White paper entitled "*Inland Desalination Brine Management*" prepared for National Center for Excellence in Desalination, National Desalination Research Roadmapping Workshop, Freemantle, Australia, October, 2009
- White paper entitled "*Brackish Water Concentrate Management*" prepared for New Mexico State University and El Paso Water Utility, 2010.
- *U.S. Municipal Desalination Plants: Numbers, Types, Locations, Sizes, and Concentrate Management Practices* (submitted for publication)
- *U.S. Municipal Desalination Plants: Inland Concentrate Management Challenges and Issues* (submitted for publication) - with co-author J. Jordahl
- *High Recovery Processing for Municipal Desalination: Approaches and Issues* (submitted for publication) - with co-author A. Arakel
- *High Recovery Processing for Municipal Desalination: Zero Liquid Discharge Cost Study* (submitted for publication) - with co-author A. Arakel

Dr. Mickley is on the editorial board of Desalination and Water Treatment. Additional information on Dr. Mickley and Mickley & Associates may be found at www.mickleyassoc.com.

EDUCATION

Ph.D., University of Colorado, 1976
 M.S., University of Colorado, 1970
 B.S., Illinois Institute of Technology, 1966
 All in Chemical Engineering (B.S. included a minor in Gas Technology)

REGISTRATIONS

Professional Engineer, State of Colorado

The People's Moss Landing Water Desalination Project



Environmental Issues and Constraints Report

Prepared by:



SMB Environmental, Inc.

September 2012

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List of Abbreviations

AF	Acre feet
Afy or AFY	Acre-feet per year
ALJ	Administrative Law Judge
AMBAG	Association of Monterey Bay Area Governments
amsl	Above mean sea level
AQMP	Air Quality Management Plan
ASBS	Area of Special Biological Significance
ASR	Aquifer storage and recovery
AWTP	Advanced water treatment plant
BIRP	Begonia Iron Removal Plant
BLM	Bureau of Land Management
BMP	Best management practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAD	Computer Automated Design
Cal OSHA	California Division of Occupational Safety and Health
Cal-Am	California American Water Company (distribution center)
CalTrans	California Department of Transportation
CAWD	Carmel Area Wastewater District
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAMP	Central Coast Ambient Monitoring Program
CCC	California Coastal Commission
CCLEAN	Central Coast Long-term Environmental Assessment Network
CCoWS	Central Coast Watershed Studies
CCRWQCB	Central Coast Regional Water Quality Control Board
CCSD	Castroville Community Services District
CDFG	California Department of Fish and Game
CDO	Cease and Desist Order
CDHS	California Department of Health Services
CDPH	California Department of Public Health
CDPR	California Department of Parks and Recreation
CEC	California Energy Commission
CEQA	California Environmental Quality Act
cfs	Cubic feet per second
CGS	California Geological Survey
CHP	California Highway Patrol
CIP	Clean in place (for a membrane system)
CIWR	Center for Integrated Water Research
CNPS	California Native Plant Society
COCs	Contaminants of concern
Corps	United States Army Corps of Engineers (or USACE)
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
CRDRP	Carmel River Dam and Reservoir Project
CSIP	Castroville Seawater Intrusion Project
CSU	California State University
CTR	California Toxics Rule

CVFP	Carmel Valley Filter Plant
CWA	Clean Water Act
dB	Decibels
dBA	A-weighted decibels
DBP	disinfection by-products
DEIR	Draft Environmental Impact Report
DRA	Division of Ratepayer Advocates
DTSC	California Department of Toxic Substances Control
DWPS	Desalinated Water Pump Station
DWR	Department of Water Resources
EDR	Environmental Data Resources
EFM	Enhanced flux maintenance
EIR	Environmental Impact Report
ESA	Endangered Species Act
ESF	Elkhorn Slough Foundation
ESNERR	Elkhorn Slough National Estuarine Research Reserve
ETo	Evapotranspiration
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FLEWR	Filter Loading Evaluation for Water Reuse
FORA	Fort Ord Reuse Authority
ft	Feet
GAC	Granular Activated Carbon
GHG	Greenhouse gases
gpm	Gallons per minute
GRRP	Groundwater Recharge Reuse Project
GWUDI	Groundwater under the direct influence of surface water
HAA	haloacetic acid
HDD	Horizontal directional drilling
HDPE	High-density polyethylene
HP	Horsepower
ID	Internal diameter
KOP	Key Observation Point
kW	Kilowatt
kWh	Kilowatt-hour
lbs/yr	Pounds per year
LF	Linear feet
LOS	Level of Service
LUP/LCP	Land Use Plan/Local Coastal Program
LUST	Leaking underground storage tank
MBNMS	Monterey Bay National Marine Sanctuary
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCEHD	Monterey County Health Department, Environmental Health Division
MCWD	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
MEC	Munitions and explosives of concern
MF	Microfiltration
MG	Million gallons
mg/L	Milligrams per liter
mgd	Million gallons per day
MLCSP	Mortar Lined and Course Steel Pipe

**The People's Moss Landing Desalination Water Project
Environmental Issues and Constraints Report**

MLLW	Mean lower low water
MLML	Moss Landing Marine Laboratories
MLPP	Moss Landing Power Plant
MPWMD	Monterey Peninsula Water Management District
MRSWMP	Monterey Regional Stormwater Management Program
MRWMD	Monterey Regional Waste Management District
MRWPCA	Monterey Regional Water Pollution Control Agency
MSDS	Material Safety Data Sheet
msl	Mean sea level
MST	Monterey-Salinas Transit
MURP	Modern Urban Runoff Program
MW	Megawatts
NAAQS	National Ambient Air Quality Standards
NHPA	National Historic Preservation Act
NEPA	National Environmental Protection Act
NLP	New Los Padres Dam and Reservoir
NOAA	National Oceanic and Atmospheric Association
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRMCP	National Refractories and Minerals Corporation Plant
NTU	Nephelometric turbidity unit
O ₃	Ozone
OTC	Once-through cooling
PBCSD	Pebble Beach Community Services District
PEA	Proponent's Environmental Assessment
PG&E	Pacific Gas and Electric
ppt	Parts per thousand
PPV	Peak Particle Velocity
psi	Pounds per square inch
PSMCSD	Pajaro/Sunny Mesa Community Services District
REPOG	Regional Plenary Oversight Group
RO	Reverse osmosis
ROW	Right-of-way
RTP	Regional Treatment Plant
RUWAP	Regional Urban Water Augmentation Project
RWQCB	Regional Water Quality Control Board
SEIR	Supplemental environmental impact report
SGB	Seaside Groundwater Basin
SHPO	California State Historic Preservation Office
SRDF	Salinas River Diversion Facility
SVGB	Salinas Valley Groundwater Basin
SVIGSM	Salinas Valley Integrated Groundwater Surface Model
SVRP	Salinas Valley Reclamation Plant
SVWP	Salinas Valley Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
SWTP	Surface water treatment plant
TAMC	Transportation Agency of Monterey County
TDS	Total dissolved solids
thd tdh	Total daily dynamic head

THM	Trihalomethane
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbons
TPH	Total Petroleum Hydrocarbons
UC	University of California
UCSC	University of California, Santa Cruz
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers (or Corps)
USEPA	United State Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
UV	Ultraviolet light
VOC	Volatile Organic Compounds
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant
WY	Water Year

Chapter 1 Introduction

This document is a preliminary environmental issues and constraints evaluation report that addresses the potential environmental impacts of the proposed water supply project entitled "The People's Moss Landing Water Desalination Project" (Proposed Project/Action). The purpose of the Proposed Project/Action is to provide the Monterey Peninsula Area in Monterey County California with a safe and reliable water supply of up to 10,700 acre-feet of water per year (AFY) or 10 million gallons per day (MGD) to offset mandated water supply diversion curtailments on the Carmel River.

1.1 Project Location and Background

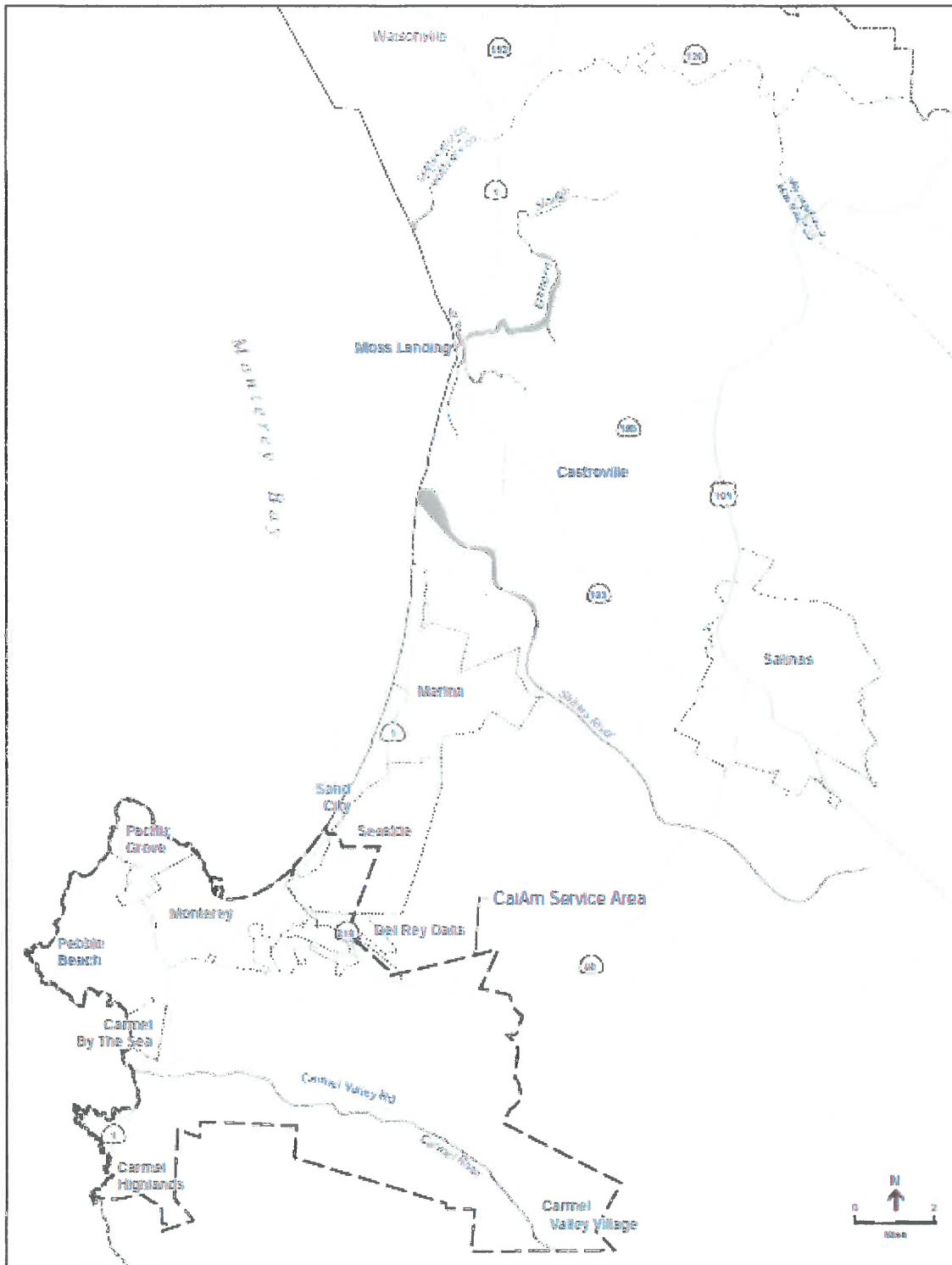
As shown on Figure 1, the Monterey Peninsula and surrounding area encompasses the six Monterey Peninsula cities of Carmel-by-the Sea, Del Rey Oaks, Pacific Grove, Monterey, Sand City, Seaside, and extends into portions of the unincorporated area of Monterey County in the Carmel Highlands, Pebble Beach and the inland areas of Carmel Valley and the Laguna Seca area. The population of the Region is estimated to be about 115,000, with most of the population residing in low density housing in the Monterey Peninsula cities. The Monterey Peninsula and coastal areas of Monterey County have long suffered from water supply challenges and the constant threat of drought conditions. Water sources consist of surface water from the Salinas and Carmel Rivers as well as groundwater from the Seaside Basin aquifer.

1.1.1 California American Water Company

The California American Water Company (Cal-Am) has served the Monterey Peninsula since it acquired properties from California Water and Telephone Company in 1966. Cal-Am's Monterey District service area is located in the semi-arid central California coastal area and is entirely dependent on local rainfall for its water supply; imported water is not a viable option. By reason of its geography and rainfall patterns, the area is prone to severe droughts. Wells located along the Carmel River that draw water from the Carmel River Aquifer are the primary source of water for Cal-Am. An additional source of water for Cal-Am is a network of eight wells located in the Seaside Basin, which Cal-Am shares with a number of users and purveyors. Cal-Am's supply storage facilities include two small reservoirs on the Carmel River: the Los Padres Dam and Reservoir and the San Clemente Dam and Reservoir. In 1987, Cal-Am's water production peaked at approximately 18,000 AFY. Cal Am is a private company and is regulated by the California Public utilities Commission (CPUC). The CPUC is a constitutionally-established state agency charged with providing regulatory oversight of investor-owned utilities in the transportation, energy, communications, and water industries. The CPUC consists of five commissioners who are appointed for six-year terms by the Governor. The commissioners are served by an Executive Director and a staff of professional engineers, economists, policy and industry analysts, attorneys and administrative law judges. The CPUC provides regulatory oversight in the areas of purpose and need; economic cost; ratemaking; safety and reliability; and customer service; among others. The CPUC is located in San Francisco and makes decisions by vote of its commissioners at regularly scheduled public business meetings.

The water supply challenges facing Cal-Am and the Monterey Peninsula are long-term, significant and have been well-documented in a number of venues including the State Water Resources Control Board (SWRCB), the Monterey County Superior Court, the CPUC, and the California Legislature. SWRCB Order 95-10 and the Seaside Basin adjudication are two major decisions that have affected the water supplies of the Monterey Peninsula area and are discussed below.

Figure 1
General Location Map



Source: ESA 2008

1.1.2 SWRCB Order 95-10

The SWRCB Order 95-10 substantially reduces diversion of all supplies along the Carmel River. The Order states that Cal-Am has been diverting approximately 10,730 afy from the Carmel River or its underflow without a valid basis of right and directs Cal-Am to diligently undertake the following actions: obtain appropriative rights to the Carmel River water that was being unlawfully diverted; obtain water from other sources and make one-for-one reductions of the unlawful diversions; and/or contract with other agencies having appropriative rights to divert and use water from the Carmel River. In the interim, while Cal-Am is pursuing the development of an alternative supply, Order 95-10 directs Cal-Am to implement conservation measures to offset 20 percent of demand and restricts Cal-Am to an annual diversion from Carmel Valley sources, representing a 20 percent reduction from Cal-Am's historic usage. The Order also prohibits water from being diverted from the San Clemente Dam when stream flows reach a predetermined low flow. The Order directs Cal-Am to maximize use of the Seaside Basin for the purpose of serving existing connections – while honoring existing allocations – to reduce diversions from the Carmel River to the greatest practicable extent. Development of the replacement supply required in Order 95-10 is the basis for the Proposed Project/Action.

1.1.3 Seaside Basin Groundwater Adjudication

In 1996, the Monterey County Superior Court issued a final decision in the case, *California American Water v. City of Seaside, et al.*, Case No. 66343 (Monterey County Superior Court, 2006) (Decision) for the adjudication of water rights of the various parties who produce groundwater from the Seaside Basin. The establishment of adjudicated water rights of all the users of the Basin is intended to avoid long-term damage to the basin, including potential seawater intrusion, subsidence, and other adverse impacts of over-pumping. The Decision establishes a physical solution to Basin management that is “intended to ultimately reduce the drawdown of the aquifer to the level of the Natural Safe Yield; to maximize potential beneficial use of the Basin; and to provide a means to augment water supply for the Monterey Peninsula”.

1.1.4 Water Supply Issues

The Carmel Valley Aquifer, which underlies the Carmel River, presently supplies approximately 70 percent of the Monterey Peninsula's water through Cal-Am's system. As a result of Order 95-10, California American Water is required to find a new source of water to replace the supply that it historically diverted from the Carmel Valley Aquifer. Cal-Am was also ordered by the SWRCB to reduce pumping in the Carmel Valley by 20 percent from historic levels. Since 1995 Cal-Am customers have managed to reduce water use on the Monterey Peninsula from more than 17,000 AFY to 14,000 AFY, a reduction of more than 20 percent. However, conservation efforts alone cannot adequately address the water demand and supply issues faced by the community.

Water resources in the Carmel Valley and the greater Monterey Peninsula are regulated by the Monterey Peninsula Water Management District (MPWMD). Based on SWRCB Order WR 95-10 and the Seaside Basin adjudication, Cal-Am needs to develop a replacement water supply to meet existing water demands within its service area. In addition, based on the level of growth envisioned to occur in the adopted general plans of jurisdictions within the service area, an additional water supply of approximately 4,500 AFY will be needed to meet approved future service area demand.

Since 1989, several options have been proposed that proponents have hoped would meet the water supply needs of the Monterey Peninsula and address the impacts on the Carmel River underlying SWRCB Order 95-10, as well as the Seaside Basin Adjudication. To date, all of these proposed projects have not come to fruition due to a number of technical, economical, legal, institutional, political, and/or other factors.

On April 18, 2012, the City of Pacific Grove has agreed to be the lead agency for the development and implementation of The People's Moss Landing Desalination Water Project (Proposed Project/Action) to comply with the Monterey County Board of Supervisors requirement in their 1987 ordinance that stated any desalination project must owned by public entity. Under this concept, it is assumed that the City of Pacific Grove would purchase the land and construct and operate the necessary facilities to provide water to the Monterey Peninsula area.

1.2 Goals and Objectives

The purpose of the Proposed Project/Action is to provide the Monterey Peninsula Area with a safe and reliable water supply of up to 10,700 AFY or 10 MGD to offset mandated water supply diversion curtailments on the Carmel River and Seaside Basin. The Proposed Project/Action, as contained in this report, does not address the potential additional water supplies of 4,500 AFY to meet the future water supply demands in the Monterey Peninsula area.

1.3 Potential for Controversy

The concept of securing a safe and reliable water supply for the Monterey Peninsula area has been a very contentious issue and a major source of disagreement amongst the various water supply agencies, regulatory agencies, politicians, and the general public, amongst others, for quite some time. There are several lawsuits, technical studies and regulatory decisions that are still pending to determine the fate of the future water supply issues of the Monterey Peninsula. As a result, no matter what project is proposed, there will likely be controversy surrounding the details for implementing a proposed project. Therefore, the sponsor of this Proposed Project/Action will need to prepare an EIR to address all of the specific details and potential impacts of implementing the Proposed Project/Action as well as evaluate other potential and viable alternatives. Detailed below are specific known areas for potential controversy:

- *Working Agreements and Memoranda of Understanding in Place.* Specifically, a major factor is the relationships and working agreements between agencies involved in the Proposed Project/Action Project need to be developed and formalized. Under the Proposed concept, the City of Pacific Grove has agreed to be the public lead agency and will assume the role of Project Proponent/Sponsor for the construction and operation of the Proposed Project/Action. Under this scenario, Cal-Am would be a water purchaser and the water purveyor to deliver water to the Monterey Peninsula Area through its existing distribution system. However, as these agreements are not yet in place, there is a potential for disagreement amongst the parties as to the details for costs and reliability of water supplies as well as many other political, legal and institutional factors. These details, as well as more specifics regarding the details of the Proposed Project/Action, need to be finalized prior to developing a sufficient EIR that complies with CEQA and which can withstand public and legal scrutiny.
- *Public versus Private ownership of a desalination facility in Monterey County.* By Monterey County Ordinance, private companies cannot own a desalination project. Cal-Am is a private investor owned utility and is moving forward to try to implement a proposed project for a solution to the water supply problems and issues facing the Monterey Peninsula area under the CPUC. The City of Pacific Grove is a public agency and has agreed to be the lead agency for the development of the Proposed Project/Action. As a public agency, the City has the ability to pass bond measures for the purchase and construction of the Proposed Project/Action.
- *Provision of Replacement Water (or water for existing uses only) versus Water for Approved Growth.* The Proposed Project/Action will only provide replacement water for existing uses only. There are no provisions for future growth as part of this Proposed Project/Action. This may be highly controversial as several other proposed projects attempted to resolve both existing and

future water supply demands. There may be pressure to build a facility that will help accommodate future growth and development.

- *Competing Project Proposals.* There are several ongoing and competing proposed projects sponsored by various entities including Cal-Am. There may be controversy as to which project or combination of projects or alternatives should be implemented to achieve the replacement needs and/or future growth requirements of the Monterey Peninsula area. As a result, an EIR is going to be required to compare the relative environmental impacts of these competing proposals and alternatives.

1.4 Purpose and Scope of this Report

The Proposed Project/Action and analysis contained in this document are the result of a multi-year planning effort that has entailed thorough consideration of many alternatives in the context of several different proposed projects and various related documents through the years.

For this analysis, we have reviewed prior and relevant existing technical and environmental documentation and have used a modified CEQA environmental checklist to assess the potential impacts of implementing the Proposed Project/Action on endangered/threatened species, public health or safety, natural resources, regulated waters, and cultural resources, among others, to include and address specific issues associated with CEQA as well as NEPA. No site specific analysis or protocol-level site-specific surveys were conducted or are implied for this investigation. In addition, this report is not intended to comply with the CEQA and/or NEPA as there are many other technical, economical, and procedural details that must be followed to meet these regulatory requirements. Further, this document does not discuss any technical feasibility or economic issues regarding costs and/or imply cost-benefit analyses. Rather, this document focuses on the potential physical environmental issues associated with implementing the Proposed Project/Action as it is currently defined and as presented in Section 2 – Project Description of this report. For any potentially significant impact(s) identified, we have identified proposed mitigation measures and strategies to attempt to avoid and/or reduce those impacts to less-than-significant levels. The information in this report is presented to assist the project proponents of this concept to understand what the major potential physical environmental impacts are and how to comply with CEQA, NEPA and/or CEQA-plus requirements. Additional analysis and effort will be required to fully comply with any CEQA, NEPA and/or CEQA-Plus¹ procedural requirements.

1.5 Document Organization and Review Process

This document is intended to provide a preliminary environmental investigation of the Proposed Project/Action to determine if it may have a significant adverse impact on the environment. This document is organized into the following chapters:

- Chapter 1, Introduction. Chapter 1 describes the background, goals and objectives of the Proposed Project/Action, and document contents.
- Chapter 2, Proposed Project description and Alternatives. Chapter 2 describes the major components of the Proposed Project/Action and describes the No Project/Action Alternative.
- Chapter 3, Environmental Review and Consequences. Chapter 3 discusses the potential environmental impacts associated with the construction and operation of the Proposed Project/Action. Each resource section of a modified CEQA checklist is followed by a discussion

¹ CEQA-Plus refers to when federal agencies use CEQA as the compliance base for preparing environmental documents and add in federal environmental regulations such as the Endangered Species Act (ESA), the National Historic Preservation Act (NHPA), and the General Conformity Rule for the Clean Air Act (CAA), among others.

of each potential impact listed in that section. It also presents corresponding mitigation measures proposed to avoid or reduce potentially significant impacts to a less-than-significant level. This checklist has been modified to include additional topics to meet the requirements of NEPA.

- Chapter 4, Conclusion and Recommendations. Chapter 4 provides a summary of the likelihood that the Proposed Project/Action would have a significant adverse impact on the environment and a recommendation as to the next steps to fully comply with CEQA, NEPA, and/or CEQA-Plus requirements.
- Chapter 5, Bibliography. Chapter 5 provides a list of reference materials and persons consulted during the preparation of the environmental issues and constraints evaluation.

Chapter 2 Proposed Project Description and Alternatives

This chapter provides a detailed description of Proposed Project/Action including a discussion of the construction considerations, operational plans, and potential approvals and permits that may be necessary. In addition, this section also describes the No Project/Action Alternative.

2.1 Proposed Project/Action Description

The purpose of the Proposed Project/Action is to provide the Monterey Peninsula Area in Monterey County California with a safe and reliable water supply of up to 10,700 AFY or 10 MGD to offset mandated water supply diversion curtailments on the Carmel River and Seaside Basin. The Proposed Project/Action, as contained in this report, does not provide the additional water supplies of 4,500 AFY to meet the future water supply demands in the Monterey Peninsula area.

2.1.1 Proposed Project/Action Overview

As shown in Figure 2, the Proposed Project/Action would take up to 10,700 AFY of raw seawater from an existing permitted intake facility located at the Moss Landing Green Commercial Park, adjacent to the Moss Landing Power Plant on the former National Refractories & Minerals Corporation site to treat and deliver treated seawater to the Monterey Peninsula area via a new 15-mile pipeline facility that would interconnect with/to the existing Cal-Am water distribution pipeline facility serving the Monterey Peninsula area. The approximately 200-acre site is presently zoned for light and heavy industrial uses. Approximately 25 acres will be designated for the desalination plant. This 200-acre site contains approximately 300,000 square feet of existing building space. Specifically, the Proposed Project/Action will consist of the following major components:

- Existing Screened Intake
- Desalination Plant
- Water Storage
- Energy Consumption
- Waste Discharge
- Transmission Pipeline

Existing Screened Intake

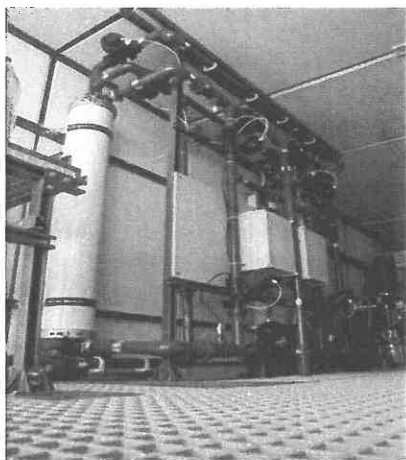
The Proposed Project/Action's proposed intake site is presently permitted for seawater intake and discharge of up to 60 MGD conveyed from existing pipelines and pumps station originally installed and permitted to support the magnesium extraction from seawater and refining operations previously conducted at the site, and to discharge water back to the ocean. The proposed Project/Action would only use up to 10 MGD of this capacity and will take the water out of the existing nine (9) shallow wells in the Moss Landing Harbor. These wells can also be converted to slated if needed.

Desalination Plant

The Proposed Project/Action plant will supply product water quality in compliance with the regulatory requirements of the California Department of Public Health, Safe Drinking Water Act, and the California Title 22 Code for Drinking Water Standards. The finished product water from the desalination plant will be compatible with other sources of potable water delivered to the same distribution system. The desalination plant will incorporate existing structures and service facilities located at the Moss Landing Green Commercial Park including buildings, roads, parking lots, and a railroad spur. Handicapped access and landscaping will be added.

Pretreatment will utilize a granular media filtration system, a proven technology, to protect the integrity, useful life, and reliability of the seawater reverse osmosis (SWRO) membrane system. The system will consist of a single-stage, dual-media granular media system with sufficient redundancy to ensure a reliable, sustainable supply for downstream desalination.

Figure 2



Coagulant and filter aid polymer systems will be provided to improve the efficiency of the pretreatment system, if needed, during system operation. The filters will be fully automated and monitored to assure trouble-free operation. Filtered, pretreated water, will be temporarily collected in a clean/veil, insuring continuous operation of the downstream SWRO system, prior to being pumped through cartridge filters, and the downstream SWRO desalination system. The media filters are designed to use filtered seawater as a source of backwash water or alternative concentrate.

Water Storage

Product water will be stored onsite for distribution. Sufficient storage (up to 45 million gallon storage tanks) exists and would be provided to meet all regulatory requirements for disinfection. The product water pump station will provide high quality drinking water to the distribution pipeline at the flow and pressure required for distribution.

Energy Consumption

Power will be provided to the project by the local electrical supply existing within the footprint of the existing facility. Circuits feeding the desalination plant will be provided from an existing 12 KV electrical system through a 460- volt circuit or from a 6-megawatt solar energy system which could be built onsite or offsite. For this analysis of the Proposed Project/Action, it is assumed that power would be from the existing 12Kv electrical system.

Waste Discharge

The Proposed Project/Action will generate waste streams consisting of concentrate from the SWRO process, sludge from the media filter backwash, sanitary wastewater, spent membrane solution, solid waste, and surface runoff. The plant will be designed and constructed to handle all waste streams generated in an environmentally sound manner and in compliance with all codes and regulatory requirements as may be applicable. The Proposed Project/Action will attempt to implement a new system which could result in NEAR-ZERO DISCHARGE to the ocean after desalination. This mechanical system utilizes the on-site existing magnesium hydroxide to extract the salt out of the concentrate (brine). For purposes of the discussion, the brine will be removed and hauled away to a proper disposal location. More detail is required for more in-depth analysis of this feature.

Transmission Pipeline

As shown on Figure 4, the Proposed Project/Action will include a 15-mile (7,200 linear feet) 36-inch diameter transmission pipeline facility to deliver high quality water to interconnect with Cal-Am's existing water distribution pipeline system and serve the Monterey Peninsula area.

2.2 Construction Considerations

The following describes the typical construction methods to be used for the Proposed Project/Action. Construction of the Proposed Project/Action facilities is expected to begin in the spring of 2015 and will likely continue into the spring of 2016. Construction work will typically be done within normal working hours, weekdays between the hours of 8 a.m. and 8 p.m., and possibly on Saturdays between the hours of 10 a.m. and 6 p.m.

2.2.1 Desalination Plant Construction

Construction of the desalination plant would include site preparation and equipment delivery into the existing buildings and infrastructure. Some excavation and grading may be required for locations with uneven gradient. Ground clearing and excavation of the site would be performed using heavy construction equipment such as bulldozers, backhoes, cranes, and graders. Heavy equipment would be used to construct connections with existing water conveyance systems, and to construct footings of tanks and other support equipment. Upon completion of excavation, construction activities would also include pouring concrete footings for tanks, laying pipeline and making connections, installing support equipment such as control panels, and fencing the perimeter of the site.

2.2.2 Pipeline Construction

Pipelines would be installed using conventional open-trench or trenchless technology. The pipelines would be constructed of reinforced concrete cylinder pipe, mortar-lined and coated steel pipe, steel cylinder concrete pipe, or ductile iron pipe, typically delivered and installed in 6- to 40-foot-long sections. Most of the construction would be open-cut trenching. Pipe sections would be placed in a trench of varying depth depending on pipe size and topography, and covered using conventional equipment such as backhoes, side-boom cranes, wheeled loaders, sheep's-foot excavators, and compactors. Typically, earth cover over the pipe would be 5 feet. Variations in this depth would be required to accommodate local topography, hydraulic grade, and utility congestion, among other factors. The trench width would be mostly 10 to 15 feet.

Figure 3
Proposed Transmission Pipeline



For portions of the alignment where it is not feasible to perform open-cut trenching, trenchless technology methods such as boring and jacking, micro-tunneling, or horizontal directional drilling may be used. These special construction methods would be used in areas where it is difficult to perform open-cut trenching, such as State highway crossings, stream and drainage crossings, and high utility congestion areas.

Construction activities may involve trenching, spoil handling, equipment and materials lay-down and storage, pipeline installation, backfilling and restoration, and vehicle ingress and egress. Typically, work tasks are anticipated to proceed in the following order:

- Clearing, grubbing and grading the rights-of-way;
- Trenching and hauling of excess spoils;
- Relocating utilities, if required;
- Delivering pipe and pipe bedding material;
- Installing pipe bedding material;
- Installing pipe;
- Backfilling the trench;
- Hydrostatic testing; and
- Restoring the ROW to original condition (pavement replacement, re-vegetation, etc.)

The width of the disturbance corridor for the pipeline construction would, under typical circumstances, vary from 50 to 100 feet, depending on the size of the pipe being installed. Trenchless technologies may require wider corridors at entry and exit pits.

Typical pipeline installation rates would be up to 250 LF per day. All construction activities would be restricted to the ROW approved by the applicable landowner or agency. All roadways disturbed during pipeline installation would be restored. Generally, trench spoils would be temporarily stockpiled within the construction easement, then backfilled into the trench after pipeline installation.

Some pipeline installation would require construction in existing roadways. Traffic control measures would be implemented as necessary, in coordination with local agencies. Construction staging for the project would depend upon the contractor and subcontractors. Typically, the pipe would be brought to the site just ahead of construction and staged along the alignment ready for placement. Equipment and other construction materials may require sites for storage, staging, and lay-down.

2.3 Operation and Maintenance Procedures

General operation and maintenance procedures would be developed for the Proposed Project/Action's system components, including pipelines, pump stations, and the desalination plant. Examples of typical operation and maintenance procedures are briefly described below.

2.3.1 Desalination Plant

Operation and maintenance personnel at the desalination plant (at any chosen site) would continuously monitor the seawater desalination facility, and would be present at the location 365 days a year, 24 hours per day. Their duties would include:

- Monitor chemical flows to the various processes, water flows into and out of the various processes, equipment operating parameters (e.g., pressure, temperature, and flow rates), and various other continuous operations; maintain, update and order chemicals and equipment to meet operational requirements;

- Prepare monthly records and reports to comply with requirements of local, state, and Federal agencies; and
- Routinely maintain (daily, monthly, and yearly) equipment in accordance with manufacturers' requirements, and provide equipment maintenance for emergency situations and/or breakdowns.

The accumulation of silts or scale on the RO membranes causes fouling, which reduces membrane performance. When this happens, RO membranes must be cleaned to remove the residues. The cleaning process includes two steps: first, a number of cleaning chemicals are circulated in a predetermined sequence through the membranes; and second, the cleaned membranes are flushed with clean water (permeate) to remove the waste-cleaning solutions and to prepare the membranes for normal operation.

2.3.2 Pipeline Facilities

The following are general pipeline interconnection and pump station operation and maintenance procedures:

- Weekly, visually inspect pipeline alignments;
- Mow grass within pipeline alignments;
- Grade access roads as needed;
- Test and service blow-off valves and air/vacuum relief valve assemblies as needed;
- Annually walk the pipeline alignment and inspect the cathodic protection system; and
- Pressure-test pipeline, paint pipeline appurtenances, repair tunnel entrances, and repair minor leaks in buried pipeline joints or segments (when necessary).

2.3.3 Pump Stations

The following are general pump station operation and maintenance procedures:

- Conduct routine operation maintenance checks;
- Conduct routine general pump station cleaning and maintenance;
- Perform routine maintenance of pump station exteriors;
- Routinely test pumps during non-emergency periods and verify operational readiness under anticipated full emergency project head;
- Annually perform major maintenance and cleanup; and
- Service motor cooling system (emergency pumps), replace pump seals, paint pump station and equipment, and disassemble pump to inspect bearings and impeller (recirculation and emergency pumps) as needed.

The various pumps that would be used during operations at the pump stations in the Proposed Project/Action would generally operate on a seasonal basis, although during extreme wet or dry conditions facilities could operate continuously throughout the year, or not at all. It is assumed that when the facilities do operate, they would operate continuously for 24 hours a day.

2.4 Responsible Agencies, Permits and Approvals

The Proposed Project/Action, with its myriad distinct components and range of alternatives, is a complex project. Numerous federal, state, and local regulations and permit requirements would apply to the construction and operation of the Proposed Project/Action. The environmental review process, of which an EIR and/or an EIS is going to be required, is separate from and preliminary to the permitting processes that will follow if the EIR/EIS is certified or approved. Such permitting activities will use the data in the environmental process to provide the necessary information to the regulatory authorities for the permit

decision making process. The content and conclusions of the environmental documents(s) are not dependent upon the individual permitting processes of individual regulatory agencies. Table 1 lists the major federal, state, and local permits, approvals, and consultations identified likely to be required for the construction and operation of the Proposed Project/Action. Table 1 is not intended to be exclusive and exhaustive. Other permits and approvals may be required. If so, the lead agency(s) would be bound by law to comply with such requirements.

Table 1 Regulatory Requirements, Permits, and Authorizations for Project/Action Facilities	
Agency	Type of Approval
Federal Agencies	
U.S. Fish and Wildlife Service (USFWS)	Incidental Take Statement in accordance with Section 7 of the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. 1531 et seq.)
	Incidental Take Permit in accordance with the Migratory Bird Treaty Act (16 USC 703–711)
	Consultation and issuance of a biological opinion in accordance with ESA Section 7
	Consultation in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667c)
	Consultation with State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) in accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA)
National Oceanic & Atmospheric Administration (NOAA) – Fisheries	Authorization by the Monterey Bay National Marine Sanctuary Superintendent of federal, state and local agencies' permits within the sanctuary in accordance with NOAA's National Marine Sanctuary Program requirements for the MBNMS. (15 Code Fed. Regs. Part 922)
	Incidental Take Permit in accordance with Section 104 of the Marine Mammal Protection Act of 1972 (MMPA) (16 U.S.C. § 1374)
	Incidental Take Statement in accordance with ESA Section 7 (16 U.S.C. 1531 et seq.)
	Consultation and biological opinion in accordance with ESA Section 7
	Consultation in accordance with Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act ("the Sustainable Fisheries Act") (16 U.S.C. § 1855(b))
	Consultation with the SHPO and/or THPO, as appropriate, in accordance with NHPA Section 106.
U.S. Army Corps of Engineers (USACE)	Permit in accordance with Clean Water Act Section 404 (33 U.S.C. § 1344)
	Permit in accordance with Rivers and Harbors Act Section 10 (33 U.S.C. § 403)
	Consultation under ESA Section 7
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))

Table 1
Regulatory Requirements, Permits, and Authorizations for Project/Action Facilities

Agency	Type of Approval
	Consultation with the SHPO/THPO in accordance with NHPA Section 106
State Agencies	
California Public Utilities Commission (CPUC)	Certificate of Public Convenience and Necessity (PUC Article 1)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
State Water Resources Control Board, Division of Water Rights	Order of approval
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
Regional Water Quality Control Board for the Central Coast Region	Compliance with National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated With Construction Activity
	National Pollutant Discharge Elimination System (NPDES) Permit in accordance with Clean Water Act Section 402 (33 U.S.C. § 1342)
	Waste Discharge Requirements in accordance with the Porter-Cologne Water Quality Control Act (Water Code § 13000 <i>et seq.</i>)
	Water Quality Certification in accordance with Clean Water Act Section 401 (33 U.S.C. § 1341)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
California State Lands Commission	Amendment of Land Use Lease (Right-of-Way Permit) (Pub. Res. Code § 6000 <i>et seq.</i> ; 14 Cal. Code Regs. § 1900 <i>et seq.</i>)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
California Department of Fish and Game (CDFG)	Incidental Take Permit in accordance with the California Endangered Species Act (CESA) (Fish & Game Code § 2081)
	Lake/Streambed Alteration Agreement (Fish & Game Code § 1602)
	Consultation in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667c)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
California Coastal Commission (CCC)	Coastal Development Permit in accordance with the California Coastal Act (Pub. Res. Code § 30000 <i>et seq.</i>)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))

Table 1 Regulatory Requirements, Permits, and Authorizations for Project/Action Facilities	
Agency	Type of Approval
California Department of Public Health (CDPH)	Permit to Operate a Public Water System (Health & Safety Code § 116525)
	Consultation with NOAA Fisheries in accordance with Section 305(b) of the Sustainable Fisheries Act (16 U.S.C. § 1855(b))
California Department of Transportation (Caltrans)	Encroachment Permit (Streets & Highway Code § 660 <i>et seq.</i>)
Local Agencies	
Local Agency Formation Commission	Annexation of Project Facilities
Monterey County Public Works Department	Encroachment Permit (Monterey County Code (MCC) Chapter 14.04)
Monterey Peninsula Water Management District (MPWMD)	Water System Expansion Permit in accordance with Ordinance 96 of the MPWMD Board of Directors
Monterey Bay Unified Air Pollution Control District (MBUAPCD)	Authority To Construct and Operate

2.5 No Project/Action Alternative

Under the No Project/Action Alternative, the Proposed Project/Action would not be constructed and therefore impacts as a result of this specific Proposed Project/Action as described here within this document would not be encountered. For this analysis, it is assumed that the existing baseline condition and the future No Project/Action condition are the same. That is, this No Project/Action Alternative assumes that none of the Proposed Project/Action facilities would be constructed. As a result, the impact description and summary compares the Proposed Project/Action to the No Project/Action.

Chapter 3 Environmental Review and Consequences

This chapter evaluates the potential for the Proposed Project/Action to have a significant effect on the environment. Using a modified CEQA Environmental Checklist Form as presented in Appendix G of the CEQA Guidelines as a framework, the checklist identifies the potential environmental impacts of the Proposed Project/Action pursuant to both CEQA and NEPA. This document compares the Proposed Project/Action against the No Project/Action Alternative to the criteria as required by CEQA and NEPA.

Environmental Impact Designations

For this checklist, the following designations are used to distinguish between levels of significance of potential impacts to each resource area:

Potentially Significant Impact. Adverse environmental consequences that have the potential to be significant according to the threshold criteria identified for the resource, even after mitigation strategies are applied and/or an adverse effect that could be significant and for which no mitigation has been identified. If any resultant potentially significant impacts are identified, an EIR/EIS may need to be prepared to meet CEQA and NEPA requirements, respectively.

Less-than-Significant Impact with Mitigation. Adverse environmental consequences that have the potential to be significant, but can be reduced to less-than-significant levels through the application of identified mitigation strategies that are not already been incorporated into the Proposed Project/Action description.

Less-than-Significant Impact. Potential adverse environmental consequences have been identified. However, they are not so adverse as to meet the significance threshold criteria for that resource. Therefore, no mitigation measures are required.

No Impact. No adverse environmental consequences have been identified for the resource or the consequences are negligible or undetectable. Therefore, no mitigation measures are required.

Environmental Resources Evaluated

The following are the key environmental resources that were evaluated in this document.

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Aesthetics | <input checked="" type="checkbox"/> Hazards/Hazardous Materials | <input checked="" type="checkbox"/> Population and Housing |
| <input checked="" type="checkbox"/> Agriculture Resources | <input checked="" type="checkbox"/> Hydrology / Water Quality | <input checked="" type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Air Quality | <input checked="" type="checkbox"/> Land Use / Planning | <input checked="" type="checkbox"/> Socioeconomics |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Transportation/Traffic |
| <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Noise | <input checked="" type="checkbox"/> Utilities and Service Systems |
| <input checked="" type="checkbox"/> Geology / Soils | <input checked="" type="checkbox"/> Public Services | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

3.1 Aesthetics

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **No Impact.** The Proposed Project/Action is not located in or near any designated scenic vistas and therefore would not have a substantial impact on a scenic vista. The construction activities of the Proposed Project/Action would not substantially interfere with views of the scenic resources from surrounding publicly accessible areas. Once constructed the operation so the Proposed Project/Action would not have any adverse impacts on any views within Monterey County. No impacts are anticipated and no specific mitigation measures are required.
- (b) **Less than significant Impact.** The Proposed Project/Action is not located near or within a designated state scenic highway and therefore would not damage scenic resources, including but not limited to trees, outcroppings, and historic buildings within a state scenic highway. The Proposed Project/Action's construction activities of the Pipeline facilities would be located in and adjacent to Highway 1, but would not be located within any area that has been designated as a scenic vista or scenic resource. Once constructed, no visual impacts would be present. As a result, any temporary construction impacts are considered to be less than significant. No specific mitigation measures are required.
- (c) **Less-than-Significant Impact.** Construction of the Proposed Project/Action's pipeline facilities would be visible and would involve temporary negative aesthetic effects, including open trenches as well as the presence of construction equipment and materials. Construction impacts of the pipeline facilities would be temporary and are considered to be less-than-significant. Once built, the pipeline facilities would be buried underground and not visible. Installation of the upgrades and expansion of the desalination facilities would occur within existing buildings and would not have any significant visual impacts. Operation of the Proposed Project/Action would not affect any visual resources. Therefore, no impacts are anticipated and no specific mitigation measures are required.

- (d) **No Impact.** The Proposed Project/Action would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. The Proposed Project/Action would not be constructed during nighttime hours and once constructed there would be no additional lights or other sources of light or glare that would adversely affect visual resources in the area. Therefore no impacts would occur and no mitigation is required.

3.2 Agricultural Resources

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- (a) **No Impact.** The Proposed Project/Action would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. The Proposed Project/Action would be constructed within the existing Moss Landing Commercial Park and within and adjacent to Highway 1 and would not be located on any existing agricultural fields or farmlands. As a result, the Proposed Project/Action would convert any farmland to non-agricultural usage. No mitigation is required or necessary.
- (b) **No Impact.** The Proposed Project/Action would not conflict with existing zoning for agricultural use or a Williamson Act contract. As stated above, the Proposed Project/Action would be constructed within the existing Moss Landing Commercial Park and within and adjacent to Highway 1 and would not be located on any existing agricultural fields or farmlands. As a result, the Proposed Project/Action would not conflict with agricultural practices and/or a Williamson Act Contract. No mitigation is required or necessary.
- (c) **Less- than-Significant Impact.** As mentioned above, the Proposed Project/Action would be constructed within the existing Moss Landing Commercial Park and within and adjacent to Highway 1 and would not be located on any existing agricultural fields or farmlands. Therefore, the Proposed Project/Action would not involve changes in the existing environment, which, due to their location or nature, would result in the conversion of farmland or agricultural practices to non-agricultural use. No mitigation is required or necessary.

3.3 Air Quality

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Conflict with an application plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **Less-than-Significant Impact.** The Proposed Project/Action is located within the jurisdiction of the Monterey Bay Unified Air Quality Control District (MBUAQCD), the regional agency empowered to regulate air pollutant emissions from stationary sources in the North Central Coast Air Basin (Air Basin). MBUAQMD regulates air quality through its permit authority over most types of stationary emission sources and through its planning and review process. Emissions associated with the project would conflict with or obstruct implementation of the 2008 Air Quality Management Plan (AQMP) if the emissions are not accounted for in the 2008 AQMP. Pursuant to MBUAPCD policy, construction projects in the Basin that use typical construction equipment such as dump trucks, scrapers, bulldozers, compactors and front-end loaders that temporarily emit precursors of ozone (i.e., ROG and NOx), are accounted for in the emission inventories of State- and federally required air plans. The project would require some construction equipment that may not be considered typical (e.g., drill and hammer bore rigs). However, emissions associated with these equipment types would be minimal.

With regard to long-term operations, there would be no permanent stationary sources associated with the Proposed Project/Action, with the exception of emergency generators, and mobile sources would be limited to commuting workers and limited truck trips to inspect the pipeline facilities. In addition, the Proposed Project/Action would only provide a replacement water supply and would not result in a significant growth inducing impact. Therefore, the Proposed Project/Action would not conflict with or obstruct implementation of the 2008 AQMP. No impacts would occur and no mitigation is required.

- (b) **Less-than-Significant Impact with Mitigation.** CEQA allows for the significance criteria established by the applicable AQMP or air pollution control district to be used to assess the impact of a project on air quality, with overall discretion of the lead agency. The MBUAPCD has determined that construction activities that directly generate 82 pounds per day or more of PM₁₀ would have a significant impact on local air quality when they are located nearby and upwind of sensitive receptors. If ambient air quality in the project area already exceeds the State AAQS for PM₁₀, which is the case for the North Central Coast Air Basin, a project would contribute substantially to this violation if it would emit 82 pounds per day or more of PM₁₀. Therefore, it is appropriate to use the 82 pounds per day of PM₁₀ significance criterion as a mass emissions threshold, to evaluate all concurrent construction and operational activities that would take place within the Air Basin.

Construction activities at the project site would begin in the spring of 2015 and continue into the spring of 2016 and would include excavation and grading activities. Most of the construction activities would be on the 15-mile transmission pipeline system. Overall construction work would require the use of various types of mostly diesel-powered equipment, including bulldozers, wheel loaders, excavators, and various kinds of trucks.

Construction activities typically result in emissions of particulate matter, usually in the form of fugitive dust from activities such as trenching and grading. Emissions of particulate matter vary day to day, depending on the level and type of activity, silt content of the soil, and the prevailing weather. Estimated construction emissions for the pipeline construction were generated using the Sacramento Metropolitan Air Quality Management District's i.e. URBEMIS Construction Emissions Model. The URBEMIS Construction Emissions Model is a Microsoft Excel worksheet available to assess the emissions of linear construction projects. The estimated construction equipment fleet mix and the acreage and soil volume were put into the URBEMIS model in order to determine potential emissions. Table 2 summarizes the Proposed Project/Action's estimated construction related emissions output from the URBEMIS model in maximum pounds per day as well as in estimated tons for the entire construction duration and compares that data with MBUAQCD's daily and project/year thresholds. As shown in Table 2, the Proposed Project/Action's construction emissions would not exceed MBUAQCD's daily and/or annual significance thresholds.

MBUAQCD's approach to analyses of construction impacts is to emphasize implementation of effective and comprehensive basic construction control measures. With implementation of the mitigation measures below, the Proposed Project/Action's construction-related impacts would be further reduced to less-than-significant levels.

Table 2: Estimated Proposed Project/Action Construction Emissions

Construction Phase	Construction Emissions (lbs/day)				
	ROG	CO	NO _x	PM ₁₀	PM _{2.5}
Grubbing/Land Clearing	13.0	53.0	56.9	8.6	4.3
Grading/Excavation	14.3	68.5	64.9	9.1	4.7
Drainage/Utilities/Subgrade	12.9	53.6	54.6	8.8	4.4
Paving	11.7	48.3	42.6	3.5	3.1
Maximum (lbs/day)**	14.3	68.5	64.9	9.1	4.7
Total Tons/Project/Year	1.8	7.8	7.6	1.1	0.6
Thresholds of Significance					
Pounds per Day	82	82	82	82	82
Tons per Project/Year	15	15	15	15	15
Potentially Significant Impact?	No	No	No	No	No

Mitigation Measure AIR-1: Basic Construction Mitigation Measures Recommended for ALL Proposed Projects. During all phases of construction, the following procedures shall be implemented:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure AIR-2: Additional Construction Mitigation Measures for Projects with Emissions over the Thresholds. During all phases of construction, the following procedures shall be implemented:

- All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Minimizing the idling time of diesel powered construction equipment to two minutes.
- The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOx reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
- Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
- Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
- Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

Once operational, emission sources resulting from project operations would be associated with primarily regular maintenance and inspection work. Operational impacts would be considered less-than-significant. With respect to project conformity with the federal Clean Air Act, the Proposed Project/Action's potential emissions are well below minimum thresholds and are below the area's inventory specified for each criteria pollutant designated non-attainment or maintenance for the Air Basin. As such, further general conformity analysis is not required.

- (c) **Less-than-Significant Impact with Mitigation.** As stated above, the Air Basin is currently designated "non-attainment" for the state PM₁₀ and PM_{2.5} standards, the state 1-hour ozone standard. The Bay Area is in "attainment" or "unclassified" with respect to the other ambient air quality standards. The MBUAQCD is active in establishing and enforcing air pollution control rules and regulations in order to attain all state and federal ambient air quality standards and to minimize public exposure to airborne toxins and nuisance odors. Air emissions would be generated during construction of the Proposed Project/Action, which could increase criteria air pollutants, including PM₁₀. However, construction activities would be temporary and would incorporate the implementation of **Mitigation Measure AIR-1 and AIR-2** as identified above.

As mentioned above, upon completion of construction activities emission sources resulting from Project operations would be associated with regular maintenance and inspection work. Given the limited number of trips that would be required, only limited emissions would be generated; these emissions would be expected to be well below MBUAQCD guidelines. See Table 3 above. As such, the Proposed Project/Action would not result in a cumulatively considerable net increase of any criteria air pollutants, and the impacts would be even less-than-significant with implementation of **Mitigation Measure AIR-1 and AIR-2** as identified above.

- (d) **Less-than-Significant Impact with Mitigation.** Diesel emissions would result both from diesel-powered construction vehicles and any diesel trucks associated with project operation. Diesel particulate matter (DPM) has been classified by the California Air Resources Board as a toxic air contaminant for the cancer risk associated with long-term (i.e., 70 years) exposure to DPM. Given that construction would occur for a limited amount of time and that only a limited number of diesel trucks would be associated with operation of the project, localized exposure to DPM would be minimal. As a result, the cancer risks from the project associated with diesel emissions over a 70-year lifetime are very small. Therefore, the impacts related to DPM would be less-than-significant. Likewise, as noted above, the project would not result in substantial emissions of any criteria air pollutants either during construction or operation with the implementation of **Mitigation Measure AIR-1 and AIR-2**; therefore, the project would not expose sensitive receptors, including residents in the project vicinity, to substantial pollutant concentrations. With the implementation of **Mitigation Measure AIR-1 and AIR-2**, impacts to sensitive receptors would be less-than-significant. No additional mitigation measures are required.
- (e) **Less-than-Significant Impact.** During construction of the Proposed Project/Action, the various diesel-powered vehicles and equipment in use on-site could create minor odors. These odors are not likely to be noticeable beyond the immediate area and, in addition, would be temporary and short-lived in nature. Therefore, odor impacts would be less-than-significant. No specific mitigation measures are required.
- (f) **Less-than-Significant Impact with Mitigation.** During construction of the Proposed Project/Action, the various diesel-powered vehicles and equipment in use on-site could generate greenhouse gas emissions. Specifically, while MBAQCD does not have an adopted threshold of significance for construction-related GHG emissions, the Proposed Project/Action would not exceed the thresholds for NO_x which would generate greenhouse gases. In addition, the

implementation of **Mitigation Measure AIR-1 and AIR-2** would reduce any potential to generate greenhouse gas emissions to less-than-significant levels. No additional mitigation measures are required.

- (g) **No Impact.** The Proposed Project/Action would not conflict with an application plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. No mitigation is necessary or required.

3.3 Biological Resources

Would the Proposed Project/Action:	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **Less-than Significant Impact with Mitigation.** The Proposed Project/Action could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. What follows is a discussion of potential impacts to both marine and terrestrial biological resources.

Marine Resources

The proposed desalination facility would only use water that is screened by the existing nine (9) shallow wells in the Moss Landing Harbor that is already permitted for up to 60 MGD. The Proposed Project/Action would not increase the amount of water diverted that is already permitted. As a result, the intake for the Proposed Project/Action would not significantly adversely affect any marine biological communities in the harbor over existing and permitted conditions and any impacts would be considered to be less than significant.

The discharge from the Proposed Project/Action could affect the marine organisms in Monterey Bay at varying levels depending upon the parameter of concern. Potential impacts on marine organisms would be due to elevated levels of salinity, temperature, treatment chemicals, and source water quality from the project discharge. The desalination process would not result in a significant increase in temperature or treatment chemicals. The potential impact to marine habitat and species due to elevated salinity would be significant. However, with implementation of **Mitigation Measures BIO-1, BIO-2, and BIO-3**, the potential impacts would be less than significant.

Mitigation Measure BIO-1: Develop and Implement Comprehensive Monitoring Program. The project sponsor shall develop and implement a comprehensive monitoring program for the desalination facility. The project proponent shall review the program prior to implementation. The project proponent shall maintain records of the monitoring results to document that the salinity in the project discharge is not exceeding the salinity criterion of 110 percent of ambient salinity in Monterey Bay. If the RWQCB adopts a salinity threshold requirement that is intended to provide equal or greater protection to the marine environment, the project proponent shall be authorized to amend this mitigation measure to conform to the RWQCB Order. The project sponsor shall implement the following features as part of the monitoring program:

- Continuously monitor the ambient salinity at the seabed near the discharge location, but outside of the zone of initial dilution (i.e., document ambient background conditions);
- Conduct periodic opportunistic sampling of benthic organisms, at least 5 times per year, to determine changes in the biological communities associated with increased salinity levels from the brine discharge (more than 110 percent of ambient levels). The periodic sampling shall include the full range of natural discharge salinity variation (e.g. spring, summer, fall, winter, after large rain event), focusing especially on times following periods of reduced power plant discharge;
- Continuously monitor salinity levels at the seabed near the discharge location, inside the zone of initial dilution (i.e., where benthic organisms could be exposed to the discharge plume);
- Continuously monitor discharge flow rates;
- Conduct frequency of measurements not less than twice per hour, preferably with real-time data availability and with analysis of monitoring data at least annually to determine the frequency and duration of exceedences; and

- Coordination between desalination plant operators and MLPP operators sufficient to allow implementation of the following remedial actions.

In the event the salinity in the project discharge is greater averages more than 110 percent of ambient salinity in Monterey Bay at the seabed near the discharge location for any 12-hour period, either the operations of the desalination facility shall be reduced or additional dilution shall be provided until the project discharge salinity in Monterey Bay at the seabed is less than 110 percent of ambient salinity in Monterey Bay.

Mitigation Measure BIO-2: Maintain Monitoring Records: The project sponsor shall maintain records of the monitoring results to ensure compliance with the Ocean Plan. At a minimum, sampling for organic contaminants shall be done twice a year, in the wet and dry season, each for a 30-day period. The 30-day period should include sampling during times of reduced power plant discharge. The project sponsor shall implement the following features as part of the monitoring program:

- Perform high-volume, time-integrated water sampling for concentrations of organic contaminants, such as dieldrin and DDTs at the outfall;
- Perform high-volume, time-integrated water sampling for concentrations of organic contaminants, such as dieldrin and DDTs, at the intake location; and
- Provide analysis of monitoring results at least annually.

If the data analysis shows that the concentration the project discharge of contaminants, such as dieldrin and DDTs, in the project discharge would be is greater than the inflow contaminant concentration and either exceeds the Ocean Plan limits or increases an existing exceedance., The operation of the desalination facility shall be reduced or the discharge would be diluted to maintain the until the contaminant concentrations drop below the Ocean Plan limits or the inflow contaminant concentration.

Terrestrial Species

Construction of the pipeline facilities has the potential to cause direct mortality of special-status plants and their seed accumulated in the soil. Also, special-status animals could be killed by vehicles and equipment, their burrows or other retreats could be crushed, or they could be killed if they fall into trenches or pits and cannot escape. Trenching and other surface-disturbing activity could dry out streams, wetlands or seasonal ponds in which aquatic animals live, or pools in which the larval stages of amphibians are developing. Sediment or other pollutants could cause mortality to aquatic animals in streams at and below the construction areas.

Mitigation Measure BIO-3: Avoid direct Mortality and/or Disturbance of Special-Status Plant Populations. Prior to the permitting and construction phase, the project proponent shall conduct the necessary biological surveys for special-status plants and wildlife species that could be affected by the construction activities. Maps depicting the results of these surveys shall be prepared for use in final siting design. Sensitive plant and wildlife species are widespread, and could occur within the Proposed Project/Action area. Project facilities shall be sited to avoid impacts on special-status plants and their required habitat constituent elements, when reasonably feasible. Unavoidable impacts on listed plants species, including Seaside bird's-beak, Yadon's wallflower, sand gilia, Monterey spineflower, and Yadon's rein orchid, require formal consultation with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). Impacts on non-listed species would likely involve informal consultation. Special-status

plant occurrences located within temporary construction areas shall be fenced or flagged for avoidance prior to construction, and a biological monitor shall be present to ensure compliance with off-limits areas. Seasonal avoidance measures (i.e. limited operating periods based on timing of annual plant dormancy), combined with topsoil salvage and site restoration, may be acceptable in some cases. Compensation for permanent loss of special-status plant occurrences, in the form of land purchase or restoration, must be provided to the level acceptable to the resource agencies.

Mitigation Measure BIO-4: Conduct Preconstruction Surveys for Burrowing Owls. Project Proponent shall conduct preconstruction surveys for burrowing owls and habitat in conformance with California Department of Fish and Game (CDFG) protocols, and no more than thirty days prior to the start of construction. If no burrowing owls are located during these surveys, no additional action would be warranted. However, if breeding or resident owls are located on or immediately adjacent to the site, the following measures shall be implemented.

- A 250-foot buffer, within which no new activity is permissible, shall be maintained between Project activities and nesting burrowing owls. This protected area shall remain in effect until August 31 or, at the discretion of CDFG and based upon monitoring evidence, until the young owls are foraging independently.
- If construction will directly impact occupied burrows, eviction outside the nesting season may be permitted pending evaluation of eviction plans and receipt of formal written approval from the CDFG authorizing the eviction. No burrowing owls shall be evicted from burrows during the nesting season (February 1 through August 31).

Mitigation Measure BIO-5: Avoid Construction Impacts on Other Special-Status Birds. Special-Status birds could occur on or near any of the sites not within developed areas. These bird species typically nest in California between March 1 and September 1. If construction-related work is scheduled outside of this nesting season, nesting birds will not be impacted and no further mitigation is necessary. If construction must occur during the breeding season (March 1 to September 1), a qualified ornithologist shall conduct preconstruction surveys no more than fifteen days prior to the initiation of disturbance wherever suitable habitat occurs for special-status birds. If active nests are found to be present within or adjacent to work sites during the breeding season, a construction-free buffer around the active nests shall be established. For raptors, this buffer is typically 250 feet; for other birds it may be as narrow as 20 feet. An ornithologist in consultation with CDFG shall determine the width of this buffer. This buffer shall be maintained until nesting has been completed and the young have fledged.

With the implementation of the mitigation measures described above, the Proposed Project/Action would not result in any significant adverse impacts to special-status plant or wildlife species.

Non-Sensitive Species

The construction activities of the Proposed Project/Action could result in temporary disturbance of non-sensitive plant and wildlife species which are not considered sensitive by the resource agencies. However, these temporary impacts are considered less than significant and the Proposed Project/Action would not result in adverse effects to special-status species.

Summary

As a result and with the incorporation of the mitigation measures prescribed above, the construction and/or operation of the Proposed Project/Action would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG and/or USFWS.

- (b) **Less-than-Significant Impact with Mitigation.** The Proposed Project/Action would not have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS. As a result, no impact is expected and no specific mitigation is required.

Erosion associated with project construction activities resulting in the introduction of sediments into riparian habitats could negatively affect water quality in rearing and foraging habitat. Introduction of sediments could lead to increased embedding of river substrate, which could negatively affect invertebrate communities used as a food source by juvenile fish. Impacts to the species or critical habitat that constitute harm or harassment could be considered a “take” by the FESA. This is considered a potentially significant impact if the project would substantially reduce the number or restrict the range of an endangered, rare or threatened species. **Mitigation Measures BIO-3 and BIO-4** below are proposed to reduce the potential impacts to less than significant levels. **Mitigation Measure BIO-5** is proposed requiring Best Management Practices be installed to eliminate construction-related runoff and sedimentation into the creeks/drainages.

Construction could result in “frac-out” during trenchless construction techniques and activities. Frac-out is a term used to describe the fracture or cracking of soil or rock above an active subsurface drilling operation leading to discharge of drilling slurry to the surface. Frac-outs occurring in aquatic environments are difficult to contain, primarily because bentonite—a commonly used, inert drilling lubricant—readily disperses in flowing water and quickly settles in standing water. Bentonite is non-toxic, but there are two specific, indirect effects of bentonite on aquatic life. Initially, the suspended bentonite may inhibit respiration of fishes, although this is typically short-lived. Once the bentonite settles, secondary long-term effects can result. For example, egg masses of fish could be covered by a layer of bentonite, inhibiting the flow of dissolved oxygen to the egg masses. Secondly, benthic invertebrates may be covered and suffocate from fouled gills and/or lack of oxygen. **Mitigation Measure BIO-8** requires trenchless construction activities to be conducted during a work window identified by the National Marine Fisheries Service when adult and juvenile salmonids are not present in the project area (June 1 through November 30). This would reduce potential frac-out impacts to a less than significant level.

Mitigation Measure BIO-6: Avoid Cutting Through the Creeks, Channels, Sloughs, and Rivers. As described in the Proposed Project/Action description, all of the creek crossings will be crossed by using trenchless construction techniques in the dry season. Specifically, no pipeline construction activities shall occur between December 1 and May 31 (a work window identified by the National Marine Fisheries Service), which is the period when adult and juvenile salmonids are likely to occur. Construction crews shall avoid entering the stream channels during installation.

Mitigation Measure BIO-7: Implement Construction Best Management Practices. To reduce potentially significant erosion and siltation, the City and/or its selected contractor(s) shall obtain a Stormwater Pollution Prevention Permit (SWPPP) and implement Best

Management Practices and erosion control measures as required by the Central Coast RWQCB. Best Management Practices to reduce erosion and siltation shall include, at a minimum, the following measures: Avoidance of construction activities during inclement weather; limitation of construction access routes and stabilization of access points; stabilization of cleared, excavated areas by providing vegetative buffer strips, providing plastic coverings, and applying ground base on areas to be paved; protection of adjacent properties by installing sediment barriers or filters, or vegetative buffer strips; stabilization and prevention of sediments from surface runoff from discharging into storm drain outlets; use of sediment controls and filtration to remove sediment from water generated by dewatering; and returning all drainages to preconstruction conditions. Construction crews shall avoid entering the stream channels during installation.

Mitigation Measure BIO-8: Develop and Implement a Frac-Out Contingency Plan for Trenchless Construction Activities. For trenchless construction activities that use drilling lubricants, the Project proponent or its contractor shall prepare and implement a frac-out contingency plan that is intended to minimize the potential for a frac-out associated with tunneling activities; provide for the timely detection of frac-outs; and ensure an organized, timely, and "minimum-impact" response in the event of a frac-out and release of drilling lubricant (i.e., bentonite). The contingency plan will require, at a minimum, the following measures.

- Trenchless construction activities to be conducted during a work window identified by the National Marine Fisheries Service when adult and juvenile salmonids are not present in the project area (June 1 through November 30).
 - A full-time monitor will attend all drilling to look for observable frac-out conditions or lowered pressure readings on drilling equipment. If a frac-out is identified, all work will stop, including the recycling of drilling lubricant. In the event of a frac-out into water, the pressure of water above the tunnel will keep excess mud from escaping through the fracture. The location and extent of the frac-out will be determined, and the frac-out will be monitored for 4 hours to determine whether the drilling lubricant congeals (bentonite will usually harden, effectively sealing the frac-out location).
 - If the drilling lubricant congeals, no other actions will be taken that would potentially suspend sediments in the water column.
 - Surface releases of bentonite will be allowed to harden and then will be removed.
 - The contingency plan will identify additional measures to be taken to contain or remove the drilling lubricant if it does not congeal.
- (c) **Less-than-Significant Impact with Mitigation.** The Proposed Project/Action could have an adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Implementation of **Mitigation Measure BIO-9** below would reduce impacts to a less than significant level.

Mitigation Measure BIO-9: Obtain all Required Authorizations. Prior to issuance of encroachment permits for the Proposed Project/Action, the City, as necessary, shall conduct a wetlands delineation study in sensitive areas of the Proposed Project/Action

and obtain all required authorization from agencies with jurisdiction riparian habitats and jurisdictional wetlands in the area. Such agencies may include, but are not limited to, the USACE, CDFG, and the Central Coast Regional Water Quality Control Board. Impacted habitat shall be offset through onsite restoration, offsite restoration, or purchase of credits at a CDFG and USFWS-approved mitigation bank in the region at no less than a 1:1 ratio.

- (d) **Less-than-Significant Impact with Mitigation.** The Proposed Project/Action would not interfere substantially with the movement of any native resident or migratory fish or wildlife corridors, or impede the use of native wildlife nursery sites. Habitat in the area is fragmented by agricultural fields, residential developments and roads. The Project area represents a small portion of the habitat in the area and once conveyance facilities will be underground. There will be no significant obstruction to fish or wildlife movement. Many raptors are sensitive to loud construction noise such as that associated with grading and demolition. Such activities could cause nest abandonment or destruction of individual active raptor nests. Because the western burrowing owl as well as all raptors and their nests are protected under 3503.5 of the California Fish and Game Code, this could result in a significant impact. As a result, **Mitigation Measures BIO-4 and BIO-5** would reduce this impact to less-than-significant levels.
- (d) **No Impact.** The Proposed Project/Action is not expected to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As a result, no impact is expected and no specific mitigation is required.
- (e) **No Impact.** The Proposed Project/Action would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there is no impact and no mitigation is required.

3.4 Cultural Resources

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- (a) **No Impact.** The Proposed Project/Action would not cause a substantial adverse change in the significance of a historical resource. No listed or historical properties exist within the Proposed Project/Action Area. As a result, there is no impact and no specific mitigation is required.
- (b) **Less-than-Significant Impact with Mitigation.** No known significant archaeological resources are known to exist within the Project area. Therefore, the Proposed Project/Action is not likely to cause a substantial adverse change in the significance of unique archaeological resources. Nevertheless, there is a slight chance that the construction activities of the Proposed Project/Action pipeline facilities could result in accidentally discovering unique archaeological resources. However, to further reduce this less-than-significant impact, the following mitigation measures are recommended:

Mitigation Measure CR-1: Halt Work if Cultural Resources are Discovered. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 100 feet of the resources shall be halted and after notification, the City shall consult with a qualified archaeologist to assess the significance of the find. If any find is determined to be significant (CEQA Guidelines 15064.5[a][3] or as unique archaeological resources per Section 21083.2 of the California Public Resources Code), representatives of the City and a qualified archaeologist shall meet to determine the appropriate course of action. In considering any suggested mitigation proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the lead agency shall determine

whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is carried out.

With the implementation of the above mitigation measure, the Proposed Project/Action would not result in impacts to historical resources.

- (c) **Less-than-Significant Impact with Mitigation.** Paleontologic resources are the fossilized evidence of past life found in the geologic record. Despite the tremendous volume of sedimentary rock deposits preserved worldwide, and the enormous number of organisms that have lived through time, preservation of plant or animal remains as fossils is an extremely rare occurrence. Because of the infrequency of fossil preservation, fossils – particularly vertebrate fossils – are considered to be nonrenewable resources. Because of their rarity, and the scientific information they can provide, fossils are highly significant records of ancient life.

No known significant paleontological resources exist within the Project area. Also, because the Proposed Project/Action would result in minimal excavation in bedrock conditions, significant paleontologic discovery would be unlikely. However, fossil discoveries can be made even in areas of supposed low sensitivity. In the event a paleontologic resource is encountered during project activities, implementation of the following mitigation measure would reduce potential impacts to less-than-significant.

Mitigation Measure CR-2: Halt Work if paleontological remains are discovered. If paleontological resources, such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions are discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a qualified paleontologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the City.

With the implementation of the above mitigation measure, the Proposed Project/Action would not result in impacts to unique paleontological or geological resources.

- (d) **Less-than-Significant Impact with Mitigation.** There are no known burial sites within the project area. Nonetheless, the possibility exists that subsurface construction activities may encounter undiscovered human remains. Accordingly, this is a potentially significant impact. Mitigation is proposed to reduce this potentially significant impact to a level of less-than-significant.

Mitigation Measure CR-3: Halt Work if Human Remains are Found. If human remains are encountered during excavation activities conducted for the Proposed Project/Action, all work in the adjacent area shall stop immediately and the Monterey County Coroner's office shall be notified. If the Coroner determines that the remains are Native American in origin, the Native American Heritage Commission shall be notified and will identify the Most Likely Descendent, who will be consulted for recommendations for treatment of the discovered human remains and any associated burial goods.

3.5 Geology and Soils

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **Less-than-Significant Impact.** The Proposed Project/Action consists primarily of constructing a pipeline system. In addition, the Proposed Project/Action will involve converting existing buildings into a desalination facility that would take water out of an existing diversion/intake in the

Moss Landing Harbor. The proposed facilities will not cross a known fault, but the project area is susceptible to strong groundshaking during an earthquake which could occur along known faults in the region. However, the Proposed Project/Action does not expose people or structures to potential substantial adverse effects, including the risk of loss and injury due to a seismic event.

- (b) **Less-than-Significant Impact.** Construction activities associated with the Proposed Project/Action would involve excavation and earthmoving which could cause erosion or loss of topsoil. Construction activities would involve excavation, moving, filling, and the temporary stockpiling of soil. Earthwork associated with development construction could expose soils to erosion. However, the Proposed Project/Action pipeline facilities would be constructed in existing roadways and utility corridors and would be covered and/or paved immediately after the pipeline has been installed. As a result, any soil erosion or loss of top soil would be considered less-than-significant.
- (c) **Less-than-Significant Impact with Mitigation.** The Proposed Project/Action may be located in areas that consist of medium dense to dense fine granular soils. In addition, perched groundwater could be present. As such, the soil in some areas of the alignment may have a high susceptibility to liquefaction during seismic shaking. Other portions of the Project may be less susceptible to liquefaction and related damage. Lateral spreading, often associated with liquefaction, is less likely because there are no steep banks or hard ground bordering the Project area, but could still potentially be a hazard. As a result, the following mitigation is proposed:

Mitigation Measure GEO-1: Perform Geotechnical Investigation. Prepare a design-level geotechnical study prior to project implementation to determine proper design and construction methods, including any cathodic protection measures needed for installing the pipelines in these soils.

With the incorporation of this mitigation measure, any resulting impacts would be considered to be less-than-significant.
- (d) **Less-than-Significant Impact with Mitigation.** The Proposed Project/Action could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994). However, with the incorporation of **Mitigation Measures GEO-1** above, any impacts would be less-than-significant.
- (e) **Less-than-Significant Impact.** The Proposed Project/Action would not include the use of septic tanks or alternative waste water disposal systems. Therefore, no adverse effects to soil resources are expected. No mitigation is required.

3.6 Hazards and Hazardous Materials

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- (a) **Less-than-Significant Impact with Mitigation.** Operation of the Proposed Project/Action would involve the routine transportation, use, storage, and/or disposal of hazardous materials. In addition, construction of the Proposed Project/Action could temporarily increase the transport of

materials generally regarded as hazardous materials that are used in construction activities. It is anticipated that limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similarly related materials would be brought onto the project site, used, and stored during the construction period. The types and quantities of materials to be used could pose a significant risk to the public and/or the environment. In addition, construction of the Proposed Project/Action could result in the exposure of construction workers and residents to potentially contaminated soils. As a result the following mitigation measures are proposed:

Mitigation Measure HAZ-1: Store, Handle, Use Hazardous Materials in Accordance with Applicable Laws. Ensure that all construction-related hazardous materials and hazardous wastes shall be stored, handled, and used in a manner consistent with relevant and applicable federal, state, and local laws. In addition, construction-related hazardous materials and hazardous wastes shall be staged and stored away from stream channels and steep banks to keep these materials a safe distance from near-by residents and prevent them from entering surface waters in the event of an accidental release.

Mitigation Measure HAZ-2: Properly Dispose of Contaminated Soil and/or Groundwater. If contaminated soil and/or groundwater is encountered or if suspected contaminated is encountered during project construction, work shall be halted in the area, and the type and extent of the contamination shall be identified. A contingency plan to dispose of any contaminated soil or groundwater will be developed through consultation with appropriate regulatory agencies.

Mitigation Measure HAZ-3: Properly Dispose of Hydrostatic Test Water. Dewatering and of the pipeline during hydrostatic testing during construction as well as any dewatering as a result of operations and maintenance activities shall be discharged to land or the sanitary sewer system and not into any creeks, drainages, or waterways and shall require prior approval from the Central Coast Regional Water Quality Control Board.

- (b) **Less-than-Significant Impact with Mitigation.** The operation of the Proposed Project/Action could create an additional significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As with all construction activities, the potential exists for accidents to occur, which could result in the release of hazardous materials into the environment. With the incorporation of **Mitigation Measures HAZ-1 and HAZ-2** identified above, potential impacts are considered to be less-than-significant.
- (c) **Less-than-Significant Impact.** Construction of portions of the pipeline segments of the Proposed Project/Action would be located within one-quarter mile of several schools. Although construction activities would require the use of some hazardous materials, due to the short duration and limited extent of construction activity, the potential for accidental release of hazardous materials associated with construction activities to affect nearby school children would be considered less-than-significant. No mitigation is required.
- (d) **Less-than Significant Impact with Mitigation.** The Proposed project/Action involves excavation, trenching, tunneling and grading for the construction of water conveyance pipelines and utilities. A number of properties with soil and/or groundwater contamination are located within ¼-mile of project facilities and may have impacted subsurface conditions at project

locations. The typical contaminants anticipated to be encountered during project construction activities are related to releases from gasoline service stations, dry cleaners, and agricultural uses such as petroleum hydrocarbons, VOCs, metals, and pesticides. Of particular concern, construction within or near the Former Fort Ord Military facility could result in exposure to various organic substances, metals, petroleum products, and unexploded ordnance. Soil disturbance during construction could further disperse existing contamination into the environment and expose construction workers or the public to contaminants. If significant levels of hazardous materials are present in excavated soils, health and safety risks to workers and the public could occur. This disturbance would be limited to the construction phase of the project. Because regulatory agency lists are continually updated as new environmental concerns are identified or existing environmental release sites are cleaned up, the agency list and file review will need to be updated to evaluate these concerns closer to the time of excavation for the project. Implementation of the following mitigation measures, as well as compliance with hazardous materials laws and regulations, would reduce the potential for exposure to hazardous materials during construction to a less-than-significant level.

Mitigation Measure HAZ-4: Conduct Phase I Environmental Site Assessment.

Prior to construction of facilities requiring excavation of more than 50 cubic yards of soil, the contractor shall retain a qualified environmental professional to conduct a Phase I Environmental Site Assessment in conformance with ASTM Standard 1527-05 to evaluate subsurface conditions that could be expected during construction. For the pipeline alignments, the contractor shall retain a qualified environmental professional to update the environmental database review to identify environmental cases, permitted hazardous materials uses, and spill sites within one-quarter mile of the pipeline alignment. Regulatory agency files will be reviewed for those sites that could potentially affect soil and groundwater quality within the project alignment. If these preliminary environmental reviews indicate that a release of hazardous materials could have affected soil or groundwater quality at a project site, the contractor shall retain a qualified environmental professional to conduct a Phase II environmental site assessment to evaluate the presence and extent of contamination at the site, in conformance with state and local guidelines and regulations. If the results of the subsurface investigation(s) indicate the presence of hazardous materials, additional site remediation may be required by the applicable state or local regulatory agencies, and the contractors shall be required to comply with all regulatory requirements for facility design or site remediation. In addition, the environmental professional will perform a site reconnaissance and assess the need for Phase II soil sampling at locations with the potential to have subsurface contamination. These locations may not be identified through a regulatory agency database search. As above, pertinent findings shall be reported to the applicable state or local regulatory agencies and additional remediation may be required based on the findings of these investigations.

Mitigation Measure HAZ-5: Prepare a Health and Safety Plan. Based on the findings of the environmental review required by **Mitigation Measure HAZ-4**, the project proponent shall prepare a project-specific Health and Safety Plan (HSP) in accordance with 29 CFR 1910 to protect construction workers and the public during all excavation, grading and construction services. The HSP shall identify the following, but not be limited to:

- A summary of all potential risks to construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals;
- Specified personal protective equipment and decontamination procedures, if needed;

- Safety procedures to be followed in the event suspected hazardous materials are encountered;
- Emergency procedures, including route to the nearest hospital;
- The identification of a site health and safety officer and responsibilities of the site health and safety officer

Mitigation Measure HAZ-6: Hazardous Materials Construction Monitoring. The contractor shall have a site health and safety supervisor fully trained pursuant to the HAZWOPER standard (29 CFR 1910.120) be present during excavation, grading, trenching, or cut and fill operations to monitor for evidence of potential soil contamination, including soil staining, noxious odors, debris or buried storage containers. The site health and safety supervisor must be capable of evaluating whether hazardous materials encountered constitute an incidental release of a hazardous substance or an emergency spill. The site health and safety supervisor shall direct procedures to be followed in the event that a hazardous materials release with the potential to impact worker health and safety is encountered. These procedures shall be in accordance with hazardous waste operations regulations and specifically include, but are not limited to, the following:

- Immediately stopping work in the vicinity of the unknown hazardous materials release;
- Notifying MCDEH, and retaining a qualified environmental firm to perform sampling; and
- Remediation.

Mitigation Measure HAZ 7: Develop a Materials Disposal Plan. The project proponent or its contractor shall develop a materials disposal plan specifying how the applicant or its contractor will remove, handle, transport, and dispose of all excavated material in a safe, appropriate, and lawful manner. The plan must identify the disposal method for soil and the approved disposal site, and include written documentation that the disposal site will accept the waste. The project proponent or its contractor shall develop a groundwater dewatering control and disposal plan specifying how the applicant or its contractor will remove, handle, and dispose of groundwater impacted by hazardous substances in a safe, appropriate and lawful manner. The plan must identify the locations at which potential groundwater impacts are likely to be encountered, the method to analyze groundwater for hazardous materials, and the appropriate treatment and/or disposal methods.

- (e) **Less-than-Significant Impact.** Portions of the Proposed Project/Action's pipeline facilities from Moss Landing to Cal-Am's distribution system would be located within two miles of the Marina Municipal Airport and the Monterey Peninsula Airport. However, construction and/or operation of the Proposed Project/Action would not adversely affect an airport or airport operations, including, noise, take-offs, landings, flight patterns, safety, light, navigation, or communications between aircraft and the control tower within the Project area. Any potential impacts are considered to be less-than-significant. No specific mitigation is required.
- (f) **Less-than-Significant Impact.** The Proposed Project/Action is located within two miles of the Marina Municipal Airport and the Monterey Peninsula Airport. However, construction and/or operation of the Proposed Project/Action would not adversely affect an airport or airport operations, including, noise, take-offs, landings, flight patterns, safety, light, navigation, or communications between aircraft and the control tower within the Project area. Any potential impacts are considered to be less-than-significant. No specific mitigation is required.

- (g) **Less-than-Significant Impact with Mitigation.** The Proposed Project/Action would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As a result, no impacts are anticipated and no mitigation is required. However, when installing the pipelines in the existing roadways, the Proposed Project/Action could block access to nearby roadways for emergency vehicles. With the incorporation of the following mitigation, potential impacts are considered to be less-than-significant.

Mitigation Measure HAZ -8: Develop and Maintain Emergency Access Strategies.

In conjunction with Mitigation Measure Traffic-1: Develop a Traffic Control Plan identified below in the Traffic and Transportation section, comprehensive strategies for maintaining emergency access shall be developed. Strategies shall include, but not limited to, maintaining steel trench plates at the construction sites to restore access across open trenches and identification of alternate routing around construction zones. Also, police, fire, and other emergency service providers shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures.

- (h) **Less-than-Significant Impact with Mitigation.** Construction of the Proposed Project/Action would be located within an industrial setting and is not generally located in an area where there is the risk of wildland fire. Specifically, a records search of the California Department of Forestry and Fire Protection Fire Severity mapping system does not regard the Proposed Project/Action Area to be in an area of moderate or high risk to wildfires. As a result, there is little potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires. However, project components would be constructed within or near annual grasslands with moderate to high potential for fire in the dry season. Operation of equipment used to construct the Proposed Project/Action, such as bulldozers, tractors, transportation vehicles, welders, and grinders could increase the potential for fire. The potential exists for construction equipment and vehicles to come into contact with heavily vegetated areas, thereby igniting dry vegetation. With the implementation of the following mitigation, potential impacts would be reduced to less than significant.

Mitigation Measure HAZ-9: Develop and Implement Fire Management Plan.

Develop and implement a Fire Management Plan (FMP) with the appropriate local and state fire suppression agencies to verify that the necessary fire prevention and response methods are included in the plan. The FMP shall also include fire precaution and pre-suppression and suppression measures consistent with the policies and standards in the affected jurisdictions. The FMP would include, but not be limited to, the following requirements:

- Ensure that, through enforcement of contractual obligations on the contractor(s) during construction, staging areas, welding areas, or areas slated for development using spark-producing equipment would be cleared of dried vegetation or other materials that could serve as fire fuel. The contractor would keep these areas clear of combustible materials to maintain a fire break. Any construction equipment that normally includes a spark-arrester would be equipped with an arrester in good working order. This would include, but not limited to, vehicles, heavy equipment, and chainsaws.
- Construction work crews would be required to carry sufficient fire suppression equipment to ensure that any fire resulting from construction activities could be immediately extinguished. All off-road equipment and internal combustion engines would be equipped with spark arresters.

3.7 Hydrology and Water Quality

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality? (erosion potential)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation of seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **Less-than-Significant Impact with Mitigation.** Excavation, grading, and construction activities associated with the Proposed Project/Action could violate water quality as those activities would expose and disturb soils, resulting in potential increases in erosion and siltation in the Project area. Construction during the rainy season could result in increases in erosion, station, and water quality issues. Generally, excavation, grading, paving, and other construction activities would expose disturbed and loosened soils to erosion by wind and runoff. Construction activities could therefore result in increased erosion and siltation, including nutrient loading and increasing the total suspended solids concentration. Erosion and siltation from construction have the potential to impact the creeks and drainage crossings, therefore posing a potentially significant impact to water quality. With the incorporation of the following mitigation, any potential impacts to water quality as a result of construction are reduced to less-than-significant levels.

Mitigation Measure HWQ-1: Implement Construction Best Management Practices.

To reduce potentially significant erosion and siltation, the City and/or its selected contractor(s) shall obtain a Stormwater Pollution Prevention Permit (SWPPP) and implement Best Management Practices and erosion control measures as required by the San Francisco RWQCB. Best Management Practices to reduce erosion and siltation shall include the following measures: Avoidance of construction activities during inclement weather; limitation of construction access routes and stabilization of access points; stabilization of cleared, excavated areas by providing vegetative buffer strips, providing plastic coverings, and applying ground base on areas to be paved; protection of adjacent properties by installing sediment barriers or filters, or vegetative buffer strips; stabilization and prevention of sediments from surface runoff from discharging into storm drain outlets; use of sediment controls and filtration to remove sediment from water generated by dewatering; and returning all drainage patterns to pre-existing conditions.

With the implementation of **Mitigation Measure HWQ-1**, any water quality impacts as a result of the construction and operation will be reduced to less-than-significant levels. No additional mitigation measures or demineralization facilities would be required.

- (b) **No Impact.** Construction and/or operation of the Proposed Project/Action would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Construction of the Proposed Project/Action of the pipeline facilities would be limited to 3-6 feet below surface elevation and would not interfere with groundwater supplies. Once constructed, the pipeline will also not adversely affect groundwater supplies. In fact, the importation of approximately to 10,700 acre-feet of water per year has the potential to offset current groundwater pumping which has the potential to increase local groundwater supplies through an in-lieu recharge basis. Therefore, no adverse impacts are anticipated and no mitigation is required.
- (c) **Less-than-Significant Impact with Mitigation.** Construction and/or operation of the Proposed Project/Action would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion of siltation on- or off-site. With the implementation of **Mitigation Measure HWQ-1**, above, the Proposed Project/Action would not significantly alter any existing drainage areas.

- (d) **Less-than-Significant Impact with Mitigation.** Construction and/or operation of the Proposed Project/Action would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in flooding on- or off-site. With the implementation of **Mitigation Measure HWQ-1**, above, the Proposed Project/Action would not significantly alter any existing drainage areas.
- (e) **No Impact.** The Proposed Project/Action would not result in any new significant impervious surfaces and would not create new areas of low permeability. The construction of the Proposed Project/Action pipeline facilities would be returned to pre-construction conditions and would not increase the impervious surfaces and therefore would not create new areas of low permeability. In addition, the installation of the desalination facilities in existing buildings would not create a new impervious layer that would significantly affect permeability. As a result, no additional runoff is expected to be generated by the Proposed Project/Action. Therefore, the Proposed Project/Action would not result in exceeding the capacity of existing or planned storm water drainage systems. No impacts would occur and no mitigation is necessary.
- (f) **Less-than-Significant Impact with Mitigation.** The Proposed Project/Action would not substantially affect water quality. As discussed earlier, the construction of the Proposed Project/Action could result in minor, temporary, and highly localized soil erosion and siltation issues. However, with the incorporation of **Mitigation Measure HWQ-1** above, potential impacts to water quality would be reduced to less-than-significant levels.
- (g) **No Impact.** The proposed desalination facilities, storage facilities, pump stations, and pipelines are located outside of the 100-year flood hazard area, both inland and coastal. The coastal areas include areas where coincident flooding and high tide event/and or storm surge have a 1 percent annual chance of flooding. Underground portions of the proposed Transmission Main North pipeline would cross through inland areas within the 100-year and 500-year floodplains of the Moro Cojo Slough and Salinas River. However, the proposed project would be developed in accordance with the County and City codes for flood protection. The Transmission Pipeline would be underground and would not impede or redirect flood flows, and comply with the applicable local regulations such as the Monterey General Plan. Therefore, the impact would be less than significant. The Proposed Project/Action would not redirect flood flows or otherwise place housing within a 100-year flood hazard area. No impact is expected and no mitigation is required or necessary.
- (h) **No Impact.** The Proposed Project/Action would generally not place exposed structures within a 100-year flood hazard area. The pipeline facilities would be primarily located underground and the filtration upgrades would be located at the existing buildings and out of the 100-year flood hazard area. No impact is expected and no mitigation is required or necessary.
- (i) **No Impact.** The Proposed Project/Action would not expose people or structures to a significant risk of loss, injury, or death involving flooding; including flooding as a result of a failure of a levee or dam. No impact is expected and no mitigation is required or necessary.
- (j) **No Impact.** The Proposed Project/Action would not expose people or structures to a significant risk of loss, injury, or death involving a seiche or tsunami. As the Proposed Project is located on the coast, a seiche and/or tsunami are an extremely remote possibility. However, the Proposed Project/Action would not cause these events to happen or put people or structures to a significant risk of loss, injury, or death. In addition, the Proposed Project/Action area is essentially level, with minimal to no potential hazards from mudflows. No impact is expected and no mitigation is required or necessary.

3.8 Land Use and Planning

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **No Impact.** The Proposed Project/Action would not physically divide an established community. The Proposed Project/Action would be primarily constructed within the existing Moss Landing Commercial Park and along Highway 1 to the existing Cal-Am water distribution system. The Proposed Project/Action would not result in a disruption, physical division, or isolation of existing residential or open space areas. As a result, no impact is expected and no mitigation is required or necessary.
- (b) **Less than Significant Impact with Mitigation.** The Proposed Project/Action would be constructed within the existing Moss Landing Commercial Park and along Highway 1 to the existing Cal-Am water distribution system. The Proposed Project/Action in and of itself would not conflict with any applicable land use plan, policy, or regulation. However, if the City of Pacific Grove is going to implement the Proposed Project/Action, the City would likely have to annex the proposed site and lands into the City and/or get easements for the construction and operation of the pipeline facilities. The following mitigation is proposed.

Mitigation Measure LUP-1: Implement Annexation According to the Local Agency Formation Commission (LAFCO) Procedures. If the City of Pacific Grove intends to implement the Proposed Project/Action, it would have to extend its corporate boundaries and annex the proposed project area into the City through the LAFCO annexation process and procedures.

With the incorporation of the above mitigation measure, any land use inconsistency issues or impacts would be considered to be less than significant.

- (c) **No Impact.** The Proposed Project/Action would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. As stated above, the Proposed Project/Action would be constructed within the existing Moss Landing Commercial Park and along Highway 1 to the

existing Cal-Am water distribution system. For this reason, no impacts are expected and no mitigation is required or necessary.

3.9 Mineral Resources

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **No Impact.** The Proposed Project/Action site is not located on a site that is identified as a significant source of mineral resources. Specifically, the Proposed Project/Action is not located in an area identified as containing mineral resources classified MRZ-2 by the State geologist that would be of value to the region and the residents of the state. As a result, the Proposed Project/Action would not result in the loss of availability of known mineral resources; therefore, no impact is expected. No mitigation is required.
- (b) **No Impact.** The Monterey County General Plan does not identify any locally important mineral resources or recovery sites in the Proposed Project/Action's area. Further, as discussed in (a), the Proposed Project/Action would be unlikely to result in the loss of availability of a mineral resource deposit that has been identified as a mineral resource of value. Therefore, no adverse impacts are anticipated and no mitigation is required.

3.10 Noise

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- (a) **Less-than-Significant Impact with Mitigation.** The Proposed Project/Action has the potential to generate noise during the construction phase through the use of equipment and construction vehicle trips. Construction of the Proposed Project/Action would generate temporary and intermittent noise. Noise levels would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment.

Back-up beepers associated with trucks and equipment used for material loading and unloading at the staging area would generate significantly increased noise levels over the ambient noise environment in order to be discernable and protect construction worker safety as required by OSHA (29 CFR 1926.601 and 29 CFR 1926.602). Residences and/or businesses in the vicinity of the staging area would thus be exposed to these elevated noise levels.

Construction activities associated with the project would be temporary in nature and related noise impacts would be short-term. However, since construction activities could substantially increase ambient noise levels at noise-sensitive locations, construction noise could result in potentially significant, albeit temporary, impacts to sensitive receptors. Compliance with existing noise ordinances and implementation of the following mitigation measures is expected to reduce impacts related to construction noise, to a less-than-significant level. The following mitigation measures are proposed:

Mitigation Measure NOI-1: Limit Construction Hours. Construction activities will be limited to the least noise-sensitive times and will comply with the existing noise ordinances. Construction, alteration, repair or land development activities shall be allowed on weekdays between the hours of 8 a.m. and 8 p.m., on Saturdays between the hours of 10 a.m. and 6 p.m. Construction activities shall not exceed the outdoor ambient sound level (dBA) of 86 dBA.

Mitigation Measure NOI-2: Locate Staging Areas away from Sensitive Receptors. The construction specification shall require that the contractor select staging areas as far as feasibly possible from sensitive receptors.

Mitigation Measure NOI-3: Maintain Mufflers on Equipment. Construction specifications shall require the contractor to maintain all construction equipment with manufacturer's specified noise-muffling devices.

Mitigation Measure NOI-4: Idling Prohibition and Enforcement. Prohibit and enforce unnecessary idling of internal combustion engines. In practice, this would mean turning off equipment if it will not be used for five or more minutes.

Mitigation Measure NOI-5: Equipment Location and Shielding. Locate all stationary noise-generating construction equipment such as air compressors as far as possible from homes and businesses.

With the incorporation of the above mitigation measures, noise impacts as result of construction-related activities of the Proposed Project/Action would be considered less-than-significant. Once constructed, the Proposed Project/Action would not create any new sources of operational noise.

- (b) **Less-than-Significant Impact with Mitigation.** Operation of the Proposed Project/Action would not result in exposing people to or generating excessive groundborne vibration or noise impacts. Construction of the Proposed Project/Action could likely result in minor and temporary increases in groundborne vibration or noise, however, construction activities would be temporary. With the incorporation of **Mitigation Measures NOI-1 through NOI-5** impacts associated with the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels would be reduced to a less-than-significant level.
- (c) **No Impact.** The operation of the Proposed Project/Action would not increase noise in and around the Project area. Once constructed, the operation of the pipeline facilities would not result in any noise. The Proposed Project/Action would not cause a permanent increase in ambient noise levels in the project vicinity above levels existing without the Project. Therefore, no impacts would occur and no mitigation is required.
- (d) **Less-than-Significant Impact with Mitigation.** Project construction activities may lead to a temporary increase in ambient noise levels in the project vicinity above levels existing without the project. With the implementation of **Mitigation Measures NOI-1 through NOI-5** impacts resulting in a substantial temporary or periodic increase in ambient noise levels in the project

vicinity above levels existing without the project would be reduced to a less-than-significant level.

- (e) **Less-than-Significant Impact.** The Proposed Project/Action pipeline is located within two miles of the Marina Municipal Airport and the Monterey Peninsula Airport. However, construction and/or operation of the Proposed Project/Action would not adversely affect an airport or airport operations, including, noise, take-offs, landings, flight patterns, safety, light, navigation, or communications between aircraft and the control tower within the Project area. The Proposed Project/Action would not expose people residing or working in the Project area to excessive noise levels. Any potential impacts are considered to be less-than-significant. No specific mitigation is required.
- (f) **Less-than-Significant Impact.** The Proposed Project/Action is located within two miles of the Marina Municipal Airport and the Monterey Peninsula Airport. However, construction and/or operation of the Proposed Project/Action would not adversely affect an airport or airport operations, including, noise, take-offs, landings, flight patterns, safety, light, navigation, or communications between aircraft and the control tower within the Project area. The Proposed Project/Action would not expose people residing or working in the Project area to excessive noise levels. Any potential impacts are considered to be less-than-significant. No specific mitigation is required.

3.11 Population and Housing

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **No Impact.** The Proposed Project/Action would not induce population growth either directly or indirectly. The purpose of the Proposed Project/Action would be to replace up to 10,700 AFY of water lost from the mandated curtailments on the Carmel River and Seaside Basin. The Proposed Project/Action, as contained in this report, does not address the potential additional water supplies of 4,500 AFY to meet the future water supply demands in the Monterey Peninsula area. As a result, the Proposed Project/Action would not induce urban growth in the area. In addition, construction, operation, and maintenance would not result in any substantial increase in numbers of permanent workers/employees. Therefore, no growth impacts are anticipated and no mitigation is required.
- (b) **No Impact.** The Proposed Project/Action would not result in displacing substantial numbers of existing housing or necessitating the construction of replacement housing elsewhere. The Proposed Project/Action would be constructed within existing commercial, industrial, and public infrastructure zonings. Construction of the Proposed Project/Action would avoid the need to demolish any existing houses and would not affect any other housing structures. As a result, the Proposed Project/Action would not displace existing housing, and therefore, no impacts are anticipated.
- (c) **No Impact.** The Proposed Project/Action would not displace substantial numbers of people necessitating the construction of replacement housing elsewhere. The Proposed Project/Action would be constructed within existing commercial, industrial, and public infrastructure zonings. Construction of the Proposed Project/Action would avoid the need to demolish existing housing and other housing structures. As a result, the Proposed Project/Action is not expected to displace people from their homes. Therefore, no impacts are anticipated and no mitigation is required.

3.12 Public Services

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **No Impact.** The Proposed Project/Action will not generate population growth and the operation and maintenance of the Proposed Project/Action would not be labor intensive. In addition, the Proposed Project/Action would not increase the demand for the kinds of public services that would support new residents, such as schools, parks, fire, police, or other public facilities. As a result, no impacts are anticipated and no mitigation is required.

3.13 Recreation

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **No Impact.** The Proposed Project/Action will not contribute to population growth. Therefore, the Proposed Project/Action will not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. As a result, no impact is expected and no mitigation is required.
- (b) **No Impact.** The Proposed Project/Action does not include or require construction or expansion of recreational facilities. Furthermore, as discussed in (a), the Proposed Project/Action will not increase the demand for recreational facilities. As a result, no impact is expected and no mitigation is required.

3.14 Socioeconomics

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Project/Action:				
a) Result in any adverse socioeconomic effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with Executive Order 12898 (Environmental Justice) policies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Affect Indian Trust Assets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **Less than Significant Impact.** The Proposed Project/Action would not have any adverse socioeconomic effects. The Proposed Project/Action would involve the construction and operation of a desalination water supply to provide the Monterey Peninsula Area in Monterey County California with a safe and reliable water supply of up to 10,700 AFY or MGD to offset mandated water supply diversion curtailments on the Carmel River. This would ensure a reliable, long-term water supply which would be considered a beneficial socioeconomic effect. Pursuing several state and federal funding mechanisms would include applying for state and federal grants and loans to help reduce the cost of the project. In addition, the Project Proponents would repay any loans by charging a fee to users for the use of the water. It is assumed that the project costs would result in an increase in costs. However, the additional project costs would not adversely affect any minority or low-income populations and/or adversely alter the socioeconomic conditions of populations that reside within the area. Any potential impacts would be considered less than significant.
- (b) **No Impact.** Executive 12898 requires each federal agency to achieve environmental justice as part of its mission, by identifying and addressing disproportionately high and adverse human health on environmental effects, including social and economic effects of its programs, policies, and activities on minority populations and low-income populations of the United States. The Proposed Project/Action would involve the construction and operation of a desalination water system to provide the Monterey Peninsula Area in Monterey County California with a safe and reliable water supply of up to 10,700 AFY or 10 MGD to offset mandated water supply diversion curtailments on the Carmel River. The construction of the Proposed Project/Action would primarily occur in existing roadways and in an industrial area. The Proposed Project/Action does not propose any features that would result in disproportionate adverse human health or environmental effects, have any physical effects on minority or low-income populations, and/or alter socioeconomic conditions of populations that reside or work within the project area or vicinity.
- (c) **No Impact.** The Proposed Project/Action would not have any adverse effects on Indian Trust Assets (ITA). ITAs are legal interests in property or rights held by the United States for Indian Tribes or individuals. Trust status originates from rights imparted by treaties, statutes, or executive orders. Examples of ITAs are lands, including reservations and public domain

allotments, minerals, water rights, hunting and fishing rights, or other natural resources, money or claims. Assets can be real property, physical assets, or intangible property rights. ITAs cannot be sold, leased, or otherwise alienated without federal approval. ITAs do not include things in which a tribe or individuals have no legal interest such as off-reservation sacred lands or archaeological sites in which a tribe has no legal property interest. No ITAs have been identified within the construction areas of the Proposed Project/Action. As a result, the Proposed/Action would have no adverse effects on ITAs.

3.15 Traffic and Transportation

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location which results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- (a) **Less-than-Significant Impact with Mitigation.** The construction of Proposed Project/Action would temporarily disrupt transportation and circulation patterns in the vicinity of the project thus disrupting local vehicle, bicycle, and pedestrian traffic along the haul routes. Although construction-generated traffic would be temporary during peak excavation and earthwork activities, average daily truck trips would be 40 round-trip truck trips per day. The primary impacts from the movement of trucks would include short-term and intermittent lessening of roadway capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles. The following mitigation measures are proposed:

Mitigation Measure TRA-1: Prepare and Implement Traffic Control Plan. Require the contractor to prepare and implement effective traffic control plans to show specific methods for maintaining traffic flows. Examples of traffic control measures to be

considered include: 1) use of flaggers to maintain alternating one-way traffic while working on one-half of the street; 2) use of advance construction signs and other public notices to alert drivers of activity in the area; 3) use of "positive guidance" detour signing on alternate access streets to minimize inconvenience to the driving public; 4) provisions for emergency access and passage; and 5) designated areas for construction worker parking.

Mitigation Measure TRA-2: Return Roads to Pre-construction Condition. Following construction, ensure that road surfaces that are damaged during construction are returned to their pre-construction condition or better.

With the incorporation of the above mitigation measures, potential temporary impacts are considered to be less-than-significant.

- (b) **Less-than-Significant Impact with Mitigation.** As discussed above in (a), construction activities of the Proposed Project/Action may result in increased vehicle trips. This could temporarily exceed, either individually or cumulatively, existing level of service standards. However, the Proposed Project/Action would not result in any long-term degradation in operating conditions or level of service on any project roadways. With the implementation of **Mitigation Measure TRA-1** impacts associated with exceeding level of service standards would be reduced to a less-than-significant level.
- (c) **No Impact.** The Proposed Project/Action does not involve use of air transit, nor is it expected to cause any change in air traffic patterns. No impact is expected and no mitigation is required.
- (d) **No Impact.** The Proposed Project/Action does not propose to make changes to roadways that would create road hazards or alter design features developed to mitigate such hazards. No impacts are expected and no mitigation is required.
- (e) **Less-than-Significant Impact with Mitigation.** The Proposed Project/Action would have temporary effects on traffic flow, due to added truck traffic during construction which could result in delays for emergency vehicle access in the vicinity of the project. Implementation of **Mitigation Measure TRA-1** would require the contractor to establish methods for maintaining traffic flow in the project vicinity and minimizing disruption to emergency vehicle access to land uses along the truck route. Implementation of **Mitigation Measure TRA-1** would also ensure potential impacts associated with temporary effects on emergency access would be mitigated to a less-than-significant level.
- (f) **Less-than-Significant Impact.** Project-related construction activities would require additional parking for workers and equipment on a temporary basis. However, sufficient space exists within the construction easement to accommodate parking needs for construction workers and equipment. As a result, no impacts are anticipated and no mitigation is required.
- (g) **Less-than-Significant Impact.** The construction activities associated with the Proposed Project/Action would be short term and would not conflict with adopted policies, plans, or programs supporting alternative transportation. Also once constructed, the Proposed Project/Action would not conflict with adopted policies, plans, or programs supporting alternative transportation. Any short-term effects would be considered less-than-significant.

3.16 Utilities and Service Systems

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the waste water treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- (a) **No Impact.** The Proposed Project/Action would not exceed waste water treatment requirements of the applicable Central Coast Regional Water Quality Control Board. Therefore, no impacts are anticipated and no mitigation is required.
- (b) **Less-than-Significant Impact.** The Proposed Project/Action would involve the construction of a water recycling system to provide the Monterey Peninsula Area in Monterey County California with a safe and reliable water supply of up to 10,700 AFY or 10 MGD to offset mandated water supply diversion curtailments on the Carmel River. However, any impacts associated with the

construction and/or operations are considered to be less-than-significant and no mitigation is required.

- (c) **No Impact.** The Proposed Project/Action would not require or result in the construction of additional off-site storm water drainage facilities. Therefore, no impacts are expected and no mitigation is required.
- (d) **Less-than-Significant Impact.** Under the Proposed Project/Action the Monterey Peninsula area will be receiving a safe and reliable water supply to replace to offset mandated water supply diversion curtailments on the Carmel River. Any impacts are considered to be less-than-significant and no mitigation is required.
- (e) **Less-than-significant Impact.** Under the Proposed Project/Action the Monterey Peninsula area will be receiving a safe and reliable water supply to replace to offset mandated water supply diversion curtailments on the Carmel River. Any impacts are considered to be less-than-significant and no mitigation is required.
- (f) **No Impact.** Construction and operation of the Proposed Project/Action would not generate a significant amount of solid wastes. No impacts are expected to existing landfills and no mitigation is required.
- (g) **No Impact.** The Proposed Project/Action would comply with all relevant federal, state, and local statutes and regulations related to solid waste. Therefore, there are no anticipated impacts and no mitigation is required.

3.17 Mandatory Findings of Significance

	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Would the Proposed Project/Action:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that would be individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- (a) **Less-than-Significant Impact with Mitigation.** With the incorporation of the previously identified mitigation measures, the Proposed Project/Action will not substantially degrade the quality of the environment, reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Any impacts from the Proposed Project/Action in these areas are considered here to be less-than-significant with the implementation and incorporation of the above mentioned mitigation measures.
- (b) **Less-than-Significant Impact with Mitigation.** No direct project-specific significant effects were identified that could not be mitigated to a less-than-significant level. Mitigation Measures incorporated herein mitigate any potential contribution to cumulative (as well as direct) impacts associated with these environmental issues. Therefore, the Proposed Project/Action does not have impacts that are individually limited, but cumulatively considerable.

- (c) **Less-than-Significant Impact with Mitigation.** As a result of mitigation included in this environmental document, the Proposed Project/Action would not result in substantial adverse effects to humans, either directly or indirectly.

Chapter 4 Conclusions and Recommendations

This environmental issues and constraints evaluation provides a cursory review and analysis of the major environmental issues that may be a factor, or a result of, the construction and/or operation of The People's Moss Landing Desalination Water Project. The information developed is designed to assist project proponents to determine what the major potential environmental impacts are to comply with CEQA, NEPA and/or CEQA-plus requirements. For this analysis, we reviewed prior and relevant existing environmental documentation and have used a modified CEQA environmental checklist to assess the potential impacts on endangered/threatened species, public health or safety, natural resources, regulated waters, and cultural resources, among others to include and address specific issues associated with CEQA as well as NEPA. No site specific and/or protocol-level site-specific surveys were conducted for this investigation. Additional environmental analysis is required.

4.1 Findings and Conclusions

Detailed below is a summary of our major findings and conclusions.

- Based on our findings, most of the potential environmental issues appear to be short-term/temporary impacts due to construction activities and which can be avoided and/or mitigated to less-than-significant levels. For any potentially significant impact(s) identified, we identified appropriate mitigation measures and strategies to attempt to avoid and/or reduce those impacts to less-than-significant levels. However, due to the ongoing and potential future controversy surrounding the implementation of a water supply for the Monterey Peninsula Area, it appears that an Environmental Impact Report (EIR) would be required to comply with CEQA. If federal or state grants are to be pursued, then the project proponents will need to work with the other potential federal lead agencies to prepare the equivalent NEPA document(s), either jointly or separately. As this was a preliminary evaluation, additional analysis and effort will be required to fully comply with CEQA, NEPA and/or CEQA-Plus procedural requirements.
- Additional engineering and technical studies need to be performed to more precisely define the specifics of the technical details and economics of the Proposed Project/Action.
- Additional environmental analyses are required, including site specific biological surveys and other environmental analyses to meet the standards for developing an EIR and withstanding the public and legal scrutiny for a complex and controversial project such as this Proposed Project/Action.
- If the City of Pacific Grove is going to be the CEQA lead agency for implementing the Proposed Project/Action, agreements must be put into place with Cal-Am to use their distribution system facilities and the City may also need to develop agreements with other Monterey Peninsula cities and/or agencies to share costs for project implementation. In addition, the City will need to pass bond measures for financing the purchase and construction of the Proposed Project/Action as well as go through the LAFCO process to annex the Proposed Project facilities into the City.

4.2 Recommendations

We recommend that if the City of Pacific Grove decides to move forward with the Proposed Project/Action as described in Chapter 2 of this document, that it uses this information as a basis for developing an actual EIR and go through the CEQA public review and disclosure process and procedures. In addition, we recommend that the City initiate contact as soon as possible with any and all potential permitting and resource agencies identified in Table 1 as well as funding agencies such as USBR and/or

the State Board to investigate their specific requirements and procedures that they need to follow to meet NEPA and/or CEQA-Plus requirements and support the City's funding requests. This document should be a good framework for initiating those discussions and help the City and project proponents to develop a plan for moving forward.

Chapter 5 Bibliography

Detailed below are the sources consulted and reviewed during the preparation of this environmental issues and constraints document.

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- Monterey County Superior Court. *California American Water, Plaintiff, vs. City of Seaside, et al, Case No. M66343*, Order Re: (1) Watermaster's Post-Judgment Petition; and (2) Joint Post-Judgment Option to Request Clarification of the Court's Final Decision Relating to the Calculation of the Over-Production Replenishment Assessment, February 7, 2007.
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- Monterey Bay Unified Air Quality Control District. *2008 CEQA Guidelines*. 2008
- RBF Consulting, *Segunda Pipeline Alternatives Analysis*, memo to file, February 14, 2007.
- The People's Water Project. *Project Proposal - The People's Moss Landing Desalination Water Project*. July 2012.

Appendix A

Air Quality Emissions Calculations

Emission Estimates for -> The People's Moss Landing Desal Water Project										
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	13.0	53.0	56.9	8.6	3.6	5.0	4.3	3.2	1.0	8,294.0
Grading/Excavation	14.3	68.5	64.9	9.1	4.1	5.0	4.7	3.6	1.0	10,283.6
Drainage/Utilities/Sub-Grade	12.9	53.6	54.6	8.8	3.8	5.0	4.4	3.4	1.0	8,064.7
Paving	11.7	48.3	42.9	3.5	3.5	-	3.1	3.1	-	6,283.3
Maximum (pounds/day)	14.3	68.5	64.9	9.1	4.1	5.0	4.7	3.6	1.0	10,283.6
Total (tons/construction project)	1.8	7.8	7.6	1.1	0.5	0.6	0.6	0.5	0.1	1,156.0

Project Length (months) ->	12
Total Project Area (acres) ->	10
Maximum Area Disturbed/Day (acres) ->	1
Total Soil Imported/Exported (yd ³ /day)->	250

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> The People's Moss Landing Desal Water Project									
Project Phases (Metric Units)		Total		Exhaust		Fugitive Dust		Total	
	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	5.9	24.1	25.9	3.9	1.6	2.3	1.9	1.5	0.5
Grading/Excavation	6.5	31.1	29.5	4.1	1.9	2.3	2.1	1.7	0.5
Drainage/Utilities/Sub-Grade	5.9	24.4	24.8	4.0	1.7	2.3	2.0	1.5	0.5
Paving	5.3	22.0	19.5	1.6	1.6	-	1.4	1.4	-
Maximum (kilograms/day)	6.5	31.1	29.5	4.1	1.9	2.3	2.1	1.7	0.5
Total (megagrams/construction project)	1.6	7.0	6.9	1.0	0.5	0.5	0.5	0.4	0.1

Project Length (months) ->	12
Total Project Area (hectares) ->	4
Maximum Area Disturbed/Day (hectares) ->	0
Total Soil Imported/Exported (meters ³ /day)->	191

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Structural Evaluation
Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs
The People's Moss Landing Water Desalination Project
Moss Landing Green Commercial Park
Moss Landing, CA

August 14, 2012

A structural evaluation has been made by John A. Miller, S.E. of *JAMSE Engineering Inc.* (see attached resume) of the critical elements essential to the development of the The People's Moss Landing Water Desalination Project located at the Moss Landing Green Commercial Park. See page 4 for overall location of Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs. See page 5 for specific locations of Water Storage Reservoirs.

INTAKE PIPELINES

The existing intake pipelines consist of two 36" diameter pipes that extend from the Intake Pump Station located in the Moss Landing Harbor Marina to the site Storage Reservoirs. The two pipes pass along an easement under Highway 1 through two six foot diameter corrugated steel culverts. One pipe is steel over its entire length while the other is steel until it crosses Highway 1 when it converts to banded Redwood construction. Both pipes are partially buried on site at two locations for road access. The Redwood pipe converts back to steel where it is buried.

At the present time, only the full-length steel pipeline is planned for use with the desalination plant. Welded repairs have been made at several locations. Both the steel and the Redwood pipes appear to be structurally adequate to serve as intake pipelines. With hydraulic modifications, they could also be utilized as outfall pipelines.

OUTFALL PIPELINE

The existing outfall pipeline is a 52" diameter concrete pipe that extends along an easement from the site Storage Reservoirs to an outfall in the Monterey Bay. This concrete pipe is buried over its entire length at a depth of approximately 25 feet.

Photographs of the pipe interior reveal minor cracks that can be easily repaired with epoxy resin. After repair, the concrete pipe will be structurally adequate to serve as an outfall pipeline for the desalination plant. With hydraulic modifications, it could also serve as an intake for the desalination plant by inserting and stabilizing a 24" diameter steel pipe within.

Structural Evaluation

Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs

The People's Moss Landing Water Desalination Project

Moss Landing Green Commercial Park

Moss Landing, CA

August 14, 2012

Page 2

INTAKE PUMP STATION

The Intake Pump Station located in the Moss Landing Harbor Marina consists of seven large pumps that previously provided water intake for the site. The Station is supported on a concrete slab that is supported above the water line by concrete piles. The slab and piles appear to be structurally sound.

WATER STORAGE RESERVOIRS

There are presently 15 reservoirs available for water storage at the desalination plant: seven at 5.0 million gallons, three at 2.0 million gallons, three at 1.0 million gallons and two at 0.5 million gallons.

The seven 5.0 million gallon reservoirs are circular, open-top concrete tanks that are partially buried. Cracks and leaks in these tanks have been repaired and they appear to be structurally sound for the intended use as water storage for the desalination plant. These tanks presently serve a variety of water storage uses.

The three 2.0 million gallon reservoirs are on-grade, circular, open-top concrete tanks that are approximately 30 feet high. These tanks have been abandoned and are not needed for the desalination plant. However, if these tanks are ever used for water storage they must be repaired as they exhibit significant concrete spalls on the exterior. Repairs include removal of defective concrete, replacement of affected rebar and application of epoxy grout.

Two of the 1.0 million gallon reservoirs are on-grade, circular, open-top concrete tanks that are approximately 20 feet high. Minor concrete spalls on the exterior are evident. These two tanks were interconnected at one time and a large access opening occurs at the base of each tank. After closure of the openings and repair of minor spalls, the tanks appear to be structurally sound for the possible use as water storage for the desalination plant. These tanks are presently not in use.

The other 1.0 million gallon reservoir is an on-grade, circular, open-top concrete tank that is approximately 14 feet high. No significant concrete spalls on the exterior are evident. It appears to be structurally sound for the possible use as water storage for the desalination plant. This tank presently serves as a freshwater storage reservoir.

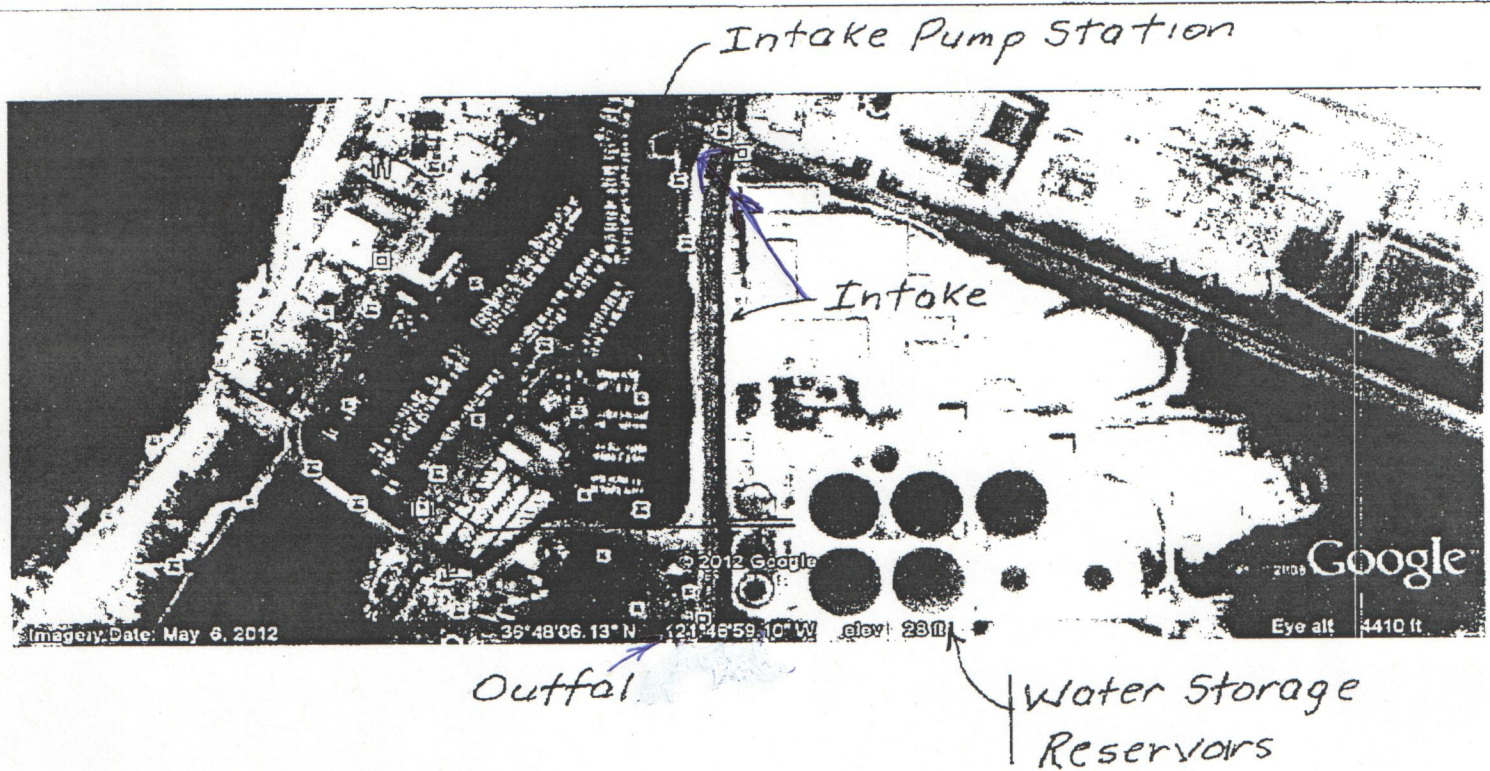
Structural Evaluation**Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs****The People's Moss Landing Water Desalination Project****Moss Landing Green Commercial Park****Moss Landing, CA****August 14, 2012****Page 3**

The two 0.5 million gallon reservoirs are on-grade, circular, open-top concrete tanks that are approximately 14 feet high. No significant concrete spalls on the exterior are evident. They appear to be structurally sound for the possible use as water storage for the desalination plant. These tanks presently serve as freshwater storage reservoirs.

Prepared by: John A. Miller, S.E.
JAMSE Engineering Inc.
499 Seaport Court, Suite 200
Redwood City, CA 94063
(650) 366-3700
(650) 239-3700 FAX
jamillerse@msn.com



Structural Evaluation
Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs
The People's Moss Landing Water Desalination Project
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Structural Evaluation

Intake & Outfall Pipelines, Intake Pump Station and Water Storage Reservoirs

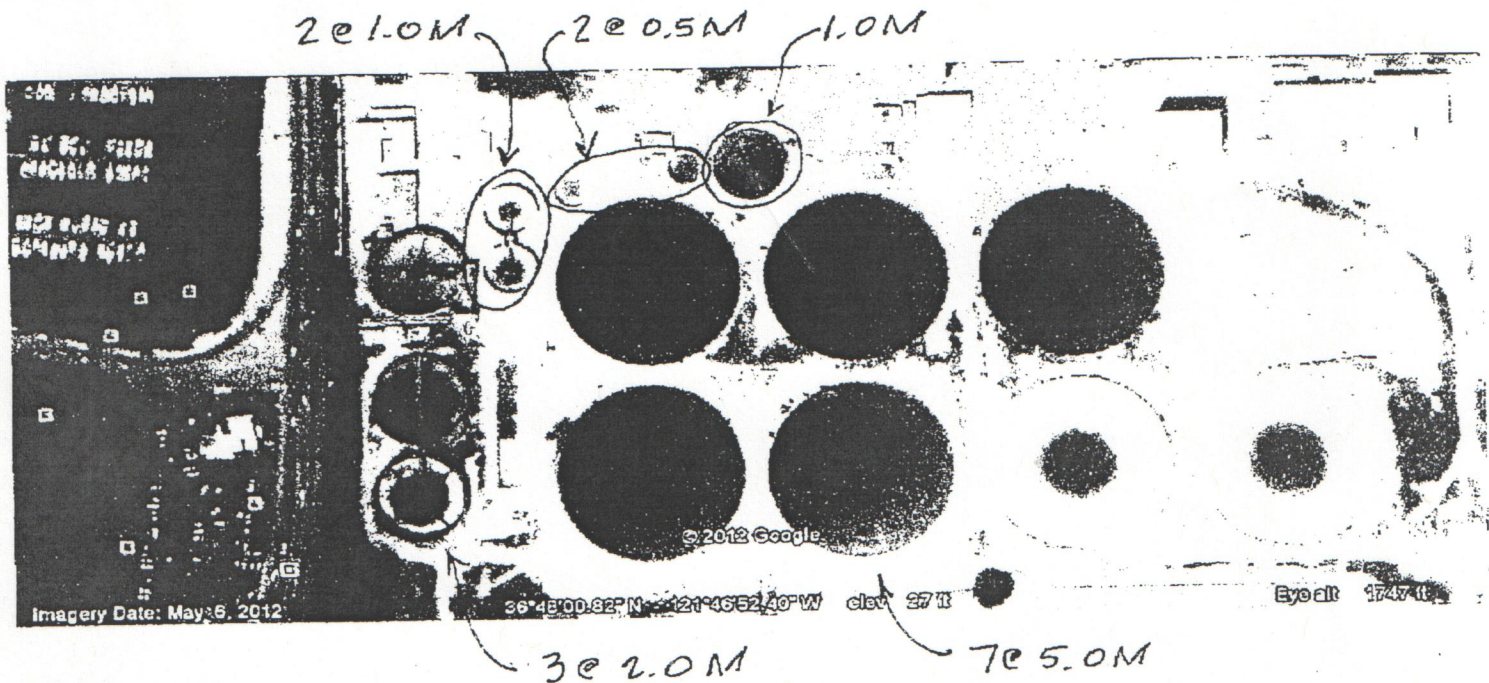
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John Albert Miller
Structural Engineer

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499 Seaport Court, Suite 200
Redwood City, CA 94063
(650) 366-3700
(650) 239-3700 Fax
jamillerse@msn.com

EDUCATION:

The University of Michigan, Ann Arbor, MI, BSE (Civil Engineering)
The University of Michigan, Ann Arbor, MI, MSE (Structural Engineering)
U.S. Army Command & General Staff College, Fort Leavenworth, KS

PROFESSIONAL REGISTRATION:

Registered Civil Engineer: California #C17938
Registered Structural Engineer: California #S1617
Registered Professional Engineer: Arizona, Texas & Florida
Inactive Professional Engineer Registrations: Idaho, Michigan, Minnesota, Montana,
Nevada, Oregon, South Dakota, Utah, Washington and Wyoming

PROFESSIONAL SOCIETY MEMBERSHIPS:

American Society of Civil Engineers
Structural Engineers Association of Northern California
Earthquake Engineering Research Institute
Society of American Military Engineers
American Concrete Institute

PROFESSIONAL EXPERIENCE:

Mr. Miller has over 35 years of experience with the structural engineering design and management of public, private and military projects. He has directed the structural design of numerous schools, hospitals, hotels, detention facilities, parking garages, research facilities, commercial structures, housing projects, industrial buildings, blast resistant structures, bridges and hydraulic structures.

John A. Miller, S.E.
JAMSE Engineering Inc.
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He has served as Engineer-of-Record for structural engineering and had project delivery responsibility of the following major projects:

Infrastructure Projects

- **Marina Coast Water District, Marina, CA:** He served as Structural Engineer-of-Record for the design of a desalination plant located in Marina, CA. As a member of the Ionics, Santa Barbara, CA design team, he was tasked with the seismic strengthening of an existing building to accommodate the reverse osmosis process.
- **Area Wastewater Reclamation Project, Carmel, CA:** He performed administrative, technical and financial reviews for the design of a new \$34 million, 1.8 MGD tertiary treatment plant for the Pebble Beach Company.
- **CSUMB Campus Development, Seaside, CA:** He directed the conversion of a portion of Fort Ord, CA from a military installation to an educational facility. He supervised the conversion of 22 buildings and related infrastructure for the opening of the new California State University Monterey Bay campus.
- **Tasman Corridor Light Rail Transportation (LRT) System, Santa Clara County, CA:** He served as Project Manager for the structural design of all structures along the LRT corridor extension. In this capacity, He supervised the design of twelve LRT and Heavy Rail bridges with a total cost of structures of \$30 million.
- **Cell Phone Transmission Facilities, San Diego, CA:** On behalf of AT&T, he served as the consulting engineer for the structural design of cell phone transmission facilities throughout Southern California to include free standing towers and attachments to existing structures.
- **Route 85 Highway Project, Santa Clara County, CA:** As Project Manager, he supervised the structural design of three major bridges on Route 85 with a total construction cost of \$14 million.
- **Routes 85/101 Interchange Structures, Santa Clara County, CA:** As Project Manager, he supervised the structural design of the all bridges within the new \$11 million Route 85/101 Interchange.

John A. Miller, S.E
JAMSE Engineering Inc.
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Hospital Projects

- Lytton Gardens Convalescent Hospital - Palo Alto
- Community Hospital of Monterey Peninsula - Monterey
- Santa Clara Valley Medical Center (SCVMC) Nursing Tower - San Jose
- St. Agnes Heart Center - Fresno
- Harris Methodist Hospital Expansion - Fort Worth, TX
- Sioux Valley Hospital Expansion - Sioux Valley, SD
- O'Connor Hospital Emergency Services Addition - San Jose
- St. Francis Hospital SB 1953 - San Francisco
- Natividad Medical Center SB 1953 - Salinas
- SCVMC Equipment Anchorages - San Jose
- SCVMC Strong Motion Instrumentation - San Jose
- SCVMC Nursing Tower SB 1953 Compliance - San Jose

Parking Garage Projects

- Market Street Parking Garage - San Jose (1500 spaces)
- San Jose State University West Garage - San Jose (1200 spaces)
- McCandless Towers - Santa Clara (1500 spaces)
- Mission Control Center, Onizuka AFS - Sunnyvale (800 spaces)
- Satellite Control Center, Onizuka AFS - Sunnyvale (800 spaces)
- St Agnes Hospital Parking Garage - Fresno (1200 spaces)

School Projects

- Gateway College of Extended Studies Building - San Diego State University
- Glasgow Hall Addition - NPS Monterey
- Peoria Elementary Schools 25, 26 and 27 - Peoria, AZ
- Gilbert Elementary School - Gilbert, AZ
- Queen Creek High School - Queen Creek, AZ
- Gas Dynamics Laboratory - Stanford University
- Publications Building - Stanford University

Building Projects

- Syntex Bioresearch Facility - Palo Alto
- Mervyn's - El Cajon and Rancho Cucamonga
- Great American Corporate Center - Santa Clara
- Kodak Headquarters - San Jose
- DeMonet Building - San Jose

John A. Miller, S.E.
JAMSE Engineering Inc.
Page 4

- McCandless Towers - Santa Clara
- Mission Control & Satellite Control Centers, Onizuka AFS - Sunnyvale
- Motor Lodge Facility - Grand Canyon, AZ
- Corps of Engineers Visitor Centers - Sausalito, CA and Las Vegas, NV
- Marriott Suites Hotel - Costa Mesa and Newport Beach
- V.A. National Cemetery Maintenance/Admin. Buildings - Santa Nella
- V.A. National Cemetery Maintenance/Admin. Buildings - Riverside
- Police Station - Santa Cruz
- San Jose Water Company/Engineering Building - San Jose
- Seismic Strengthening Holman Building - Pacific Grove
- Gabilan Mixed Use Housing - Soledad

Earthquake Damage Assessment

- Earthquake Damage Assessment and Repair - San Jose State University
- Earthquake Damage Assessment and Repair - City of Santa Cruz
- Seismic Retrofit of Local Caltrans Bridges - San Francisco Bay Area
- Seismic Retrofit of COE Access Bridge - Black Butte
- Seismic Risk Analysis - Mervyn's Stores
- Seismic Hazards Reduction Assessment - San Jose State University

MILITARY SERVICE:

Prior to his civilian career, he served four years on active duty in two overseas assignments, Germany and Vietnam, as an engineer officer with the U.S. Army Corps of Engineers. In that capacity, he had responsible charge for the civil and structural design of many projects including bridges, airfields, schools, hospitals, port facilities, roadways, pipe lines and blast resistant structures.

While on active duty, he achieved the rank of Captain and his military awards include the Bronze Star Medal, Vietnam Service Medal, National Defense Medal, Meritorious Unit Commendation, Jungle Expert Tab, and Parachutist's Badge. Subsequent to active duty, he served an additional 18 years in the U.S. Army reserves and retired as a Lt. Colonel. As a reservist, he served as an Admissions Liaison Officer for the U.S. Military Academy, West Point, and as Mobilization officer for the U.S. Army Corps of Engineers, Los Angeles District.

REPLACEMENT COST APPRAISAL SUMMARY REPORT

**of ±55 acres of land and desalinization plant improvements
out of the Moss Landing Commercial Park located on the east side
of Cabrillo Highway (SH 1) and along the south side of Dolan Road
in the unincorporated community of Moss Landing,
Monterey County, California**

for

**MR. NADER AGHA, OWNER
MOSS LANDING COMMERCIAL PARK
449 ALVARADO STREET
MONTEREY, CA 93942**

by

**LANDMARK REALTY ANALYSTS, INC.
17284 DOG BAR ROAD
GRASS VALLEY, CALIFORNIA 95949
(530) 346-7575**

as of

OCTOBER 3, 2011

LANDMARK REALTY ANALYSTS, INC.

17284 DOG BAR ROAD



GRASS VALLEY, CA 95949

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Richard Van Steenkiste, Ph.D., MAI
President
rvansteen@hughes.net

Cecil M. Teller III, MAI
Vice President, Senior Appraiser
treyteller@sbcglobal.net

October 24, 2011

Mr. Nader Agha, Owner
Moss Landing Commercial Park
449 Alvarado Street
Monterey, CA 93942

RE: Summary report of a replacement cost appraisal of ± 55 acres of land and desalinization plant improvements out of the Moss Landing Commercial Park located on the east side of State Highway 1 (Cabrillo Highway) and along the south side of Dolan Road in the unincorporated community of Moss Landing in Monterey County, California.

Dear Mr. Agha:

At your request, Richard Van Steenkiste, Ph.D., MAI, has inspected and appraised the above-referenced property, which is identified as ± 55 acres of land and desalinization plant improvements located on Monterey County Assessor's Parcel Number 133-172-013. The property comprises an unsubdivided portion of this 182.74-acre legal parcel in the unincorporated community of Moss Landing in the northwestern portion of Monterey County, California. Although the appraiser was not provided with a current Preliminary Title Report, the subject property is legally described as shown in an old Preliminary Title Report issued by First American Title Company, dated September 11, 2003.

The effective date of this appraisal is October 3, 2011. The purpose of this appraisal is to provide an opinion of the replacement cost new of the subject property. This appraisal is intended for the exclusive use of the owners of the subject property and public officials of Monterey County to assist in assessment of the subject property for development of an operating sea-water desalinization plant. The appraiser is not responsible for any other use or for any use by assignees or by any other persons or entities.

It is important to understand that no finished building plans were provided to the appraiser. However, virtually all the existing buildings and other improvements are either restored to functionality or can be refurbished/finished at reasonable cost. All information provided is based on discussions with the owner and his representatives or was obtained from public sources accessible through the Internet. The property is zoned HI (CZ) - Heavy Industrial (Coastal Zone), which permits a very wide array of industrial and commercial uses of the site, according to the Monterey County Zoning Code. The property has a long-standing right to draw water for various uses from Monterey Bay. The proposed use as a sea-water desalinization plant appears to be a legal, conforming use of the site, although specific use approvals and permits would be required.

"Replacement Cost" as used herein is as defined in *The Appraisal of Real Estate* (13th Ed., Appraisal Institute, 2008) as "the estimated cost to construct, at current prices, as of the effective appraisal date, a substitute for the building (improvements) being appraised using modern materials and current standards, design, and layout." (parentheses by appraiser)

This appraisal report has been made with the intent to conform with the requirements of the Code of Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.

The value conclusions contained herein are contingent upon the following extraordinary assumptions and/or hypothetical conditions.

- 1) **There is reported to be very low-level contamination of the ground water at the site resulting from prior uses years ago. The appraiser was told by the owner/developer of the subject site that by agreement with the appropriate authorities, there are two monitoring wells on the site that are used to assess the level of contamination twice a year. The contamination is slowly dissipating through natural processes, and no further action is required by the owner. It is anticipated that the low level of contamination will disappear or at least be reduced to an irrelevant level over time. The appraiser was not supplied with a geotechnical or environmental report to substantiate this information. The cost conclusion herein makes the extraordinary assumption that decontamination for the ground water is on-going through natural processes that are being monitored and that no further action is required beyond the on-going monitoring. The replacement cost conclusion is contingent upon this assumption.**
- 2) **The gross area of the Moss Landing Commercial Park is about 200 acres, but a portion of the subject land consists of wetlands, a slough and areas impacted by flooding. Therefore, the net usable area of the entire park as provided to the appraiser is reportedly approximately 165 acres. This appraisal concerns only approximately 55 acres containing the existing improvements that would be used by a sea-water desalinization plant with adequate room for construction of the additional necessary improvements for the plant and a six megawatt solar power facility. None of the subject land is in the areas of wetlands, the slough or areas that may be subject to flooding.**
- 3) **The information provided regarding the proposed seawater desalinization plant on the subject land also was provided by the owner and his representatives, and is also based on a personal inspection of the facilities by the appraiser.**

Predicated on the data and analyses contained in this report and on the contingent and limiting conditions as stated herein, the potential replacement cost new of 55 acres of land and the existing improvements for a sea-water desalinization plant as of October 3, 2011, is:

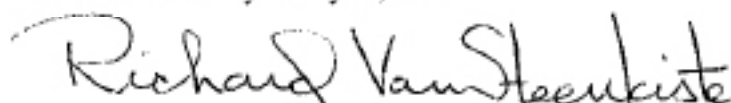
Existing Desalinization Plant Improvements	\$76,776,440
Land (55 Acres) with Coastal Access	\$44,000,000
Total Replacement Cost (rounded)	\$121,000,000

ONE HUNDRED TWENTY-ONE MILLION DOLLARS

This appraisal assignment was not based on a requested minimum valuation, a specific valuation, or the approval of a loan. Based upon the analysis performed by the appraiser, the subject property is not considered to have any measurable or special scientific, cultural, archeological or environmental value.

For further information concerning the supporting data and rationale of our conclusions, your attention is directed to the following report.

Respectfully submitted,
Landmark Realty Analysts, Inc.

A handwritten signature in cursive script that reads "Richard Van Steenkiste". The signature is written in dark ink and is positioned above the printed name and title.

Richard Van Steenkiste, Ph.D., MAI
California State Certified General Real Estate Appraiser # AG 017093

SP-1104

LANDMARK REALTY ANALYSTS, INC.

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Cecil M. Teller III, MAI
Vice President, Senior Appraiser
treyteller@sbeglobal.net

CLIENT: Mr. Nader Agha, Owner
Moss Landing Commercial Park
449 Alvarado Street
Monterey, CA 93942

APPRAISER: Richard Van Steenkiste, Ph.D., MAI
Landmark Realty Analysts, Inc.
17284 Dog Bar Road
Grass Valley, California 95949

SUBJECT: ±55 acres of land and desalinization plant improvements out of the Moss Landing Commercial Park located on the east side of State Highway 1 (Cabrillo Highway) and along the south side of Dolan Road in the unincorporated community of Moss Landing in Monterey County, California

PURPOSE OF THIS APPRAISAL:

The purpose of this appraisal is to provide an opinion of the replacement cost new of the subject property.

INTENDED USE OF THIS REPORT:

This appraisal is intended for the exclusive use of the owners of the subject property and public officials of Monterey County to assist in assessment of the subject property for development of an operating seawater desalinization plant. The appraiser is not responsible for any other use or for any use by assignees or by any other persons or entities.

INTEREST VALUED:

Fee-simple estate.

EFFECTIVE DATE OF VALUE:

October 3, 2011

DATE OF THIS REPORT:

October 24, 2011

REPLACEMENT COST DEFINED:

"Replacement Cost" as used herein is defined as:

The estimated cost to construct, at current prices, as of the effective appraisal date, a substitute for the building (improvements) being appraised using modern materials and current standards, design, and layout." (parentheses by appraiser)

(Source: *The Appraisal of Real Estate* (13th Ed., Appraisal Institute, 2008))

SCOPE OF WORK – APPRAISAL DEVELOPMENT AND REPORTING PROCESS:

In preparing this appraisal, the appraiser

- inspected the subject site and improvements;
- interviewed the subject property owner (Nader Agha) and his representatives, (831) 594-9711;
- gathered and confirmed data on sales of comparable land in the Monterey and Santa Cruz County market areas;
- used a Sales Comparison Approach to derive an opinion of the value of the subject land as though vacant;
- applied Cost Approach techniques to arrive at indications of replacement costs for the existing improvements that would be used as part of a sea-water desalinization plant;
- added the land value and the improvements replacement costs to obtain an opinion of total replacement cost.

The subject property is a unique facility along the California coastline. It was constructed beginning in the 1940s before many of today's environmental constraints and limitations were in place for uses along the ocean. Some of the existing facilities may, in fact, be irreplaceable today. Further, the site's original use was as a magnesium extraction facility from ocean water. The current proposed use is quite similar to the original use of this facility except that while the original use put the de-mineralized water back into the

ocean, the proposed use would put the de-salinized and de-mineralized water into the public water systems of Monterey County.

All information provided is based on discussions with the owner and his representatives or was obtained from public sources accessible through the Internet. The subject property has been inspected by the appraiser numerous times over the last decade for the owner and various lenders. The subject land is zoned HI (CZ) - Heavy Industrial (Coastal Zone), which permits a very wide array of industrial and commercial uses of the site. The property has a long-standing right to draw water for various uses from Monterey Bay. The proposed use as a sea-water desalinization plant site appears to be a legal, conforming use of the site, although specific use approvals and permits would be required.

LEGAL DESCRIPTION:

The appraiser was not provided with a current Preliminary Title Report, however he has on file a dated Preliminary Title Report which contains a fairly lengthy metes-and-bounds legal description for the entire ±200 acres of the Moss Landing Commercial Park. According to that preliminary title report and to the Monterey County Assessor's Office, the 55 acres of subject land is a portion of Monterey County Assessor's Parcel Number 133-172-013.

CURRENT OWNERSHIP AND HISTORY:

According to the real property records of Monterey County, title to the property is vested in Moss Landing Commercial Park, LLC. According to a deed recorded December 10, 2003, an entity named REVX-173, LLC acquired the property from National Refractories & Minerals Corporation for a reported transfer price of \$7,250,000. The property was in Bankruptcy Court proceedings at the time of purchase, and the sale was approved by the Bankruptcy Court. On March 24, 2010, an internal transfer was made from REVX-173, LLC to the current ownership entity Moss Landing Commercial Park, LLC (Doc # 2010016386). This was not an arm's-length, third-party transaction and no money changed hands. Both the old and the new ownership entities were and are controlled by Nader Agha, since the date of purchase from National Refractories and Minerals Corporation. There have not been any arm's-length transactions within the last three years. An older recorded transaction took place on May 8, 1985, when National Refractories & Minerals Corporation acquired the property from Kaiser Aluminum for a reported transfer price of \$3,229,000.

Since the date of the most recent purchase, the owner has cleaned up the property by removing old industrial equipment and interior partitioning from the buildings on site, renovating and painting the exteriors of the buildings, cleaning up and decontaminating the land and ground water, and planning for new uses such as a water desalinization plant and new industrial, warehouse and office uses of the renovated buildings. The current owner reportedly has spent more than \$30 million to date on these activities and expects to spend perhaps a few hundred thousand dollars more before all the work of redeveloping the property is done. As of the date of this valuation, most of the large concrete water tanks on the property have been cleaned,

repaired and sealed for use by one of the tenants as a "green" cement pilot manufacturing plant or for future use as part of a water desalinization plant.

AREA DESCRIPTION:

The subject property is located in the northwestern portion of Monterey County, California, about two miles northwest of the unincorporated town of Castroville and approximately six miles south of the Santa Cruz County southern boundary. As of January 2011, the unincorporated portion of Monterey County (including Moss Landing) contains a population of 100,791, which is an increase of 0.80 percent over the previous year. Moss Landing is located adjacent to the Monterey Bay at the Moss Landing Harbor and Elkhorn Slough. Moss Landing is located approximately eight miles south of the City of Watsonville, which is in southern Santa Cruz County. According to the latest demographic data from the California Department of Finance, Watsonville has a population of 51,495, which ranks 168th in size out of a total of 481 incorporated cities in California. Watsonville is located approximately 24 miles north of the City of Monterey and about 15 miles southeast of the City of Santa Cruz.

The Monterey Bay Area consists of the two counties of Santa Cruz and Monterey. Santa Cruz County is the second smallest county in the state. The resort city of Santa Cruz is at the north end of the bay and is the county seat and principal city of Santa Cruz County. Farther south down the California coast is Monterey County, containing the world-famous small cities of Monterey and Carmel-by-the-Sea, which are situated on the peninsula at the south end of the bay. The county seat of Monterey County is the City of Salinas, located inland in the Salinas Valley about 16 miles northeast of Monterey and 33 miles southeast of Santa Cruz. Salinas is about 12 miles from Moss Landing and has a population of 151,219 as of January 2011.

While both counties are famous for their scenic locations on the bay and attract tourists and vacationers literally from around the world, both counties also contain inland areas that produce an abundance of agricultural products. Both counties have economies that rely heavily on tourism; however, they also receive substantial income from agriculture, and, at least until the so-called "dot-com bust" of the early 2000s, had an increasing reliance upon computer and software manufacturers as Silicon Valley expanded southward into Santa Cruz County.

Scenic State Highway 1 hugs the coast for much of the length of California and skirts the shore of Monterey Bay, linking Santa Cruz, Watsonville and Monterey. The subject property is adjacent to Highway 1 at Moss Landing south of Watsonville. U.S. Highway 101 also runs much of the length of California, usually a few miles inland from the coast, generally on the east side of the coastal mountains. Highway 101 passes through Salinas, the Monterey County seat, as a freeway. Along other portions it is a four-lane divided highway but not limited access, and in a few other portions it is simply a two-lane highway. Highway 101 links the Monterey Bay region to San Jose (75 miles), Silicon Valley (100 miles) and San Francisco (120 miles) all to the north and to San Luis Obispo (130 miles) and Los Angeles (330 miles) to the south.

As of January 1, 2011 (the latest data available), the two Monterey Bay Area counties had a combined population estimated at 683,468, up 0.86 percent from 677,660 in 2010. Monterey County contains approximately 61 percent of the population of the two counties, and both counties have been growing at a

moderate rate for the past few years. The population of the two-county area has grown almost eight percent since 2000.

The population of the Monterey Bay area grew more rapidly in the last half of the decade of the 1990s than in the first half of the current decade. This was due in part to expansion of the Silicon Valley area southward into Santa Cruz and Monterey Counties, especially the former, which abuts Santa Clara County where Silicon Valley is located. This growth is expected to resume over the next several years. In Monterey County, growth has been spurred by expansion of tourism and of agricultural production and processing. This growth is also expected to continue.

The economies of both Monterey Bay Area counties are based on tourism, agriculture and, to a lesser but growing extent, high-tech industry. As of August 2011, the combined labor force of the two counties totaled about 369,300. Both counties traditionally have annual unemployment rates somewhat above the California and national averages because of seasonal employment in agriculture, and to a lesser extent, in tourism-related services such as hotels and restaurants. The unemployment rate for August 2011 in Santa Cruz County was 10.70 percent which was below the state average, and in Monterey County it was also 10.70 percent, according to the California Employment Development Department. At the same time, the California average was 11.90 percent, and the U.S. rate was 9.10 percent. The rates for both counties are lower during the agriculture season when the agriculture industry is typically operating at full capacity.

The economies of both counties depend heavily on agriculture, tourism and, to a growing extent, manufacturing. There is little that is likely to change this picture in the foreseeable future. The Monterey Bay Area will remain one of the most prolific agricultural production areas in the country, and the natural beauty and reputation of the Central Coast and Monterey Bay will continue to draw tourists. At the same time, expanding food processing industries and growing electronic equipment manufacturing will draw more business travelers to the region.

Like the rest of the state, the Monterey Bay area in 2001, faced national recessionary trends which lasted through 2004. Travel and tourism across the country slowed. Although the Monterey Bay area was less affected by the economic climate, unemployment rose in both counties, largely in the agriculture sector. Regardless, demand for all types of real estate in this region remained strong. Today, in the worst national recessionary economy since the Great Depression of the 1930s, the economies of both Monterey Bay area counties are severely affected. For most of the past two years, virtually all types of business activity have declined, many businesses have failed, unemployment has increased substantially and new development has essentially ceased. Demand for all types of real estate is at very low levels, and consequently, market values have declined from 20 to 40 percent since 2007, depending upon the type of real estate. Foreclosures on residential real estate are at near-record levels, and commercial real estate foreclosures also have risen significantly. Market participants believe that the real estate market and the national economy in general may finally have bottomed out in the second half of 2010 but that significant recovery will not be apparent until at least the first half of 2012.

An ironic factor for development in Monterey and Santa Cruz Counties is that due to a large focus on agricultural production, water for other uses is extremely limited. Natural and governmental limits on extracting water from current sources suggest that a regional water supply program is needed that meets state

requirements; protects the environment and watersheds from degradation; and ensures that there is enough water for both urban economies and agricultural productivity. This is a tall order considering that the State Water Resources Control Board (SWRCB) ruled in 1995 that the California American Water Company (CalAm) that serves the cities of Monterey, Carmel, Pacific Grove and other parts of Monterey County was illegally diverting over 10,000 acre-feet of water per year from the Carmel River without valid rights and that CalAm must remedy this situation (Order 95-10). The SWRCB has issued a draft Cease and Desist Order because to date little if any progress has been made to meet Order 95-10. The draft order requires water rationing until alternative water supplies become available. The final order was issued in October 2009.

In early December 2010, the state Public Utilities Commission approved a proposal for a \$400 million regional water desalinization plant to be built on the coast at Marina. The proposed plant, which still requires approval from the Coastal Commission, would extract brine water from wells right on the coast, run the water through a desalinization process, and return the extracted minerals to the bay. Approval by the Coastal Commission is not likely before some time in 2012. A coastal site in Marina, about eight miles south of Moss Landing, has been designated. The project would be a joint venture among the California American Water Company (CalAm), the Monterey County Water Resources Agency, and the Marina Coast Water District. The plant would produce around 10,500 acre-feet of potable water per year, largely to replace water being taken from the Carmel River. The projected cost of the water is \$7,900 per acre-foot. The project is not projected to provide water before the end of 2013 or later, if it is ever built. The proposal is mired in charges of conflicts of interest, corruption, environmental impacts, and run-away costs.

The proposed desalinization project on the subject site will use water drawn from 300 feet deep in the Monterey Submarine Canyon, which drops off precipitously directly off Moss Landing Harbor. The subject site already has the pipes for intake and outfall and has had the right to draw water from the Bay since the 1940s. The tanks and basins already on the subject site can hold 44 million gallons of water and would be used by both the Calera "green" cement company and by a proposed Moss Landing Public Water Company or a similar public entity to provide around 10,000 to 15,000 acre-feet of potable water per year for water districts in the Monterey Bay area. Plans for the plant are expected to be completed by late 2011. When the plans are approved by the local authorities, which are reported to be highly favorable toward the project, the local authorities will take the plans to the Coastal Commission, which must give final approval for the new use of the water the subject property has the right to draw from the bay. The developers expect that the desalinization operation could be in service within about 18 months from the time final development approvals are obtained. The cost of the plant is projected to be between \$40 and \$60 million dollars. The potable water will cost around \$1,200 per acre-foot.

The Monterey Bay Area is a world-famous region renowned for its natural beauty, rich cultural history, and its prolific agricultural production. The economies of both Bay Area counties – Monterey and Santa Cruz – are based on agri-business, tourism, and to a growing but currently much more limited extent, on high-tech manufacturing and food processing. The population of the area is growing at a moderate pace due to the attractiveness of the natural environment, the quality of life, and a moderate cost of living (outside the Monterey Peninsula). Despite the depressed current national economy, the three bases of the economy are all strong in the long run and are likely to continue growing in the foreseeable future. The continued growth of both tourism and business will continue to provide a basis for expanding visitor-service accommodations such as hotels, restaurants and bars. The short-term outlook is for a period of depressed real estate demand and prices, but the long-term outlook for renewed real estate development and values is good.

NEIGHBORHOOD DESCRIPTION:

The subject property is located approximately six miles south of the Santa Cruz County/Monterey County boundary (southern boundary of the City of Watsonville) and near the northwestern edge of the town of Castroville in the community of Moss Landing. Moss Landing is an unincorporated community consisting of a small fishing harbor and tourist area located on the Monterey Bay. The Monterey Submarine Canyon begins just outside of Moss Landing Harbor and plunges to a depth of around two miles.

The land to the west consists of the Moss Landing Harbor and Moss Landing Marine Laboratory on the western side of Cabrillo Highway (State Highway 1); the land to the north is primarily rural-agriculture with the Duke Energy Power Plant (one of the largest power plants in California) located immediately adjacent across Dolan Road; the land to the east is mostly rural-residential and the land to the south is rural-agriculture and the town of Castroville. There are a few industrial parcels scattered around this general area. The Pajaro River, which is the county boundary line for Monterey and Santa Cruz Counties, is located approximately six miles north of the subject property. The following table is a demographic report of the subject's surrounding area, using 1.0, 2.0 and 3.0-mile radii.

	1.0 Mile Radius	2.0 Mile Radius	3.0 Mile Radius
Population			
2000	315	474	5,200
2007	354	524	5,409
2012 (projected)	359	532	5,495
%Population Change 2000-2007	11.01%	9.54%	3.86%
Households			
2000	133	173	1,206
2007	140	182	1,284
2012 (projected)	143	186	1,313
% Change 2000-2007	7.51%	4.94%	6.07%
Income			
2007 Per Capita	\$36,724	\$32,286	\$16,226
2007 Median Household	\$74,113	\$68,981	\$53,331
2007 Average Household	\$95,200	\$92,582	\$67,760
Age			
2007 Median Age	35.1	34.8	27.6

Castroville is an unincorporated agricultural community, famously known as the "Artichoke Capital of the World," and is located a few miles south of the Pajaro Valley in northern Monterey County, about 15 miles southeast of the City of Santa Cruz and the north shore of Monterey Bay. The Pajaro Valley extends west of the Santa Cruz mountains and near the northern border of Monterey County.

Castroville is approximately 370 miles north of Los Angeles, 50 miles southwest of San Jose and 100 miles south of San Francisco. State Highway 1, considered by many to be one of the most scenic routes in the

United States, runs north-south along the western edge of the subject land and provides direct access to San Francisco and Los Angeles, as well as to Monterey, Santa Cruz and the San Francisco Peninsula. This is one of the principal arterials through Castroville. State Highway 156 provides direct access to U.S. Highway 101 to the east. This highway is one of the most important north/south roadways in California. U.S. Highway 101 provides direct access to San Jose, San Francisco and Los Angeles. Various other smaller state and county roads link Castroville to other towns and areas of the Monterey Bay region.

Prior to 2008, the development of residential subdivisions in the greater Castroville/Watsonville area over the prior five years had been followed by strong retail/commercial development. Such development has slowed dramatically in the past three years due to current national and local market conditions. The majority of the new commercial development has taken place in the northwest portion of the City of Watsonville. Industrial development has also taken place, but at a lesser pace. The agricultural land in this area is highly productive, but developers have certainly been in competition with the agricultural uses.

In summary, the neighborhood around the subject land is characterized by its small town appeal and offers a mild climate, strong business community, a high quality of life and a relatively low cost of living. The Castroville area's economy is dominated by agriculture but is diversifying. The area's dependance on agriculture and tourism does mean that the economy is seasonal by nature. However, the area continues to see job growth. The development that is occurring throughout the Pajaro Valley, particularly in the retail sector, is also having an effect on the residential/retail climate in both Castroville to the south and Watsonville to the north. The long-term outlook for the neighborhood is considered to be favorable.

SITE DESCRIPTION:

The subject land consists of ± 55.00 acres ($\pm 2,395,800$ SF) out of a total 199.89 acres that comprise the entire Moss Landing Commercial Park. The total park consists of five individual Assessor's Parcel Numbers, according to the Monterey County Assessor's Office. However, approximately 35 acres consist of wetlands, and therefore, the net usable acreage is ± 165 . The ± 55 acres for the desalinization project will be out of Monterey County APN 133-172-013. The property is located on the east side of Cabrillo Highway (SH 1) and along the south side of Dolan Road, in the unincorporated Moss Landing portion of Monterey County, California 95039. The proposed desalinization plant parcel will be irregular in shape and the precise boundaries and size have not been determined.

The map coordinates for the Thomas Guide for Metropolitan Monterey Bay are Page: 1055, Grids: D-3 through H-5. The Monterey County Assessor's Parcel Numbers are 131-054-008; 133-173-002 and -005; 133-172-004 and -013. According to the real property records of Monterey County, title to the property currently is vested in Moss Landing Commercial Park, LLC.

The park has several thousand feet of frontage along the southern side of Dolan Road and the eastern side of Highway 1. Parcel 133-173-005 is along the western side of Cabrillo Highway adjacent to a marina south of Dolan Road and north of Moss Landing Road. Intake pipes and a pump station that will serve the desalinization plant improvements are on a small portion of this parcel. Dolan Road is a two-lane asphalt-paved roadway running more or less east-west with its western terminus at Cabrillo Highway (State Highway

1) at the northwest corner of the subject land. Dolan Road runs easterly for several miles and intersects with Castroville Boulevard which eventually ends at Road G-12, U.S. Highway 101 and State Highway 156. Please see the Plat Map reproduced in the Appendix for a visual representation of the parcels which constitute the park.

The subject property currently has the following zoning classifications:

<u>APN</u>	<u>Parcel Size</u>	<u>Zoning</u>
131-054-008	5.0 acres	RDR/5 (CZ) & RC (CZ) [west side of Highway 1]
133-172-004	4.05 acres	HI (CZ)
133-172-013	182.70 acres	HI (CZ) & RC (CZ) [contains subject land]
133-173-002	0.14 acres	HI (CZ)
133-173-005	8.0 acres	HI (CZ) & RC (CZ)

The RDR designation indicates Rural-Density-Residential with a five-acre minimum. The HI designation indicates Heavy Industrial. The CZ classification is Coastal Zone and the RC is Resource Conservation. The Coastal Zone is common for the California coastal areas. The CZ overlay places various limitations and restrictions on the land primarily to protect the coastline and waters from contamination or inappropriate uses. The RC designation applies to limited areas of the subject land, mostly around the southern and eastern edges of the property adjacent to the Moro-Coho Slough and is designed to protect this waterway from any type of development which would have an adverse effect on the slough or the nearby bay.

The HI zoning on the vast majority of the property allows for a wide variety of industrial and commercial uses either directly or with a conditional-use permit. The on-going renovation of the existing buildings in the park for light industrial, service and office uses appear generally to be a legal, conforming use of the site, although specific plans for individual tenants are submitted to the county for approval as new leases are signed. On October 28, 2009, Monterey County approved an application to build and operate a "green" cement plant on the site. The facility will use mostly existing buildings and share the large concrete tanks on the site to bring in sea water from Monterey Bay and flue gasses from the electric power plant directly across Dolan Road from the subject land in a pilot plant designed to prove the process and feasibility of producing cement in a revolutionary and environmentally friendly manner. Use of the site for a seawater desalinization plant appears to conform to the zoning and use parameters for the site, although specific plan approvals would be necessary. The property has had the right to draw seawater from Monterey Bay since the 1940s, and the Calera Cement Company on site is doing so today.

All public utilities are available to the subject property, including water, sanitary sewer, electric, natural gas, telephone and cable television and Internet service. The utility service is sufficient for high-tech industrial uses.

According to FEMA map 060195-0055F, dated August 5, 1986, portions of the subject lie within coastal flooding areas, but the vast majority of the land is in a Flood Zone C. This is an area outside of the 100-year flood plain; flood insurance is not required in Zone C.

The subject site is located within an Earthquake Zone 4, which is an area with the potential for moderate to severe earthquakes. Any improvements should be constructed in such a manner as to mitigate potential damage from this phenomenon. The existing tanks on the site have been constructed with earthquake reinforcements.

The appraiser was not provided with a current preliminary title report; however the appraiser does have a title report prepared by First American Title Company and dated September 11, 2003. According to this report there are no covenants, conditions or restrictions. The appraiser was not supplied with a survey but assumes there are no encroachments.

IMPROVEMENTS DESCRIPTION:

The Moss Landing Commercial Park is already improved with 34 industrial buildings as well as concrete tanks sufficient to hold 44 million gallons of water. Some of the buildings on site were originally constructed as long ago as the mid 1940s and early 1950s. Others were constructed more recently up into the 1980s. However, extensive renovations, removal of interior subdivisions and old equipment and machinery and more recent accurate measurements and calculations of space put the total size of the building improvements at 318,552 square feet. Please see the Site Map in the Appendix which shows the distribution of the buildings on the site and their measured dimensions.

Two of these buildings are being held in reserve for use by the proposed desalinization plant. Building One is a warehouse building built in 1965 containing 20,800 square feet. It is a metal-frame building with metal siding on a concrete slab foundation and has direct access to a rail spur along its south side. The building dimensions are 80' x 260'. It has been completely refurbished and is in good condition as a shell building, meaning that interior finishes will be done to the user's needs and specifications.

The second building reserved for the desalinization project use is Building 16, which was built in 1982. It is a three- to four-story metal-clad building with a concrete frame containing 14,050 square feet. It also is a refurbished shell building with interior finishes to be done to a user's needs and specifications.

Both buildings have new or partially new exterior siding and have been recently painted. The appraiser considers the effective age for the buildings to be 10 years, with a remaining economic life of at least 35 years.

The former park rehabilitation manager, Sam Bose, estimated that all the existing improvements (excluding ± 20 acres of the land originally set aside for the desalinization plant) lie on approximately 90 acres of the total usable site area of ± 164.89 acres. As noted, the desalinization plant was originally expected to occupy 20 acres. However, the anticipated site has been expanded to 55 acres in order to include a six megawatt solar electric plant which will provide power for the desalinization plant and the rest of the park.

The existing improvements for the proposed desalinization plant also include seven five-million-gallon in-ground concrete water tanks into which seawater can be pumped to begin the process of extracting salt and other minerals. These tanks have been cleaned, refurbished, resealed and tested. The Calera Cement

Company on site uses some of these tanks for demineralizing seawater and would share the tanks with the desalinization plant. There is a market for some or all of the salt and minerals removed from the water.

The improvements also include three three-million-gallon above-ground concrete tanks and three one-million-gallon above-ground concrete tanks that can be used to store desalinized water. These tanks are in basically sound condition but do need cleaning and some minor refurbishing.

The improvements also include an extensive system of pipes, valves and pumps to bring water in from the bay and move water around on site from one tank to another as it is processed. This includes two 36-inch diameter intake pipes and two outfall pipes, both concrete, and one of which is 54 inches in diameter that goes out to 300 feet deep in Monterey Bay. The pipes go under Highway 1 into the Moss Landing Harbor Marina, and the bay pipe goes under the marina and the marina parking lot island, under the commercial harbor, under the island on which the Marine Laboratory sits, and out into the bay. The pipes were installed in the 1940s by Kaiser Industries and are essentially irreplaceable today given the development that has occurred in Moss Landing in the decades since the pipes were built. They have been recently inspected and are in good condition, needing only some minor repair and cleaning. As noted, some of them are being used already by the Calera Cement Company operations in the Moss Landing Commercial Park.

Overall, the basic infrastructure for a seawater desalinization plant is mostly already extant in the Moss Landing Commercial Park. The original facility built by Kaiser Industries was essentially a water demineralizing plant, the purpose of which was to remove desired minerals – principally magnesium – from the seawater. The demineralized water was then pumped back into the ocean. The facilities were used for this purpose into the 1980s. Today, using modern technology, the same infrastructure can be used as the basis for a modern state-of-the-art high-technology water desalinization plant that can provide millions of gallons of potable water that can be put into the domestic water systems of Monterey County.

The existing improvements in the portion of the Moss Landing Commercial Park that is the subject of this replacement cost analysis were constructed to extract minerals from seawater. The facilities are still viable and usable today, and their projected use as the basis for a modern seawater desalinization plant constitutes the highest and best use of the subject land and improvements today.

COST APPROACH TO REPLACEMENT COST:

The Principle of Substitution is basic to the Cost Approach in that a prudent investor will pay no more for a property than the amount for which he can obtain a comparable site and construct improvements of equal desirability and utility without undue delay. This approach derives a value from a sum of the price of the land and the cost to construct the improvements.

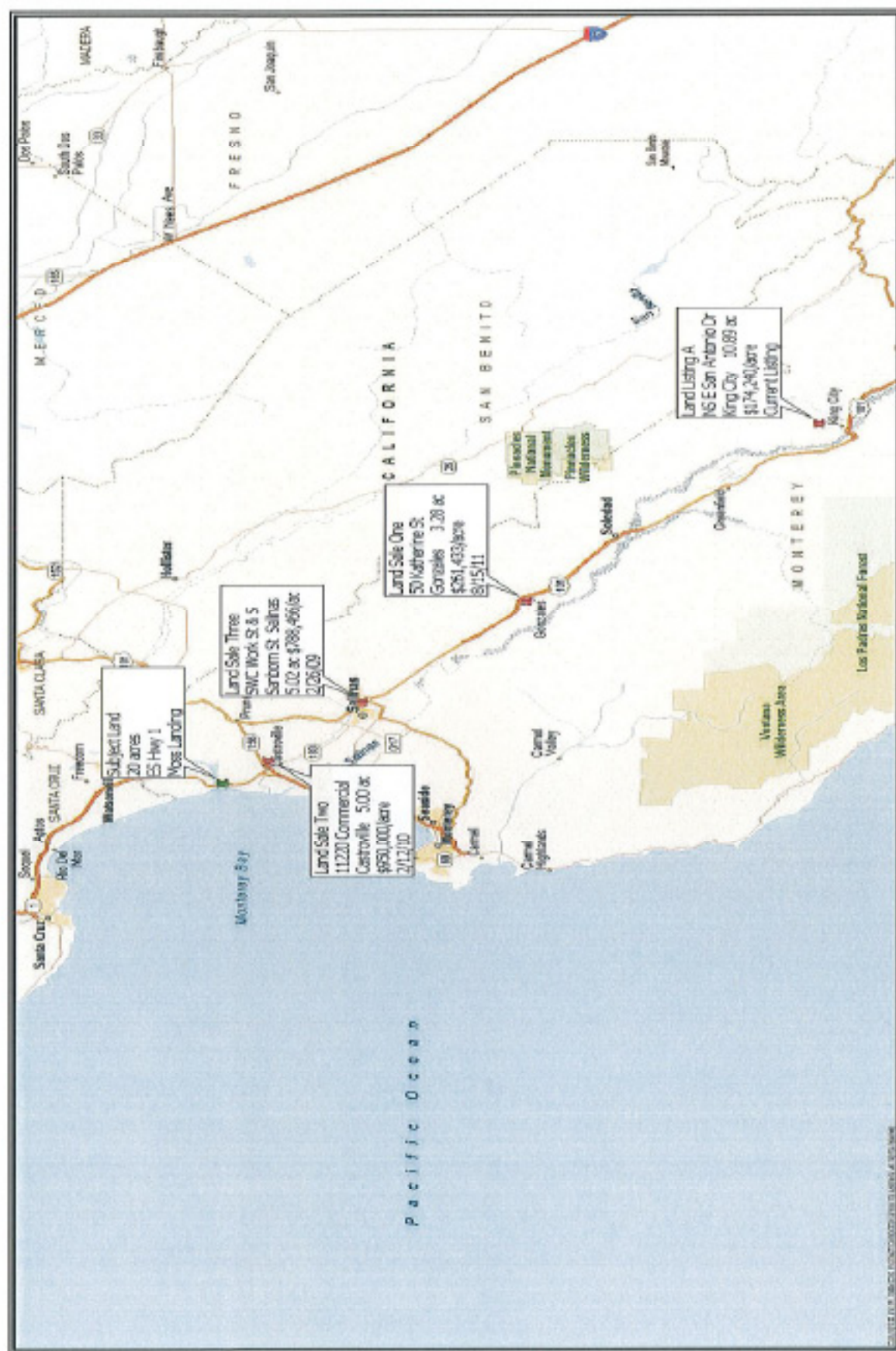
The first step in the Cost Approach is to calculate a purchase cost for the subject land as if vacant. In order to calculate such a value it is necessary to gather a set of comparable vacant land sales which are then analyzed to derive an appropriate market value for the subject site. To obtain a set of appropriate and useful sales comparables, the appraiser searches for sales of similar tracts of vacant land in the subject neighborhood and region.

Unfortunately, there have been very few sales over the past several years of any comparability to the subject site. Available locations of the subject's type, especially ones situated along the California coastline and zoned for heavy industrial use, are rare commodities. Given the subject site's existing infrastructure for demineralizing seawater and the site's existing right to extract water from Monterey Bay, there is almost certainly no truly comparable site anywhere else on the California coast.

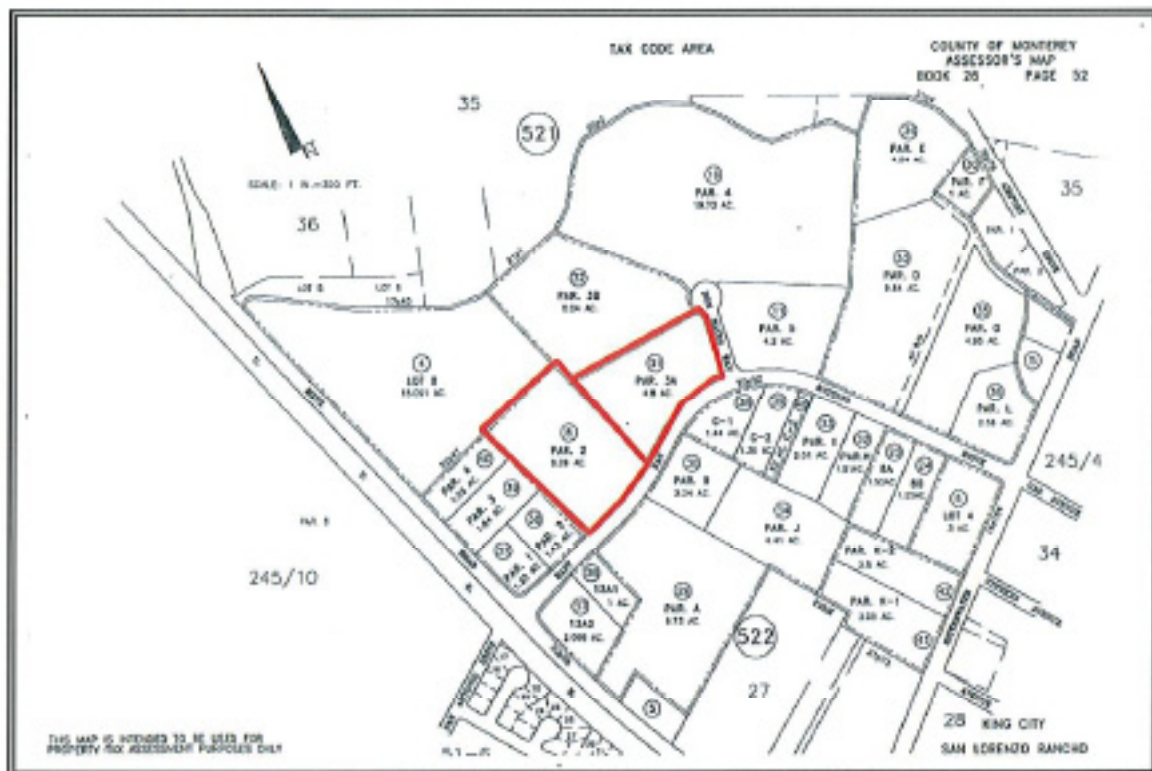
Since there are no comparable coastal locations, the appraiser searched for other industrial land sales in Monterey and Santa Cruz Counties and found a few recent sales of smaller (± 5 to 11 acres) sites that are not on the coast and are mostly zoned for lighter industrial uses.

In the following pages are a map, summaries and a comparison table of one current active listing and three closed sales of industrial land in Monterey County. Analysis of the sales in comparison to the subject land follows the summaries leading to a value conclusion for the subject land.

MAP OF COMPARABLE LAND SALES



Comparable Industrial Land Listing A



Location/Address:

North side of East San Antonio Road in the King City Business Park approximately 1.5 miles north of S.H. 101 in King City, Monterey County, California

Monterey County Parcel Numbers:

026-521-008 and -031

Thomas Guide California Atlas:

Page 189, Grid B-1

Date of Sale:

Current active listing

Grantee:

NA

Grantor:

Community Development Agency of the City of King City

Document #:

NA

Total Asking Price:

\$1,897,473

Price/Acre:

\$174,240

Land Size:

10.89 acres (two adjacent parcels, could be sold separately)

Shape:

Irregular; more or less rectangular; see plat map above

Terrain:

Level

Frontage:

More than 1,000 feet along the north side of East San Antonio Street

Zoning:

M-1 - Industrial by King City

Allowed Use:

General industrial uses; no heavy industrial

Easements:

Typical of industrial business park subdivision

Intended Use:

Vacant, listed for sale

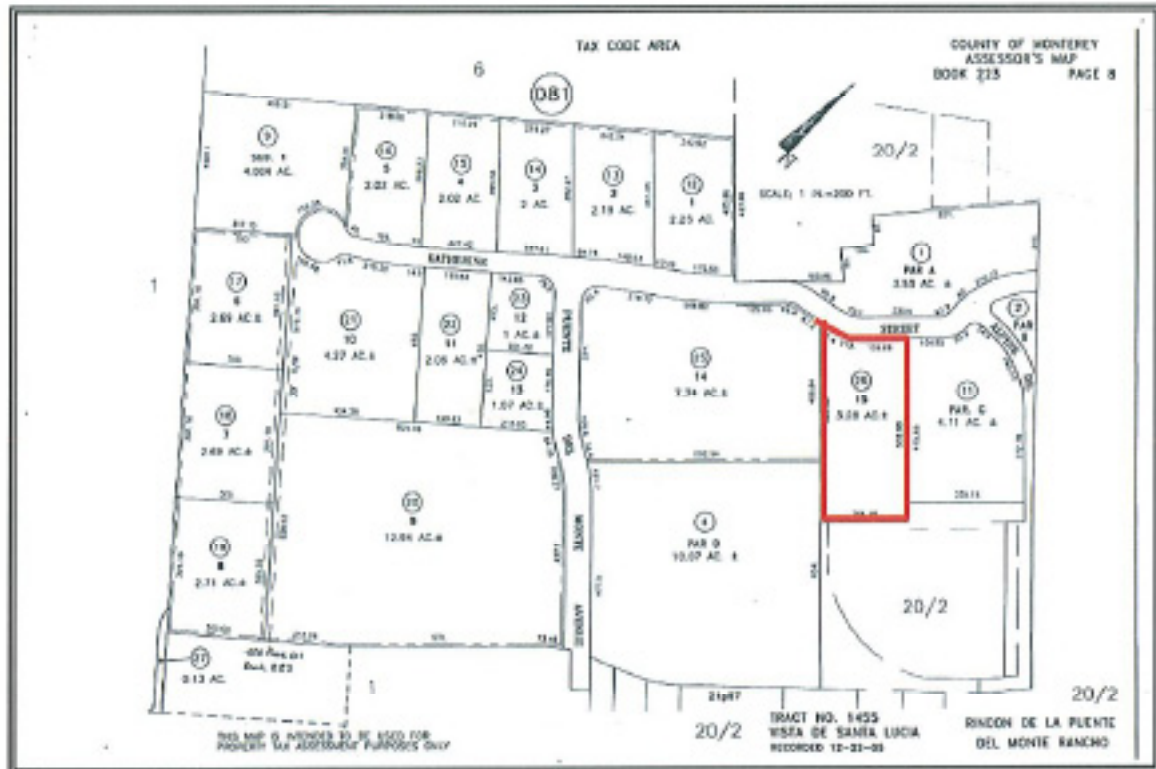
Comments:

A small narrow lot (0.62 acre) just down the street from this comparable sold on 9/22/10 for \$1,100,000, which is equivalent to \$1,774,194 per acre. However, it was sold to an adjacent parcel owner who paid a premium to be able to combine it with his parcel to expand his business. Due to the very small size and the assemblage premium, it is not an appropriate comparable sale for the subject land's valuation.

Confirmation:

NDC Data and Monterey County Records, 9/11, RVS

Comparable Industrial Land Sale One



Location/Address:	50 Katherine Street; southwest side of Katherine Street in the Santa Lucia Business Park approximately 1.5 miles west of S.H. 101 in the City of Gonzales, Monterey County, California
Monterey County Parcel Number:	223-081-026
Thomas Guide California Atlas:	Page 259, Grid D-6
Date of Sale:	Aug. 15, 2011
Grantee:	Taylor Farms Retail, Inc.
Grantor:	Porter Family Trust
Document #:	2011-44146
Total Price:	\$857,500
Price/Acre:	\$261,433
Land Size:	3.28 acres
Shape:	Essentially rectangular; see plat map above
Terrain:	Level
Frontage:	±277 feet along the south side of Katherine Street
Zoning:	I - Industrial by City of Gonzales
Allowed Use:	Wide variety of general industrial and commercial uses, including heavy industrial
Easements:	Typical of industrial business park subdivision

**SUMMARY REPORT,
REPLACEMENT COST APPRAISAL**

**A PORTION OF THE MOSS LANDING COMMERCIAL PARK
MOSS LANDING, CALIFORNIA**

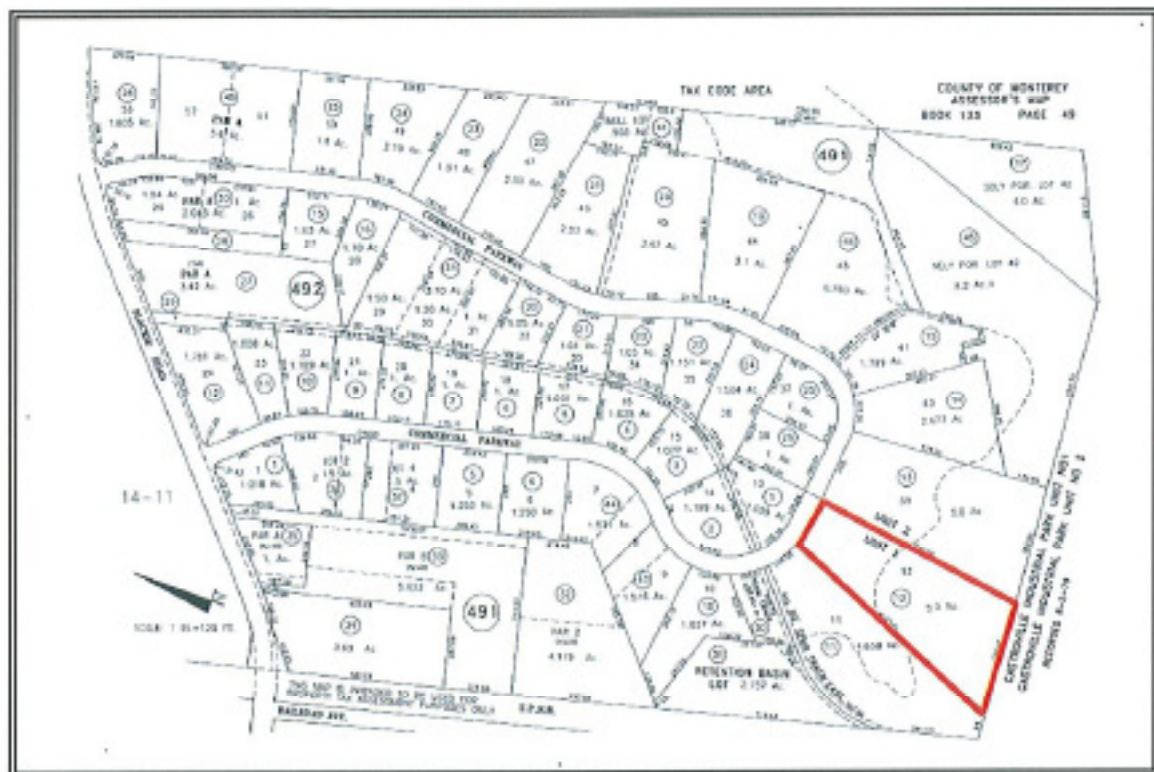
Intended Use:

Unknown

Confirmation:

NDC Data and Monterey County Records, 9/11, RVS

Comparable Industrial Land Sale Two



Location/Address:

11220 Commercial Parkway, south side of Commercial Parkway in the Castroville Industrial Park approximately one block from SH 183 on the southeastern edge of Castroville, Monterey County, California

Monterey County Parcel Number:

133-491-012

Thomas Guide California Atlas:

Page 258, Grid D-1

Date of Sale:

Feb. 12, 2010

Grantee:

Coast American Cooling, LP

Grantor:

American Cooling, Inc.

Document #:

2010-4146

Total Price:

\$4,750,000

Price/Acre:

\$950,000

Land Size:

5.00 acres

Shape:

Wedge shaped; see plat map above

Terrain:

Level

Frontage:

±163 feet along the south side of Commercial Parkway

Zoning:

HI/B-6 - Heavy Industrial by Monterey County; further subdivision not permitted.

Allowed Use:

Wide variety of general commercial and industrial uses

Easements:

Typical of industrial business park subdivision

**SUMMARY REPORT,
REPLACEMENT COST APPRAISAL**

**A PORTION OF THE MOSS LANDING COMMERCIAL PARK
MOSS LANDING, CALIFORNIA**

Intended Use:

Staging area and parking for a produce cool storage facility

Confirmation:

NDC Data and Monterey County Records, 9/11, RVS

Comparable Industrial Land Sale Three



Location/Address:

Wrapping southwest corner of Work Street and South Sanborn Road approximately one block west of the SH 101 freeway and west of the Salinas Municipal Airport in the southern portion of the City of Salinas, Monterey County, California

Monterey County Parcel Number:

003-461-013

Thomas Guide California Atlas:

Page 336, Grid E-8

Date of Sale:

Feb. 26, 2009

Grantee:

Work Street Investors, LLC

Grantor:

Shippers Development Company

Document #:

2009-11209

Total Price:

\$3,958,000

Price/Acre:

\$788,466

Land Size:

5.02 acres

Shape:

Irregular; wraps corner; see plat map above

Terrain:

Level

Frontage:

±477 feet along the south side of Work Street and ±630 feet on the west side of South Sanborn Road

Zoning:

IG - Industrial General, City of Salinas

Allowed Use:

General business and industrial uses; no heavy industrial

**SUMMARY REPORT,
REPLACEMENT COST APPRAISAL**

**A PORTION OF THE MOSS LANDING COMMERCIAL PARK
MOSS LANDING, CALIFORNIA**

Easements:	Typical of industrial/business park subdivision
Intended Use:	Produce cool storage facility
Confirmation:	NDC Data and Monterey County Records, 9/11, RVS

SUMMARY TABLE OF COMPARABLE INDUSTRIAL LOT SALES

	Subject Land	Listing A	Sale One	Sale Two	Sale Three
Sale Price: Total Per Acre		\$1,897,473 \$174,240	\$857,500 \$261,433	\$4,750,000 \$950,000	\$3,958,000 \$788,466
Date of Sale Ranking		Current Listing Sl. Superior	8/15/11 Similar	2/12/10 Similar	2/26/09 Similar
Conditions of Sale Ranking	Normal	Normal Similar	Normal Similar	Normal Similar	Normal Similar
Location Ranking	Hwy 1, Moss Landing at Dolan Road	E. San Antonio Dr King City Inferior	Katherine St Gonzales Inferior	Commercial Pkwy Castroville Sl. Inferior	Work St & Sanborn Salinas Sl. Inferior
Size Ranking	55.0 acres	10.89 acres Superior	3.28 acres Sig. Superior	5.00 acres Sig. Superior	5.02 acres Sig. Superior
Terrain Ranking	Level	Level Similar	Level Similar	Level Similar	Level Similar
Access Ranking	From Dolan Road at Hwy 1. Rail spur on site. Access to bay.	1.5 miles from 101 No rail spur. No access to bay. Inferior	1.5 miles from 101 No rail spur No access to bay. Inferior	one block from SH 183 Rail spur in park, not on site. No bay access. Sl. Inferior	¼ mile from US 101 No rail spur No access to bay. Inferior
Zoning Ranking	M-2 Heavy Industrial	M-1 Industrial Sl. Inferior	1 - Industrial Similar	HI - Heavy Industrial Similar	IG - Industrial General Similar
Overall Ranking		Inferior	Inferior	Sl. Superior	Sl. Inferior

Analysis of Sales:

To obtain a replacement value for the subject 55 acres out of the Moss Landing Commercial Park, the appraiser examined a number of listings and sales from the last few years. The set summarized above consists of one current active listing and three closed sales of acreage industrial lots in Monterey County. The appraiser also researched sales in Santa Cruz County but found no recent sales that were suitable. The four comparables used here are the best set the appraiser could identify and confirm as a basis for valuing the subject land. All the comparables have normal conditions of sale; that is, they are all independent, third-party, arm's-length transactions that sold for cash to the seller. They are all industrial lots, three of them in industrial business parks, and they are all level sites that require no extensive contouring for development.

Comparable Listing A – This is a current, active listing of two adjacent industrial lots in the King City Business Park in King City in the Salinas Valley about 50 miles southeast of Moss Landing. Since it is a listing, it is quite likely to sell for less than the asking price, especially in today's market conditions. Consequently, the comparable is ranked slightly superior for status as a listing as of the date of valuation. This comparable is in a much more remote location, and the business park in which the lots are located is about 1.5 miles north of U.S. 101. The subject's location adjacent to a major highway and on the coast with rights to draw water from Monterey Bay is much superior. In addition, the subject land has a rail spur which the listed land does not. The comparable's location and access are ranked inferior to the subject's location and access. The site is zoned M-1 - Industrial, which does not allow the heavy industrial uses allowed by the zoning of the subject land. Therefore, the comparable is ranked slightly inferior for zoning.

The size of the comparable listing is 10.89 acres, which is about 80 percent smaller than the subject land. Also it could be sold as two separate legal lots. It is a basic tenet of real estate economics that larger parcels sell for lower unit-prices (such as per-acre or per-square-foot) than smaller parcels. This is simply a function of demand. Fewer potential buyers want, need or can afford the higher aggregate price of larger parcels. This reduces demand and drives down the unit-price. Since the comparable listing is smaller, it presumably would sell for a higher unit-price. Therefore, it is ranked superior for size.

Overall, this listing is ranked inferior to the subject land. The slightly superior ranking for status as a listing and the superior ranking for smaller size are outweighed by the inferior location, access and zoning. This overall ranking means that the value of the subject land should be substantially higher than the price per acre of this comparable listing at \$174,240 per acre.

Comparable Sale One - This is a very recent closed sale (8/15/11) of an industrial lot in a business park in the city of Gonzales in the Salinas Valley about 30 miles southeast of Moss Landing. Since this sale occurred only about six weeks prior to this valuation, this comparable is ranked as similar for market conditions at the time of sale. Like Listing A, this is a much more remote location, and the business park in which the lot is located again is about 1.5 miles from the U.S. 101 highway. The site does not have a rail spur or bay access like the subject land, and therefore it is ranked inferior for location and access compared to the subject land. The site is zoned I - Industrial, which as defined by the City of Gonzales, is similar to the subject land's zoning since almost all industrial and commercial uses are allowed.

This lot is only 3.28 acres in size. As explained in the analysis of Listing A above, the much smaller size makes this lot superior in terms of what the unit price would be compared to the subject tract.

Overall, this sale also is ranked as inferior. The inferior location and access significantly outweigh the superior size. Therefore, the value of the subject land should be significantly higher than the selling price of this lot at \$261,433 per acre.

Sale Comparable Two - This is the sale in February 2010 of a 5.00-acre industrial lot in the Castroville Industrial Park less than four miles southeast of the subject land on the southeastern edge of the town of Castroville. Although this sale occurred around 19 months prior to the date of this valuation, industrial lot values have not changed significantly in Monterey County over the past two years. Therefore, this comparable is ranked similar for market conditions at time of sale.

The location in Castroville is only a few miles from the coast, but this land does not have access to the bay, and although there is a rail spur into the business park where this sale is located, the spur does not enter the comparable lot. Also highway access is off a less traveled road than Highway 1. For these reasons, the general location and access are both ranked as slightly inferior. The zoning is heavy industrial which is similar to the subject land.

This site is 5.00 acres in size, which is only one-eleventh the size of the subject land. For the same reasons explained in analysis of the prior two comparables, this property is ranked superior for size.

Overall, Sale Two is ranked as slightly superior to the subject land. The slightly inferior location and access are somewhat more than offset by the significantly superior size with other characteristics being similar. With this overall ranking, the value of the subject land should be less than the selling price of this comparable at \$950,000 per acre.

Comparable Sale Three - This is the sale in February 2009 of an industrial lot in the southern portion of Salinas, which is the county seat and the largest city in the county. It is the center of the food processing and shipping center of the county. But it is not in an industrial park, not on the coast and does not have a rail spur to the lot. In addition, the location is around a quarter mile from the U.S. 101 freeway while the subject has several thousand feet of frontage and visibility from Highway 1 and access right around the corner off Dolan Road as well as access to Monterey Bay. The general location is ranked as slightly inferior and the access is ranked as inferior compared to the subject land. The zoning is IG - Industrial General which allows many of the same uses as the subject land and is ranked similar.

This sale is 5.02 acres in size, which, like Sale Two, is one-eleventh the size of the subject lot. For the same reasons, Sale Three is ranked superior for size.

Overall, Sale Three is ranked as slightly inferior to the subject land. The inferior access and slightly inferior location slightly more than offset the superior size. This ranking indicates that the value of the subject land should be a little higher than the selling price of this comparable at \$788,466 per acre.

Subject Land Value Conclusion:

The appraiser used one current active listing and three sales of vacant industrial lots, all of which are located within Monterey County as a basis for an opinion of the current market value of the subject 55-acre tract. The comparable sales have been summarized, discussed and ranked in relation to the subject property. The overall rankings of the comparable lot sales are shown in following table:

ARRAY OF SALES BY RANKINGS

<u>Comparable</u>	<u>Price Per Acre</u>	<u>Ranking</u>
Comparable Sale Two	\$950,000	Sl. Superior
Subject Land	??	---
Comparable Sale Three	\$788,466	Sl. Inferior
Comparable Sale One	\$261,433	Inferior
Comparable Listing A	\$174,240	Inferior

The mean and median of the prices of the four comparables are \$543,535 and \$524,950 per acre, respectively. Based on the overall rankings, the subject land is superior to the indicators of central tendency and should have a value that is between the selling prices per acre of Comparable Sale Two, which is ranked slightly superior and is located just four miles from the subject land, and Sale Three, which is located in Salinas and is ranked slightly inferior overall.

The mean unit price of the two bracketing sales is \$869,233 per acre, but the drastic size difference between these two sales and the subject land indicates that the value of the subject land should be closer to the unit price of Sale Three in the appraiser's opinion. Consequently, based on all the foregoing analysis, the appraiser concludes to a unit value of \$800,000 per acre for the subject land.

Using that unit price, the market value of the subject 55 acres of heavy industrial zoned land with coastal access and the right to draw water from the bay, as well as a rail spur on the subject land, may be calculated as follows:

$$\text{\$800,000/Acre} \times 55.00 \text{ Acres} = \text{\$44,000,000}$$

FORTY-FOUR MILLION DOLLARS

REPLACEMENT COST OF EXISTING IMPROVEMENTS ON THE SUBJECT LAND:

The technique employed to calculate costs involved using current cost figures as published in the *Marshall Valuation Service Manual*, a national construction cost manual, published by Marshall and Swift Co. of Los Angeles. This cost manual is used by thousands of appraisers, architects, engineers, developers and other professionals across the United States, and it has been a standard cost reference work for many years.

The *Marshall Valuation Service* costs include typical and normal architectural fees, engineers fees, contractors overhead and profit, building permits, interest on the building improvements during construction and sales taxes. The costs do not include developer's overhead and profit, loan fees, interest or taxes on land, appraisal or consulting fees, marketing costs and leasing costs or off-site development fees. A review of other industrial developments indicates these soft costs other than marketing and leasing expenses generally range between five and ten percent of total hard construction costs. A figure of \$1,000,000 has been concluded for soft costs which are not included in the hard construction costs.

The table on the next two pages shows a final replacement cost new estimate for all the existing improvements of \$76,776,440. Note that this is the replacement cost of the existing improvements only. The land value derived above still must be added to this figure.

The table on the next two pages calculates the replacement cost new of the existing improvements that can be used as part of a seawater desalinization plant. Additional costs necessary to finish creating a modern, operating desalinization plant are not included because those costs would have to be calculated based on specific plans and drawings, and such costs are beyond the scope of this assignment. Some of the estimated replacement costs are necessarily estimates because qualified engineers would have to examine some of the components which are not typical and normal improvements. In fact, the existing pipelines into the Moss Landing harbor and out into the bay may be irreplaceable in their current form and location, according to experts consulted by the appraiser, so their replacement cost today is very difficult to estimate.

Please see the cost table on the next two pages for a breakdown of estimated replacement costs for the existing improvements.

Desalinization Plant Site Improvements

Construction Costs New

Tank Improvements

Basic Cost- Class C (Section 61, Page 3, 12/10)	5-Million Gallon Tanks, Open Top, In Ground		
Site Work, Steel Reinforcement, Piping	7 @	\$2,359,000.00 Each =	\$16,513,000.00
Basic Cost- Class C (Section 61, Page 3, 12/10)			\$5,449,290.00
Site Work, Steel Reinforcement, Piping	2-Million Gallon Tanks, Open Top, Above Ground		
Basic Cost- Class C (Section 61, Page 3, 12/10)	3 @	\$1,294,000.00 Each =	\$3,882,000.00
Site Work, Steel Reinforcement, Piping			\$1,281,060.00
Basic Cost- Class C (Section 61, Page 3, 12/10)	1-Million Gallon Tanks, Open Top, Above Ground		
Site Work, Steel Reinforcement, Piping	3 @	\$797,750.00 Each =	\$2,393,250.00
Subtotal Cost of Tank Improvements			<u>\$789,773.00</u>
Earthquake Stress Adjustment (Section 61, Page 3, 12/10)			1.30
Subtotal, Cost of Tanks			\$39,400,884.90

Rail Spur

Rail Line	2,000 ft @	\$107.25 per LF	\$214,500.00
Rail Switches & Turnouts Section 66, Page 3, 12/09	2 @	\$32,250.00 each	<u>\$64,500.00</u>
Subtotal, Cost of Rail Spur			\$279,000.00

Piping

Intake Pipes - 36" Steel & Redwood Combo	800 ft @	\$330.38 per LF	\$264,304.00
Intake Pipes - 36" Steel	800 ft @	\$330.38 per LF	\$264,304.00
Outfall Pipe - 54" Concrete	4,000 ft @	\$287.75 per LF	\$1,151,000.00
Outfall Pipe - 36" Concrete (Section 62, Page 3, 6/10)	800 ft @	\$191.50 per LF	\$153,200.00
Outfall Collection System - 36" Concrete	3,000 ft @	\$191.50 per LF	\$574,500.00
Pipe Installation	Quote		\$3,500,000.00
Intake Pumps - 100 hp	7 @	\$15,575.00 Each =	\$109,025.00
Discharge Pump - 60 hp (Section 62, Page 1, 6/10)	1	\$11,575.00 Each =	\$11,575.00
Valves (Section 62, Page 2, 6/10)	18 @	\$34,200.00	<u>\$615,600.00</u>
Subtotal, cost of pipes, pumps & valves			\$6,379,204.00

Roads and Parking Areas

Industrial-Grade Internal Roadway - 30' wide	1,000 ft @	\$125.90 per LF	\$125,900.00
±1 acre parking areas Section 66, Page 1 & 2 12/09	43,560 SF @	\$6.13 per SF	<u>\$267,022.80</u>
Subtotal, roads and parking areas			\$392,922.80

Buildings

Building 1 - low-cost to avg steel indus bldg	20,800 SF @	\$77.03 per SF	\$1,602,224.00
Building 16 - low-cost to avg steel indus bldg Section 14, Page 15, 2/10	14,050 SF @	\$77.03 per SF	<u>\$1,082,271.50</u>
Subtotal, buildings			\$2,684,495.50

Electric System - Desal Share

12Kv service with power house, transformers, safety switches, circuit breakers, and installed wiring to pumps, and other systems. Section 54, Pages 1 & 2, 6/11	proportional share		\$250,000.00
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Soft Costs

Design & Engineering, Studies (EIR, etc), Legal & Accounting, Reviews, Permits & Fees, Inspections, etc.	estimate		<u>\$1,000,000.00</u>
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Subtotal, Base Cost of All Improvements

\$50,386,507.20

Times Local Cost Multiplier (10/11)
(Monterey County, Sec. 99, Page 6)

1.25

Times Current Cost Multiplier (10/11) (Section 99, Page 3)			<u>1.06</u>
Subtotal, Adjusted Cost of Improvements			\$86,762,122.04
Entrepreneurial/Developer's Profit	15%		<u>\$10,014,318.31</u>
Total Adjusted Cost Improvements New			\$76,776,440.35

Summary

Total Cost of Improvements			\$76,776,440.35
Plus, Value of Land	\$800,000 per acre	55 acres	<u>\$44,000,000.00</u>
Value of Site With Improvements New			<u>\$120,776,440.35</u>
			Rounded to: \$121,000,000

As shown in the table above, the most expensive elements to replace would be the tanks capable of holding 44 million gallons of water and the extensive piping to bring seawater into the tanks and discharge any waste water back into the ocean, as well as all the piping among the tanks and around the site. Replacement of the tanks new would cost an estimated \$39,400,885, and all the piping, pumps and valves are estimated to cost \$6,379,204 to replace. The estimated cost to replace the piping is somewhat uncertain as it is quite unlikely that the pipes to the sea could actually be replaced just as they are today because of the development that has occurred in Moss Landing and the harbor in recent decades since the pipes were originally built.

The replacement cost of the two shell buildings set aside for use by the water desalinization project is estimated to be \$2,684,496. These buildings will still need interior finishes.

The total costs also include the cost of a rail spur, roads and parking areas, industrial electric service and soft costs. The total replacement cost new of the existing improvements that could be used by the proposed seawater desalinization plant is \$76,776,440. To this must be added the value of the land, which is a unique property that would be almost impossible to recreate as a heavy industry site in the coastal zone with the right to withdraw water from the bay. As derived earlier, the land value for 55 acres is estimated to be \$44,000,000.

Added together, the replacement cost new of the existing improvements and the land amounts to \$121,000,000 (rounded). Therefore, it is the conclusion of the appraiser that the total replacement cost of the land and existing improvements for a seawater desalinization plant on 55 acres in the Moss Landing Commercial Park is as follows:

ONE HUNDRED TWENTY-ONE MILLION DOLLARS

\$121,000,000

ASSUMPTIONS AND LIMITING CONDITIONS:

1. This is a summary report of a replacement cost appraisal which is intended to comply with the reporting requirements set forth under the Code of Ethics and Standards of Professional Practice of the Appraisal Institute for a Summary Report.
2. No responsibility is assumed for legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated in this report.
3. The property is appraised free and clear of any or all liens and encumbrances unless otherwise stated in this report.
4. Responsible ownership and competent property management are assumed unless otherwise stated in this report.
5. Information, estimates and opinions furnished to the appraisers by others were obtained from sources considered reliable and believed to be true and correct. However, no warranty is given for its accuracy.
6. All engineering is assumed to be correct. Any plot plans and illustrative materials in this report are included only to assist the reader in visualizing the property.
7. It is assumed that there are no hidden or unapparent conditions of the property, subsoil or structures that render it more or less valuable. No responsibility is assumed for such conditions or for arranging for engineering studies that may be required to discover them.
8. It is assumed that there is full compliance with all applicable federal, state and local environmental regulations and laws unless otherwise stated in this report.
9. It is assumed that all applicable zoning and use regulations and restrictions have been complied with unless a nonconformity has been stated, defined and considered in this appraisal report.
10. It is assumed that all required licenses, certificates of occupancy or other legislative or administrative authority for any local, state or national governmental or private entity or organization have been or can be obtained or renewed for any use on which the value opinions contained in this report are based.
11. Any sketch of the property may show approximate dimensions and is included to assist the reader in visualizing the property. Maps and exhibits found in this report are provided for reader reference purposes only. No guarantee as to the accuracy is expressed or implied unless otherwise stated in this report. No survey has been made for the purpose of this report.

12. It is assumed that the use of the land and improvements is within the boundaries or property lines of the property described and that there is no encroachment or trespass unless otherwise stated in this report.
13. The appraiser is not qualified to detect hazardous waste and/or toxic materials. Any comment by the appraiser that might suggest the possibility of the presence of such substances should not be taken as confirmation of the presence of hazardous waste and/or toxic materials. Such determinations would require investigation by a qualified expert in the field of environmental assessment. The presence of substances such as asbestos, urea-formaldehyde foam insulation or other potentially hazardous materials may affect the value of the property. The appraiser's value opinion is predicated on the assumption that there is no contamination on or in the properties that would cause a loss in value unless otherwise stated in this report. No responsibility is assumed for any environmental conditions or for any expertise or engineering knowledge required to discover them. The appraisers' descriptions and resulting comments are the result of the routine observations made during the appraisal process.
14. Unless otherwise stated in this report, the subject property is appraised without a specific compliance survey having been conducted to determine if the property is or is not in conformance with the requirements of the Americans With Disabilities Act. The presence of architectural and communications barriers that are structural in nature that would restrict access by disabled individuals may adversely affect the property's value, marketability or utility.
15. The distribution, if any, of the total valuation in this report between land and improvements applies only under the state program of utilization. The separate allocations for land and buildings must not be used in conjunction with any other appraisal and are invalid if so used.
16. Possession of this report or a copy thereof does not carry with it the right of publication. It may not be used for any purpose by any person other than the party to whom it is addressed with the written consent of the appraiser, and in any event, only with proper written qualification and only in its entirety.
18. Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraisers or the firm with which the appraisers are connected) shall be disseminated to the public through advertising, public relations, new sales or other media without prior written consent and approval of the appraisers.
19. Unless otherwise stated in this report, to the best of the appraisers' knowledge, there are no rare, threatened or endangered species of plants or animals or significant areas of potential habitat for rare, threatened or endangered species included in the subject property.
20. We are not required to give testimony or appear in court concerning the subject property or this appraisal unless separate arrangements have been made therefor.

21. The client has been furnished with five original copies of this report with a certification signed in blue ink and dated by hand. The reader is warned that any copy of this report not signed in blue ink is not an original copy and is not warranted to be a complete, true and accurate copy of this appraisal.

The value conclusions contained herein are contingent upon the following extraordinary assumptions and/or hypothetical conditions.

- 1) There is reported to be very low-level contamination of the ground water at the site resulting from prior uses years ago. The appraiser was told by the owner/developer of the subject site that by agreement with the appropriate authorities, there are two monitoring wells on the site that are used to assess the level of contamination twice a year. The contamination is slowly dissipating through natural processes, and no further action is required by the owner. It is anticipated that the low level of contamination will disappear or at least be reduced to an irrelevant level over time. The appraiser was not supplied with a geotechnical or environmental report to substantiate this information. The cost conclusion herein makes the extraordinary assumption that decontamination for the ground water is on-going through natural processes that are being monitored and that no further action is required beyond the on-going monitoring. The replacement cost conclusion is contingent upon this assumption.
- 2) The gross area of the Moss Landing Commercial Park is about 200 acres, but a portion of the subject land consists of wetlands, a slough and areas impacted by flooding. Therefore, the net usable area of the entire park as provided to the appraiser is reportedly approximately 165 acres. This appraisal concerns only approximately 55 acres containing the existing improvements that would be used by a sea-water desalinization plant with adequate room for construction of the additional necessary improvements for the plant and a six megawatt solar power facility. None of the subject land is in the areas of wetlands, the slough or areas that may be subject to flooding.
- 3) The information provided regarding the proposed seawater desalinization plant on the subject land also was provided by the owner and his representatives, and is also based on a personal inspection of the facilities by the appraiser.

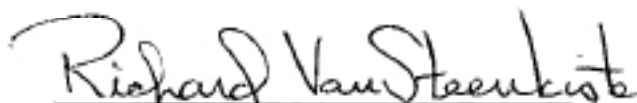
CERTIFICATION:

I certify that, to the best of my knowledge and belief:

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, unbiased professional analyses, opinions and conclusions.
3. I have no present or prospective interest in the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.
4. My engagement in this assignment was not contingent upon developing or reporting predetermined results. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result or the occurrence of a subsequent event directly related to the intended use of this appraisal.
5. This appraisal was not based on a requested minimum valuation, a specific valuation or the approval of a loan.
6. My analyses, opinions and conclusions were developed and this report has been prepared in conformity with the current Uniform Standards of Professional Appraisal Practice (USPAP).
7. I have made a personal inspection of the property that is the subject of this report.
8. No one provided professional assistance to me in the research and preparation of this report.
9. The reported analyses, opinions and conclusions were developed and this report has been prepared in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute.
10. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
11. As of the date of this report, I have completed the requirements of the continuing education program of the Appraisal Institute.
12. I meet all the current requirements of the Competency Provision of the Uniform Standards of Appraisal Practice for appraisal of this type of property.
13. I have not previously appraised the subject property for the same client in the three years prior to accepting this assignment.

The value conclusions contained herein are contingent upon the following extraordinary assumptions and/or hypothetical conditions.

- 1) There is reported to be very low-level contamination of the ground water at the site resulting from prior uses years ago. The appraiser was told by the owner/developer of the subject site that by agreement with the appropriate authorities, there are two monitoring wells on the site that are used to assess the level of contamination twice a year. The contamination is slowly dissipating through natural processes, and no further action is required by the owner. It is anticipated that the low level of contamination will disappear or at least be reduced to an irrelevant level over time. The appraiser was not supplied with a geotechnical or environmental report to substantiate this information. The cost conclusion herein makes the extraordinary assumption that decontamination for the ground water is on-going through natural processes that are being monitored and that no further action is required beyond the on-going monitoring. The replacement cost conclusion is contingent upon this assumption.
- 2) The gross area of the Moss Landing Commercial Park is about 200 acres, but a portion of the subject land consists of wetlands, a slough and areas impacted by flooding. Therefore, the net usable area of the entire park as provided to the appraiser is reportedly approximately 165 acres. This appraisal concerns only approximately 55 acres containing the existing improvements that would be used by a sea-water desalinization plant with adequate room for construction of the additional necessary improvements for the plant and a six megawatt solar power facility. None of the subject land is in the areas of wetlands, the slough or areas that may be subject to flooding.
- 3) The information provided regarding the proposed seawater desalinization plant on the subject land also was provided by the owner and his representatives, and is also based on a personal inspection of the facilities by the appraiser.



Richard Van Steenkiste, Ph.D., MAI
California State Certified General
Real Estate Appraiser # AG 017093

Oct. 24, 2011

Date of Report

QUALIFICATIONS OF THE APPRAISER:

Richard Van Steenkiste graduated from the University of Texas at Austin in 1963 with a Bachelor of Journalism degree in public affairs reporting. He received a Master of Arts degree from UT-Austin (1966) and a doctorate in economic and political geography (1970).

From 1970 to 1980, Dr. Van Steenkiste taught political and economic geography, as well as journalism, technical writing and public relations, at universities in Ohio and Texas. He became a sales associate with a real estate brokerage company in 1977, and in 1980 he left his faculty position to devote full-time to a real estate career. From 1982 to 1985 he was director of marketing and a commercial real estate broker and analyst for a brokerage and development company serving primarily European investors and clients. From 1985 to 1987, he was president and a principal in another commercial real estate brokerage company. In May 1987 he joined McCluskey-Jenkins Appraisal, Inc., in Austin, Texas, as a staff appraiser. Dr. Van Steenkiste became one of five equal owners of McCluskey-Jenkins Appraisal, Inc., and in January 1993 opened a California branch of the company, based in the Sacramento area. In mid-1994, he became the sole owner of the California company and changed the name to Landmark Realty Analysts, Inc.

Dr. Van Steenkiste has appraisal experience with vacant land, apartments, office buildings, retail centers, industrial buildings, hotels, residential and commercial subdivisions, and many types of special-purpose properties. For the past 18 years, he has completed appraisal assignments on these types of properties throughout northern and central California, as well as in the Carson City and Reno areas of northwestern Nevada. He is an approved independent fee appraiser for many California and Nevada banks, including Union Bank of California, Bank of America, Wells Fargo Bank, US Bancorp, Zions Bank, Umpqua Bank, California Bank & Trust, Bank of Nevada, Bank of the West, Monterey County Bank and others across the United States. He is a member of the national appraisal panel of Wells Fargo for hotel and motel valuations. He also undertakes appraisal assignments for private developers, investors, attorneys, and real estate consultants.

Dr. Van Steenkiste was President of the Sacramento-Sierra Chapter of the Appraisal Institute in 2006. He was Education Committee Chairman from 1995 through 1998 and was a member of the Board of Directors in 1998. In 1999, he was Program Chairman of the Chapter. He served a three-year term on the Board of Directors (2000-2002) and also has served on the Region I (West Coast) Ethics Panel of the Appraisal Institute. He was the newsletter editor in 2003, Secretary-Treasurer in 2004, and Vice President and the chapter's Region I representative in 2005. Together with Dr. Ko Wang, Newman Chair in Real Estate Finance and Chairman of the Department of Real Estate, Zicklin School of Business, Baruch College/CUNY, Dr. Van Steenkiste has written computer programs for sequential pure-pairing analysis of real estate sales comparables and discounted cash flow analyses for use in appraisals. Dr. Van Steenkiste is a certified instructor for the Appraisal Institute.

Appraisal Institute Course Work

Real Estate Appraisal Principles
Basic Valuation Procedures

Standards of Professional Practice, Parts A, B and C
National USPAP Update Course 2007, 2009 and 2011
Capitalization Theory and Techniques, Parts A and B
Case Studies in Real Estate Valuation
Valuation and Report Writing
Understanding Limited Appraisals & Appraisal Reporting Options: General
General Appraiser Market Analysis and Highest and Best Use
General Appraiser Curriculum Overview

Other Pertinent Course Work, Seminars and Workshops

Location Theory
Economic, Urban, and Political Geography
Fundamentals of Location Theory and Market Analysis
Fundamentals of Real Estate Investment and Taxation
Advanced Real Estate Taxation and Marketing Tools for Investment Real Estate
Fundamentals of Commercial Construction
Commercial Office and Retail Leasing
PRO-JECT Discounted Cash Flow Program - Basic Course
California Assessment Bond Seminar - Appraisal Institute
California Wetlands Workshop - Appraisal Institute
Environmental Issues for Appraisers in the Sacramento Area - Appraisal Institute
Seminar on Analyzing Operating Expenses - Appraisal Institute
Seminar on the Internet and Appraising - Appraisal Institute
Workshop, Federal & State Laws & Regulations Concerning Appraisals - Appraisal Institute (instructor)
Workshop on Market Conditions in the Highway 65 Corridor, Placer County - Appraisal Institute
Seminar on Internet Search Strategies for the Appraiser - Appraisal Institute
Seminar on Valuation of Detrimental Conditions in Real Estate - Appraisal Institute
Seminar on Litigation Skills for the Appraiser: An Overview - Appraisal Institute
Appraisal Institute Instructor Leadership and Development Training Conference to qualify as an Instructor
for Report Writing and Valuation Analysis for the Appraisal Institute
Discounted Cash Flow Analysis Seminar – Appraisal Institute
Seminar on Geographic Information Systems (GIS) and Computer Mapping – Appraisal Institute
Seminar on Feasibility, Market Value, Investment Timing: Option Value – Appraisal Institute
Seminar on Appraisal Consulting – Appraisal Institute
Case Studies in Limited Partnership & Common Tenancy – Appraisal Institute
Appraisal Litigation Practice and Courtroom Management – Appraisal Institute
Supporting Capitalization Rates – Appraisal Institute
Rates and Ratios: Making Sense of GIMs, OARs and DCFs – Appraisal Institute
Going-Concern Valuation for Real Estate Appraisers – Appraisal Institute
Workshop on Reappraising, Readdressing and Reassigning: What To Do – Appraisal Institute
The Road Less Traveled – Special Purpose Property Appraisals – Appraisal Institute
Subdivision Valuation – Appraisal Institute
Workshop on Scope of Work – Appraisal Institute
Appraisal of Condominiums, Co-ops and PUDs – Appraisal Institute

Estimating Loss in Value – Appraisal Institute
The Essentials, Current Issues and Misconceptions in Appraising – Appraisal Institute
Attacking and Defending an Appraisal in Litigation – Appraisal Institute
Statistics Review With Appraisal Applications – Real Estate Econometrics
Summer Conference - 2008: “Green” Technology and Construction and Appraiser-Client Issues
Construction Defects, Cost Trends and Feasibility Analysis – Appraisal Institute
2009 Economic Forecast - Sacramento Region – Appraisal Institute
Business Practices and Ethics – Appraisal Institute
Summer Conference - 2009: Property Tax Appraisals; Assessment Bonds Valuation; USPAP Refresher;
Outlook Mid-Year 2009 – Appraisal Institute
2010 Market Outlook – Appraisal Institute
Instructor Leadership and Development Conference – Appraisal Institute

Pertinent Designations and Licenses

Member, the Appraisal Institute (MAI)
(# 9051)

California state certified general real estate appraiser
(# AG 017093, expires 11/1/13)

Nevada state certified general real estate appraiser
(# A 0001398-CG, expires 1/31/12)

APPENDIX

Location Map

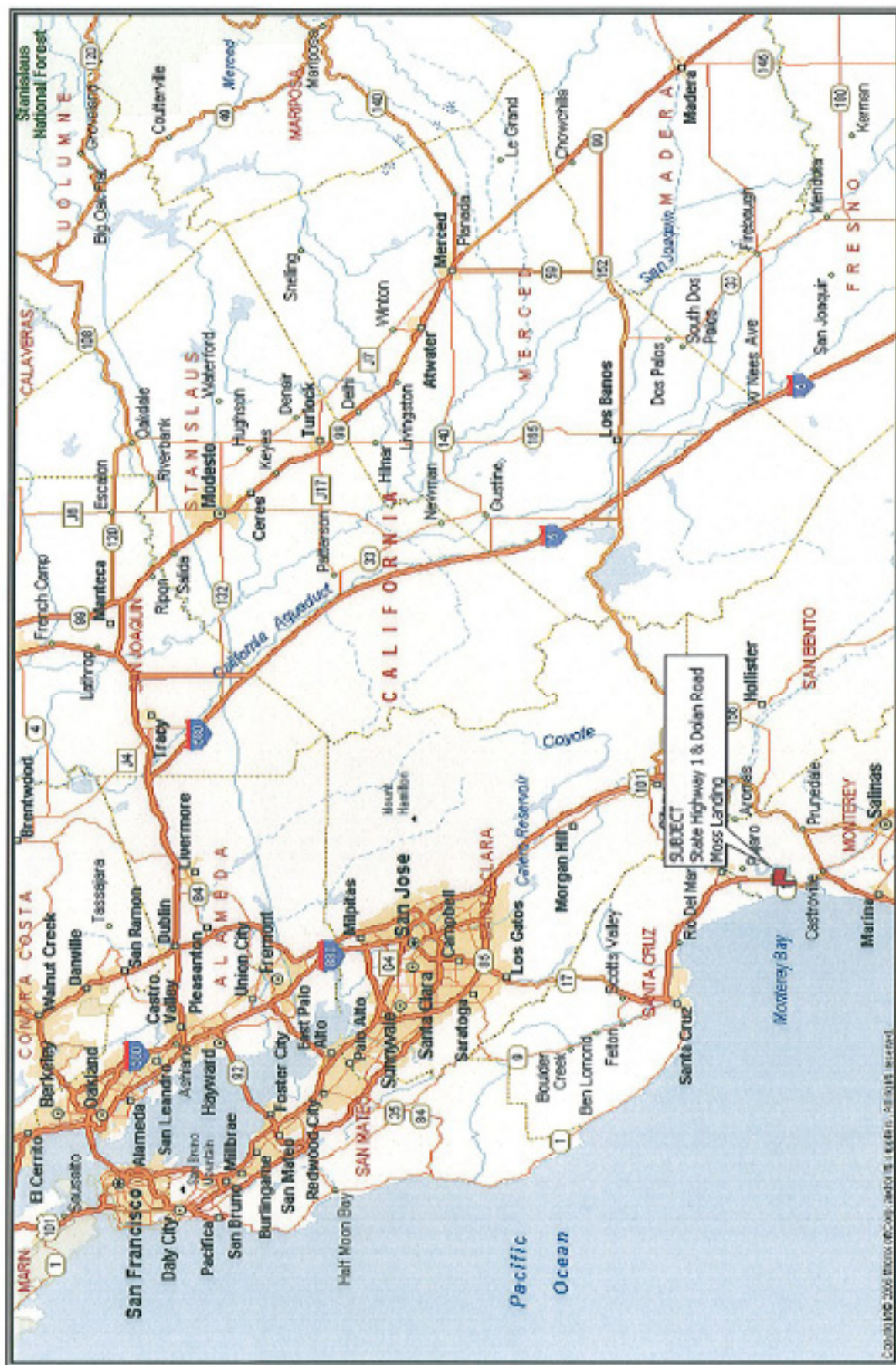
Neighborhood Map

Photographs of Subject Property

Plat Map of Subject Property

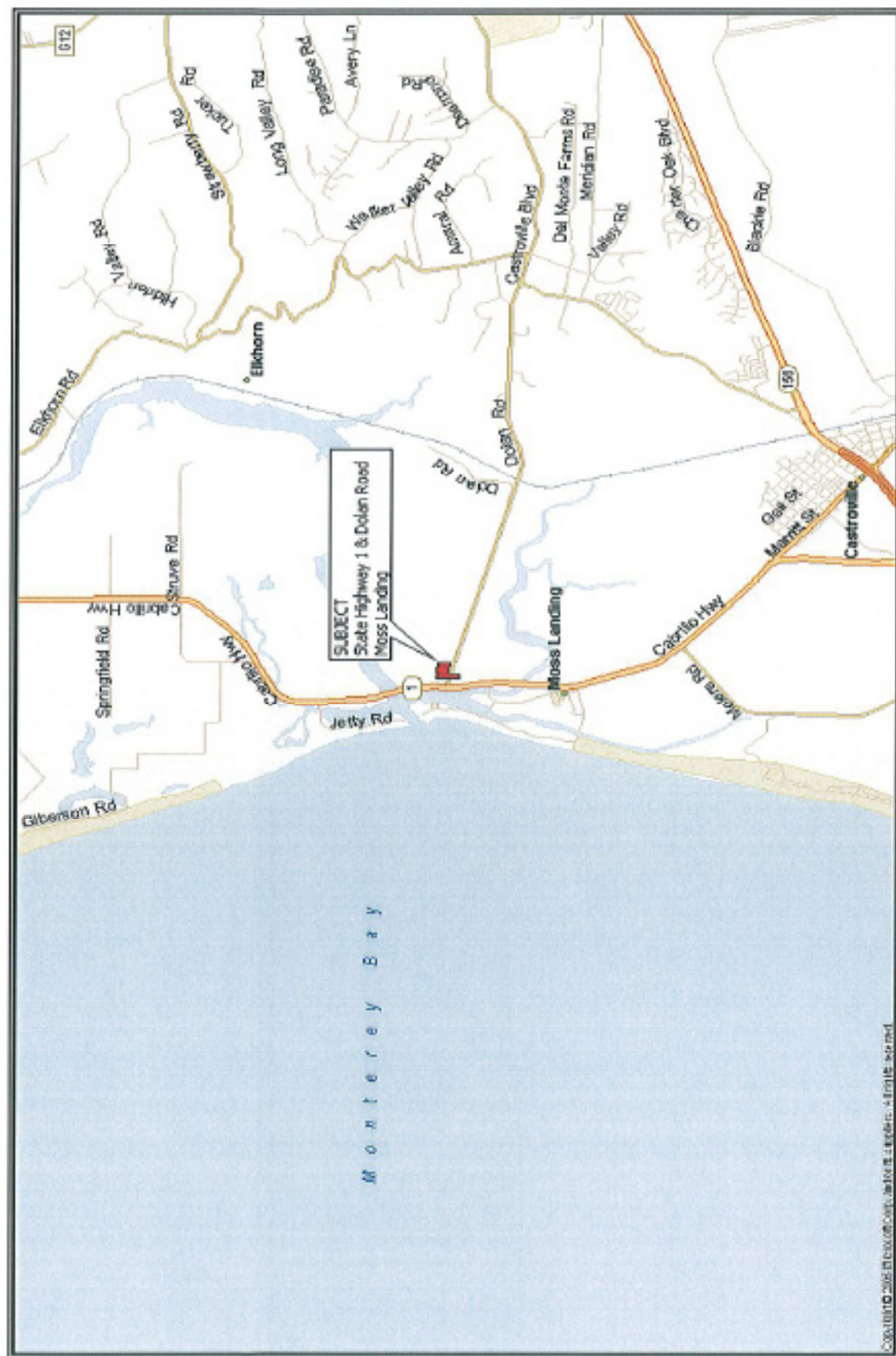
Site Plan of Subject Property

LOCATION MAP



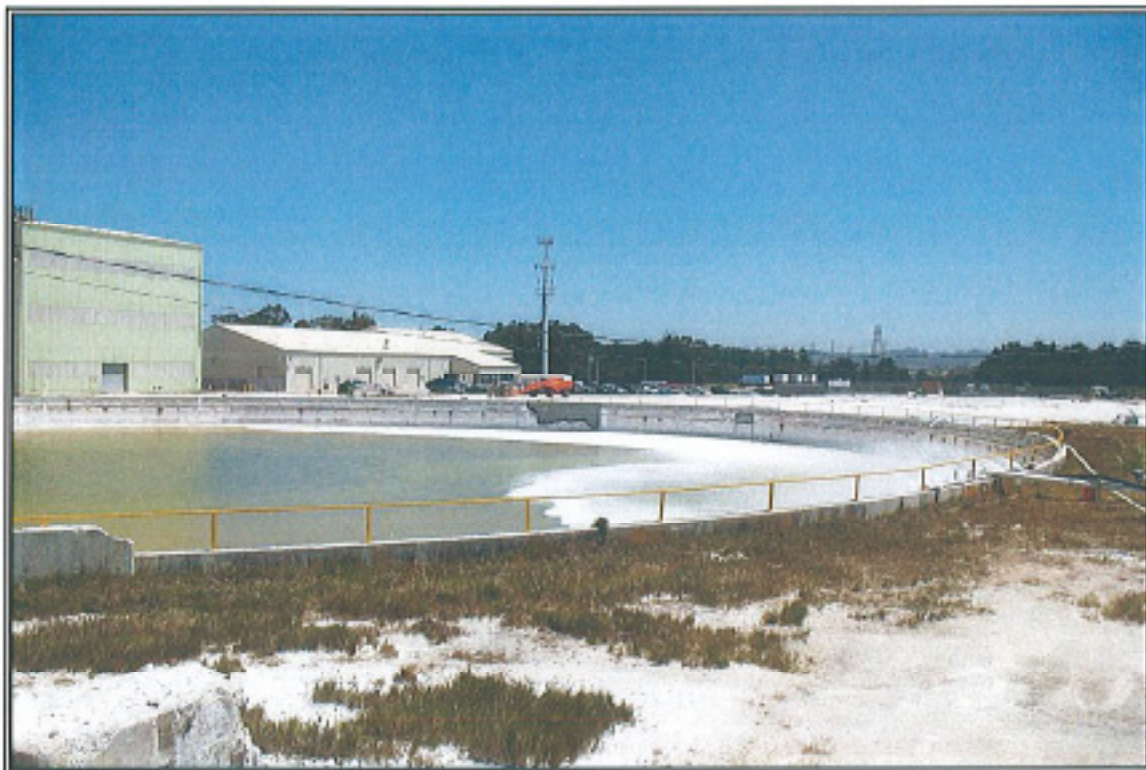
NEIGHBORHOOD MAP

NEIGHBORHOOD MAP



PHOTOGRAPHS OF SUBJECT PROPERTY

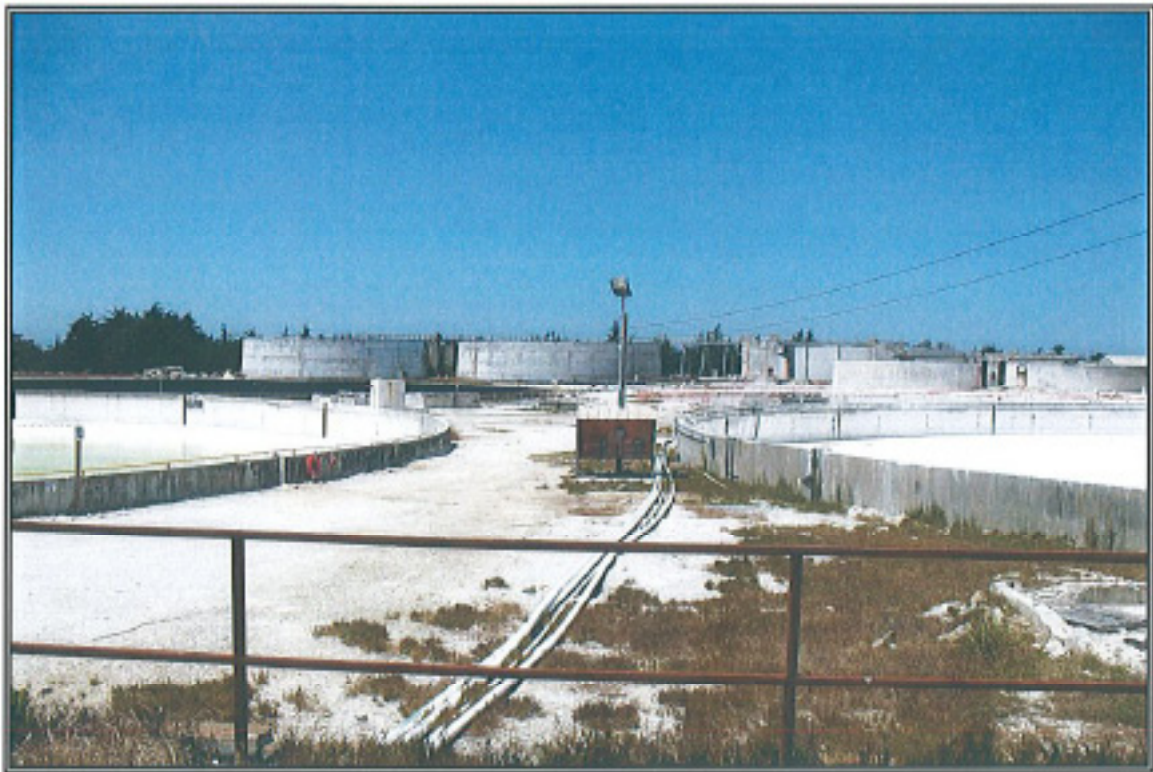




View across one of the 5-million-gallon tanks on proposed desalinization plant site in Moss Landing Commercial Park. The three-story green building is one of the two buildings proposed for the plant.



View across another of the seven 5-million-gallon in-ground tanks.



View between two of the 5-million-gallon tanks toward the three 3-million gallon tanks (background) and the three 1-million-gallon tanks (middle ground, right).



View of typical extensive piping, valves and pumps connecting the various tanks.
Note large pipe from under ground going into side of 5-million-gallon tank



View of intake and outfall pipes running along edge of property next to Highway 1.



View of intake pipe going down to pass under Highway 1



View of intake and outfall pipes emerging from tunnel under Highway 1
on Moss Landing Marina side of highway



View of pumping station for intake and outfall pipes in Moss Landing Marina harbor
on west side of Highway 1.



Views of rail spur branching off rail line along north side of Dolan Road
and entering subject property





View of rail spur through subject property in portion of site intended for the desalinization plant.



View of typical renovated buildings in Moss Landing Commercial Park.



Historic aerial view of subject site. Red line is course of pipeline that goes to a depth of 300 feet into Monterey Bay

PLAT MAP OF SUBJECT PROPERTY

PLAT MAP

COUNTY OF MONTEREY
ASSESSOR'S MAP
BOOK 133 PAGE 17

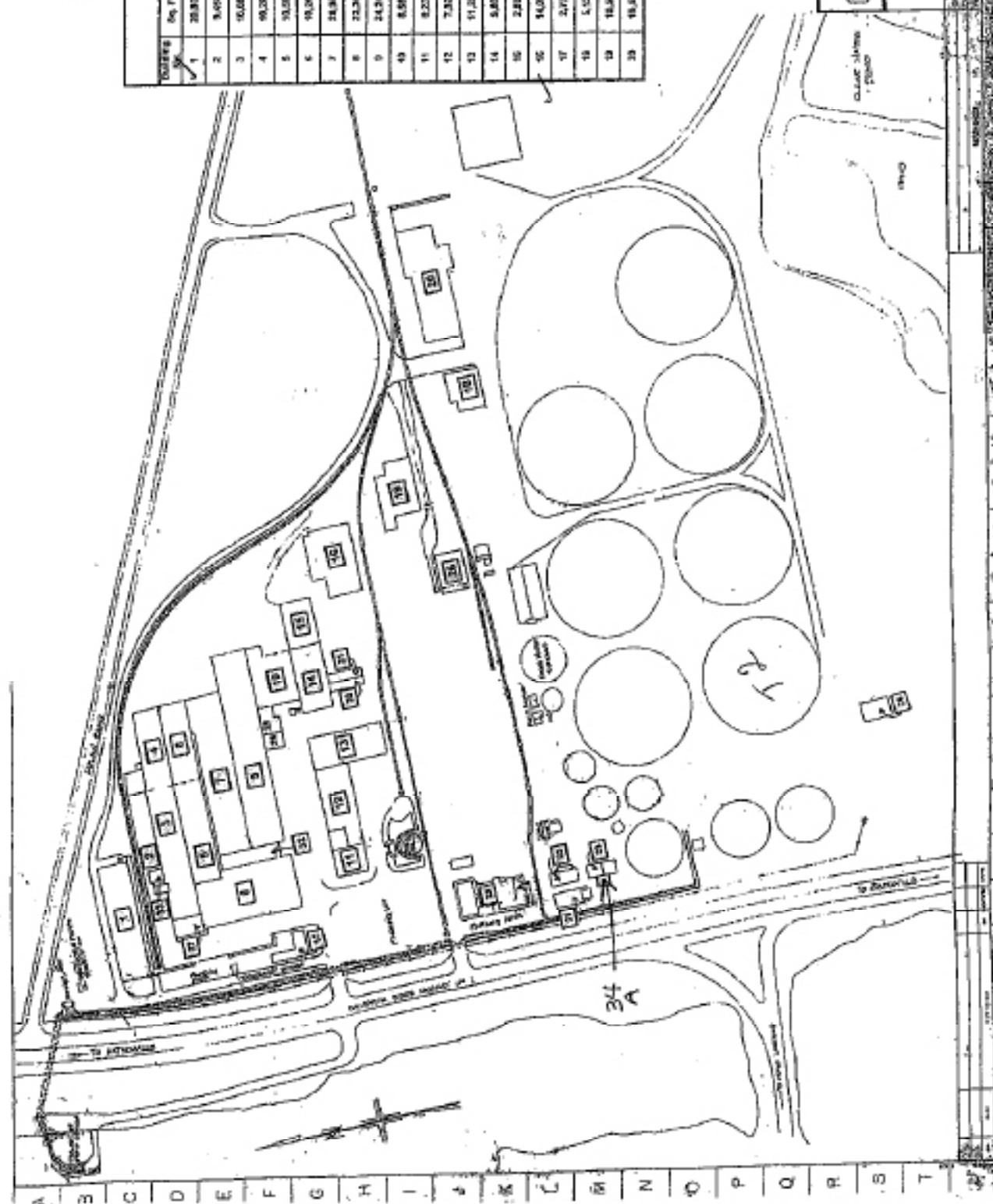
TAX CODE AREA



ASSESSOR'S MAP No. 1 & 5
BOLSA NUEVA Y MORO COJO RD.
LOTS 119, 120, 121, 122, 123, 124, 125 & PARCEL 144
MAP 2 PARCEL 205

(See Pg. 17)

Moss Landing 2/08



BUILDINGS					
Building	Sq. Ft.	Dimensions	Building	Sq. Ft.	Dimensions
1	20,500	80 x 250	21	1,200	80 x 30
2	9,000	42 x 215	22	1,200	80 x 30
3	10,000	50 x 200	23	2,400	80 x 30
4	10,200	80 x 175	24	2,400	80 x 40
5	10,200	80 x 175	25	2,400	80 x 40
6	10,200	80 x 175	26	2,400	80 x 40
7	10,200	80 x 175	27	2,400	80 x 40
8	22,300	100 x 200 + 116 x 300	28	1,200	80 x 30
9	24,300	80 x 420	29	1,200	80 x 30
10	8,500	40 x 215	30	1,200	80 x 30
11	8,200	40 x 215	31	1,200	80 x 30
12	7,300	40 x 215	32	1,200	80 x 30
13	11,200	100 x 110	33	1,200	80 x 30
14	5,800	70 x 80	34	225	15 x 15
15	2,800	40 x 70			
16	14,000	175 x 100 + 125 x 100			
17	2,714	47			
18	5,000	60 x 100			
19	10,000	100 x 100 + 100 x 100			
20	10,000	100 x 100			


MOSS LANDING
 COMMERCIAL PARK
 1111 LUNA BLVD
 MOSS LANDING, CALIFORNIA 95039
 PHONE: (925) 422-1234

Moss Landing Commercial Park LLC

MOSS LANDING COMMERCIAL PARK LLC

Balance Sheet
(Unaudited)

	12/31/2010	12/31/2011
Cash	\$ 38,456.00	\$ 235,373.00
Accounts Receivable	\$ 136,262.00	\$ 174,016.00
less: Allowance for Bad Debt	\$ -	\$ -
Other Current Assets	\$ 15,072,094.00	\$ 17,409,092.00
Buildings and Real Estate, (Note 1)	\$ 275,975,000.00	\$ 275,975,000.00
less: Accumulated Depreciation	\$ (1,401,479.00)	\$ (1,549,586.00)
Land (Note 1)	\$ 10,219,919.00	\$ 8,060,417.00
Intangible Assets	\$ 433,302.00	\$ 449,445.00
less: Accumulated Depreciation	\$ (83,053.00)	\$ (253,262.00)
Other Assets	\$ 13,102.00	\$ 2,756.00
TOTAL ASSETS	\$ 300,405,603.00	\$ 300,503,251.00
Accounts Payable	\$ 1,181.00	\$ 2,269.00
Mortgages Payable in less than 1 year	\$ 13,302,073.00	\$ 150,000.00
Other Current Liabilities	\$ 250,403.00	\$ 50,099.00
Mortgages Payable over 1 year	\$ 18,336,459.00	\$ 32,340,176.00
TOTAL LIABILITIES	\$ 31,890,116.00	\$ 32,542,544.00
EQUITY	\$ 268,515,487.00	\$ 267,960,707.00
TOTAL LIABILITIES & EQUITY	\$ 300,405,603.00	\$ 300,503,251.00

Note 1: Mark to Market Appraisal Value

Moss Landing Commercial Park LLC

MOSS LANDING COMMERCIAL PARK LLC

Income Statement

(Unaudited)

	2010	2011
Gross Income:	<u>\$ 2,603,694.00</u>	<u>\$ 2,754,557.00</u>
Expenses:		
Auto	\$ 3,850.00	\$ 9,039.00
Insurance	\$ 92,050.00	\$ 74,219.00
Legal and Professional	\$ 237,495.00	\$ 433,715.00
Interest Expense	\$ 809,970.00	\$ 808,866.00
Repairs & Maintenance	\$ 53,689.00	\$ 24,196.00
Taxes	\$ 130,840.00	\$ 71,923.00
Utilities	\$ 36,703.00	\$ 100,919.00
Wages & Salaries	\$ 119,089.00	\$ 145,550.00
Depreciation Expense	\$ 49,071.00	\$ 61,528.00
Other Expense	\$ 155,317.00	\$ 131,768.00
Total Expenses:	<u>\$ 1,688,074.00</u>	<u>\$ 1,861,723.00</u>
Net Income before Taxes	<u>\$ 915,620.00</u>	<u>\$ 892,834.00</u>

EASEMENTS & PERMITS

DEED	1930
EASEMENT	1942
AGREEMENT	1942
AGREEMENT	1942
EASEMENT	1942
AGREEMENT	1981
EASEMENT	1981
AGREEMENT	1982
PERMIT	1985
MOSS LANDING HARBOR	1972, 1996, 2017
LETTER OF INTENT	1995
LEASE AGREEMENT	2001
NPDES PERMIT	2001
DISCHARGE/INTAKE PERMIT	2009
PG&E LETTER	1980
EASEMENT	1995
PG&E	2000

LEASE AND FRANCHISE

THIS INDENTURE made and entered into this 7th day of June, 1948, by and between MOSS LANDING HARBOR DISTRICT, a political subdivision of the State of California, hereinafter called "District," and THE PERMANENTE METALS CORPORATION, a corporation, hereinafter called "Permanente,"

W I T N E S S E T H :

WHEREAS, the District is a political subdivision of the State of California having the right to grant franchises and to make leases with regard to lands, salt marsh, tidelands, submerged lands, swamps and overflowed lands within the boundaries of the District; and

WHEREAS, Permanente desires to acquire the right to run pipe lines across said lands and to construct a pumping pier on said lands, said pipe lines and pumping pier to be used in connection with the promotion and operation of its seawater magnesia plant at Moss Landing, California; and

WHEREAS, Permanente has made application to the District for the use of said lands for said purposes and the District has found and determined that said rights may be given to Permanente on said lands without violence to the objects, uses and purposes of said District, but rather compatible therewith;

NOW, THEREFORE, in consideration of the payments hereinafter specified to be made by Permanente and the covenants and agreements herein provided to be performed, the District does hereby grant unto Permanente, its successors and assigns, the following rights, licenses, leases, franchises, wharfage agreement and preferential assignment:

(a) A pipe line license, lease and franchise for the installation, maintenance, operation, use, repair and replacement of such sea water lines, together with utility pipe lines, electric and telephone lines and equipment, supporting structures and appurtenances in connection with the operation of said lines, as Permanente may from time to time deem advisable over and across the lands and tidal and submerged lands of the District, at substantially the location shown in Exhibit "A" attached hereto and by reference incorporated herein and made a part hereof.

(b) An exclusive wharfage agreement, preferential assignment, license, lease and franchise for the construction, maintenance, operation, use, repair and replacement of a pumping pier extending into Moss Landing Harbor at substantially the location shown in Exhibit "B" attached hereto and by reference incorporated herein and made a part hereof, said pier to be constructed in substantially the manner shown in said Exhibit "B" and to excavate a channel approach to and along the sides thereof, and a pipe line license, lease and franchise for the construction, maintenance, operation, use, repair and replacement of sea water lines, together with telephone and electric lines, utility pipe lines, pumping facilities and equipment and appurtenances in connection with the operation of said lines, upon said pier.

(c) The right of access to the property of the District, without toll or other charge by the District, for all purposes incidental to the construction, maintenance, operation, use, repair or replacement of said pipe lines, pumping facilities, electric and telephone lines, pier and appurtenances therefor.

1. Permanente shall pay to the District, as consideration for said lease, franchise and rights, the sum of One Thousand Dollars per year, payable as follows: \$5000.00 to be paid on or before the 1st day of June, 1948 as rental for the first five years, and the sum of \$1000.00 to be paid on or before the 1st day of June, 1953, and on or before the 1st day of June of each year thereafter.

The payments herein provided to be made by Permanente shall be made by check payable to Moss Landing Harbor District and shall be mailed or otherwise delivered to its secretary, or to such other person or place as said District may thereafter designate in writing.

2. Any notice required or permitted to be given shall be considered as given within 24 hours after the same shall have been deposited in the U. S. Mail as registered mail with postage thereon fully prepaid, addressed as follows: If to the District: Moss Landing, California; if to Permanente: The Permanente Metals Corporation, 1924 Broadway, Oakland 12, California, or to such other place as the above named person may hereafter designate in writing.

3. The rights herein granted shall extend for a term of fifty (50) years from June 1, 1948, provided that Permanente may terminate this agreement at any time upon six months' written notice in the event that it intends to terminate the use of all of the facilities herein described. In the event an annual rental payment shall become due within said six months period, the amount of rental payable on said annual rental date shall be such percentage of the annual rental as the number of months between said annual rental date and the date of termination bears to one year.

Upon giving such notice Permanente at any time thereafter and within six months after termination shall have the right to remove all or any portion of the property placed on the property demised herein pursuant to the rights herein granted. In the event Permanente removes said property it shall be removed in a workmanlike manner and the premises shall be left in good condition. Upon said termination the obligation to pay rental as herein set forth and to maintain or repair any portion of the demised premises shall cease.

4. It is understood and agreed that Permanente shall have the right under this agreement to maintain at all times not in excess of two sea water lines. In the event that Permanente shall at any time in its discretion determine that the locations as herein provided for the maintenance of sea water lines or pumping pier are not suitable, Permanente shall have the right to remove and relocate the same, together with the facilities and appurtenances therefor, upon other lands and tidal and submerged lands of the District. It is understood, however, that the right to relocate as provided in this section shall not interfere with improvements heretofore or hereafter constructed upon the property of the District. The relocation of said pier or pipe lines shall be subject to the approval of the District, but said approval shall not be arbitrarily withheld.

5. In the event that Permanente shall install more than two 36 inch pipe lines, Permanente shall pay an additional rental charge in proportion to the increased capacities so provided.

6. Permanente agrees, in the event the Harbor area adjacent to the location of the pier, as described in Exhibit "B" or as hereafter located, is developed by the District and additional dredging in this area is done, to alter said pier in order to accommodate said improvements provided, however,

that in no event shall Permanente be required to make any change in its installation of said pier unless said change will provide Permanente with full and complete means of obtaining sea water of the specific type necessary for the operation of its plant at Moss Landing, California.

7. Permanente shall have the right of exclusive use of the pumping pier herein referred to and shall have the right to maintain an adequate fence around said pier so as to exclude the public therefrom. Permanente's occupancy of property of the District other than that occupied by the pier shall not be exclusive, provided however, that the District shall not in any way interfere with Permanente's facilities installed thereon or the use or operation thereof, or place thereon any structure which will prevent free access to said facilities. Said pier is not intended to be used for mooring purposes, but if so used District reserves the right to exact toll charges from all vessels moored at said pier.

8. All of the facilities and equipment installed, maintained or operated by Permanente pursuant to this agreement shall be installed and maintained by Permanente at its own risk and expense, and Permanente agrees that it will indemnify and save harmless the District of and from all damages, loss, cost or expense caused or occasioned or resulting from the installation, erection, construction or maintenance of any of said facilities and equipment.

9. Except as provided herein with reference to mooring, the facilities and equipment installed by Permanente pursuant to the rights herein granted shall be used solely by Permanente, its successors and assigns.

10. All equipment or facilities installed by Permanente pursuant to this agreement shall remain and be the personal property of Permanente and shall not be or become

a part of the demised property notwithstanding the fact that they may be affixed to the premises.

11. Upon failure to pay the minimum charges herein provided for for a period of six months the District may, at its election, terminate the franchise of the company, and said pier and channel.

12. In the event Permanente defaults under the terms of this agreement and fails to cure such default within thirty (30) days after receipt of written notice of such default from the District, then District may without further notice elect to terminate this agreement. Time is of the essence hereof, and the waiver by District of any breach by Permanente shall not be a waiver of this provision.

13. This agreement shall be binding upon and shall enure to the benefit of the successors and assigns of the parties hereto.

14. The provisions of this agreement may be altered, amended or modified by written instrument with the mutual consent of both parties.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed the day and year first above written.

MOOSE LANDING HARBOR DISTRICT

By Lloyd D. Phillips
President

ATTEST: Joseph A. Kisley
Secretary

APPROVED:

Robert Polheim
Director

Harzfeld & Wallace
Attorneys for District

MIRKBRIDE, WILSON, SUTTON
HARZFELD & WALLACE

THE PERMANENTE METALS CORPORATION

By D. G. Rhoades
Vice-President

Joseph A. Kisley
Secretary

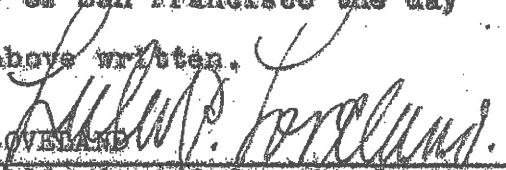
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3 STATE OF CALIFORNIA

4 CITY AND COUNTY OF SAN FRANCISCO

} ss. 1

5 On this 27th day of May, 1948, before me LULU P. LOVELAND
6 a Notary Public in and for the County of San Francisco, State
7 of California, residing therein, duly commissioned and sworn,
8 personally appeared D. A. RHOADES and DONALD BROWNE, known to me
9 to be the Vice-President and Ass't. Secretary, respectively,
10 of the corporation described in and that executed the within
11 instrument, and also known to me to the persons who executed
12 the within instrument on behalf of the corporation therein named,
13 and acknowledged to me that such corporation executed the same.

14 IN WITNESS WHEREOF, I have hereunto set my hand
15 and official seal in the said County of San Francisco the day
16 and year in this certificate first above written.

17 
18 LULU P. LOVELAND
19 Notary Public in and for the County
20 of San Francisco, State of California

21 My commission expires: August 27, 1951
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1 STATE OF CALIFORNIA
2 COUNTY OF *Monterey* } ss.:
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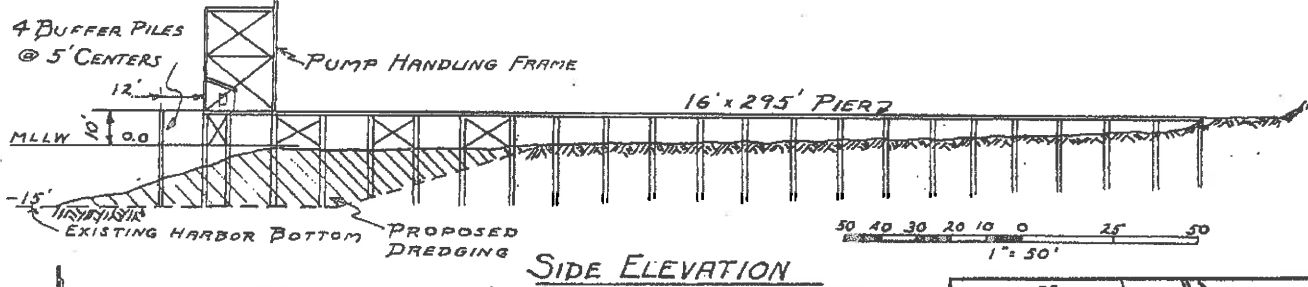
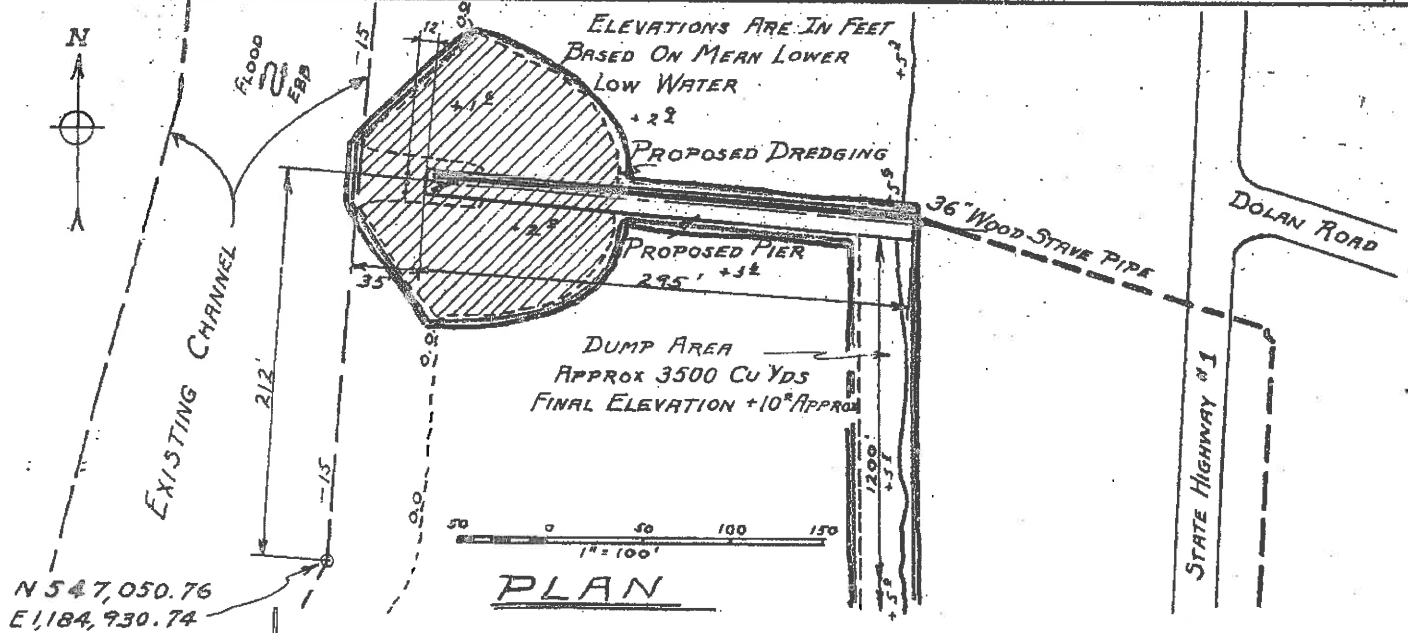
5 On this *7th* day of May, 1948, before me *C.R. Phillips*
6 a Notary Public in and for the County of *Monterey*, State of
7 California, residing therein, duly commissioned and sworn,
8 personally appeared *Wood P. Phillips* and *Joseph H. Kirby*,
9 known to me to be the President and Secretary, respectively,
10 of Moss Landing Harbor District, a political subdivision of the
11 State of California, described in and that executed the within
12 instrument, and also known to me to be the persons who executed
13 the within instrument on behalf of Moss Landing Harbor District
14 therein named, and acknowledged to me that it executed the same.

15 IN WITNESS WHEREOF, I have hereunto set my hand and
16 official seal in the said County of *Monterey* the day and year
17 in this certificate first above written.

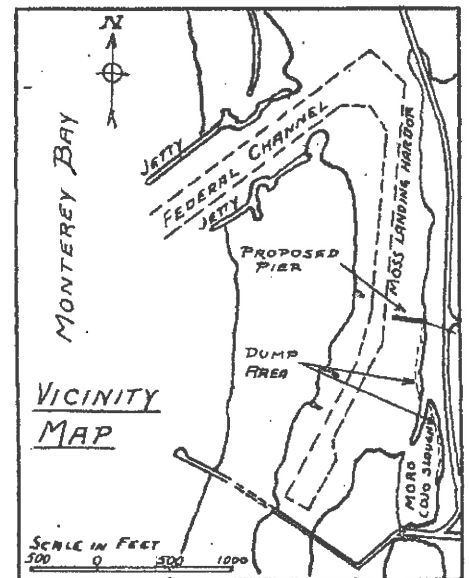
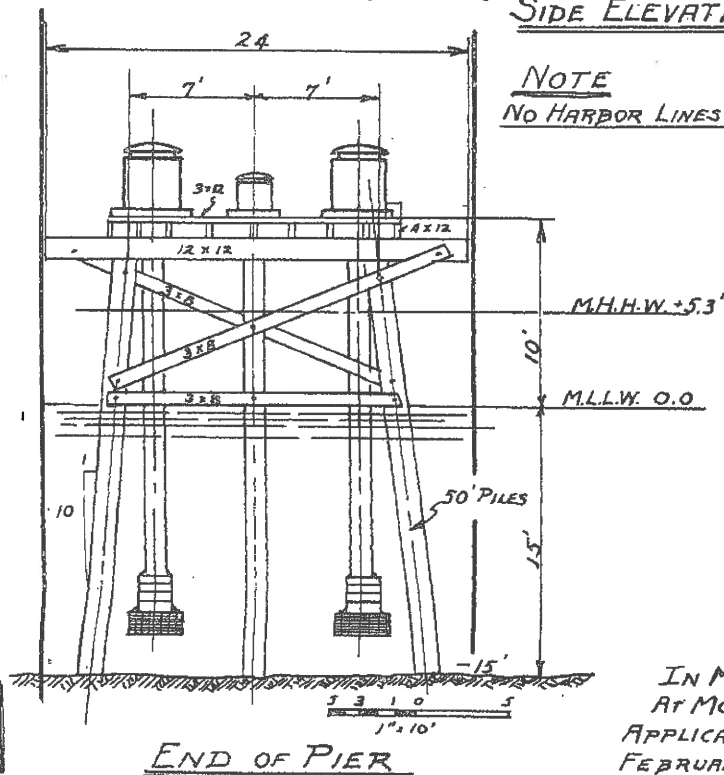
18 *C.R. Phillips*
19 Notary Public
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EXHIBIT "A"



NOTE
NO HARBOR LINES ESTABLISHED



PROPOSED PUMP PIER

IN MOSS LANDING HARBOR
AT MOSS LANDING, CALIFORNIA
APPLICATION BY THE PERMANENTE METALS CORPORATION
FEBRUARY 28, 1948

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EXHIBIT "B"

On this first day of July, in the year One Thousand Nine Hundred and twenty two before me, John C. Lazier, a Notary Public, in and for the County of Monterey, personally appeared Tersilla Ricca, a widow, known to me to be the person whose name is subscribed to the within instrument, and she duly acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal at my office, in the County of Monterey, the day and year in this certificate first above written.

JOHN C. LAZIER

Notary Public in and for the County of
(NOTARIAL SEAL) Monterey, State of California

RECORDED at the request of Emma Rice, February 14, 1930 at 47 min. past 11 A.M...M.B.63164.

THIS DEED, dated the fifteenth day of January, 1930.

WITNESSETH:

That William Sandholdt and Minnie Sandholdt, his wife, of the County of Monterey, State of California, Grantors, for and in consideration of the sum of Ten Dollars (\$10.00) to them in hand paid by the Standard Oil Company of California, a Delaware corporation, Grantee, receipt whereof Grantors hereby acknowledge, do hereby grant, bargain, sell, convey and confirm unto the said Grantee, and to its successors and assigns forever, all that certain parcel of land lying and being in the County of Monterey, State of California, more particularly described as follows:

A part of the Rancho Bolsa Nueva y Moro Cojo, being a part of that certain tract of land conveyed by Juan B. Castro to Charles Moss by deed dated October 31st, 1870, recorded in Volume 0 of Deeds, at Page 465, records of Monterey County, particularly described as follows, to-wit:

"BEGINNING at a 4" x 4" post marked "M" standing in the westerly line of the County Road leading from Salinas to Watsonville, and at the northeast corner of the first tract of land described in that certain deed, Maggie J. Thompson to Thomas Lehman, dated February 26, 1915, recorded in Volume 138 of Deeds at Page 136, records of Monterey County, California.

Thence along the westerly side of said County Road North 8° 04' East 292.0 feet to a 4" x 4" post marked "NECA" which is at the intersection of said westerly line of the County Road leading from Salinas to Watsonville and the southwesterly line of the County Road leading from Moss Landing to the Moss

Landing wharf;

Thence North 57° 32' West along the southwesterly line of said County Road leading from Moss Landing to the Moss Landing Wharf 100.4 feet to a 4" x 4" post marked "NWCB" which post is 25 feet southeasterly from the center line of the tracks of the Pajaro Valley Consolidated Railroad Company, as now existing, measured at right angles to said center line;

Thence South 30° 10' West along a line parallel to said center line of the tracks of the Pajaro Valley Consolidated Railroad Company, as now existing, and 25 feet southeasterly therefrom 360.0 feet to a 4" x 4" post marked "SWC";

Thence South 81° 56' East 226.9 feet to the point of beginning enclosing an area of 1.173 acres.

Together with the right-of-way to lay, construct, operate, repair, change the size of, remove, relocate and/or replace pipelines for the transportation of petroleum products in, under, along and across the following described parcel of land:

A part of the Rancho Bolsa Nueva y Moro Cojo; of Tract No. 3 of Monterey City Lands, as described in the patent therefor dated November 19, 1891, and recorded in Volume F, page 178 of Patents, records of Monterey County, California, and of the Tide Lands fronting thereon, being a strip of land 10 feet wide lying 5 feet on each side of the following described center line, to-wit:

"BEGINNING at a point from which a 4" x 4" post marked "NWC" (set in the northwesterly boundary line of the above described 1.173 acre parcel of land, distant thereon S. 30° 10' W. 144.0 feet from the north corner of said parcel), bears N. 30° 10' E., 5.67 feet distant, and said 4" x 4" post marked "M" bears the following three courses and distances, N. 30° 10' E., 5.67 feet, S. 81° 56' E., 145.6 feet and S. 8° 04' W., 200.0 feet distant; thence from said point of beginning

- (1) N. 31° 03 1/2' W., at 28.7 feet cross center line of the Pajaro Valley Consolidated Railroad, 48.6 feet to a 1" x 2" stake marked CRW standing 12.5 feet distant measured at a right angle easterly from the south leg of the wye track of the Pajaro Valley Consolidated Railroad; thence along easterly side of said railroad
- (2) N. 2° 54 1/2' E., 50.0 feet to a 1" x 2" stake marked RW2.
- (3) N. 4° 51' W., 50.0 feet to a 1" x 2" stake marked RW3.
- (4) N. 12° 41 1/2' W., 50.0 feet to a 1" x 2" stake marked RW4.
- (5) N. 20° 36 1/2' W., 50.0 feet to a 1" x 2" stake marked RW5.
- (6) N. 28° 28 1/2' W., 50.0 feet to a 1" x 2" stake marked RW6.
- (7) N. 39° 33 1/2' W., 47.7 feet to a 4" x 4" post marked MB, WP25, standing in northeasterly line of the County Road leading from Moss Landing Wharf; thence

(8) N. 42° 40 1/2' W., 60.0 feet to a 1" x 2" stake marked RWS; thence to and along the northeasterly edge of a railroad trestle and continuing along the slope of a railroad fill

(9) N. 57° 34 1/2' W., 705.8 feet, more or less, to a point on the easterly end of Moss Landing wharf, extending into Monterey Bay, from which point the northwest corner of an existing warehouse building bears South 32° 25 1/2' West, 28.9 feet; thence

(10) N. 60° 31 1/2' W., 115.0 feet to a point on the edge of the Moss Landing Wharf; thence

(11) N. 66° 16 1/2' W., to mean lower low water.

Courses all true, variation of magnetic needle being 17° 30' East.

Together with the right to construct on or under the present wharf of the Grantors a continuation of said pipelines or any part thereof to the outer edge of said wharf, and the right to dock vessels thereat and to receive and discharge bulk cargoes of petroleum products, except crude oil, through said pipelines and to construct such mooring piles on the shore and mooring bupys as may be necessary to properly and safely moor said vessels, subject to the terms of that certain license executed contemporaneously herewith by the parties hereto.

And it is hereby understood and agreed that, in the event the present wharf of the Grantors at Moss Landing, County of Monterey, State of California, should be disassembled or abandoned and a new wharf or wharves should be established at a location within five hundred (500) feet in either direction from the location of the present wharf, then the Grantee, its successors or assigns, shall have the right, and such right is hereby expressly granted to the Grantee, its successors and assigns, to lay, construct, operate, repair, change the size of, remove, relocate and/or replace pipelines for the transportation of petroleum products in, under, along and across other lands in said County of Monterey, State of California, now belonging to the Grantors, as will enable the Grantee, its successors or assigns, to run said pipelines from the property first hereinabove described, to such new wharf or wharves at mean lower low water; with the right, subject to the terms of said license, to construct on or under said new wharf a continuation of said pipelines, or any part thereof, to the outer edge of said wharf, and to dock vessels thereat and to receive and discharge bulk cargoes of petroleum products, except crude oil, through said pipelines, and to construct such mooring piles on the shore and mooring buoys as may be necessary to properly and safely moor said vessels; provided, the Grantee, its successors or assigns, shall quitclaim to the Grantors, their heirs executors, administrators or assigns, all its right, title and interest in and to so much of the ten (10) foot right-of-way second hereinabove described, and any other rights-of-way, as shall be abandoned by the Grantee, its successors or assigns.

And it is hereby further understood and agreed that, in the event the said present wharf of the Grantors at said Moss Landing, or any other wharf to which Grantee, its successors or assigns, may have moved its pipelines, should be disassembled or abandoned and no new wharf should be built in place thereof, or if a new wharf should be built in place thereof at a location not convenient to the Grantee, its successors or assigns, or if the Grantee, its successors or assigns, shall be liable for charges in excess of the rentals specified in paragraph four of said license, then the Grantee, its successors and assigns, shall have the right, and such right is hereby expressly granted to the Grantee, its successors and assigns, to lay, construct, operate, repair, change the size of, remove, relocate and/or replace pipelines for the transportation of petroleum products in, under along and across other lands in said County of Monterey, State of California, now belonging to the Grantors, as will enable the Grantee, its successors or assigns, to run said pipelines from the property first hereinabove described to a place at mean lower low water satisfactory to the Grantee, its successors or assigns, with the right subject to the terms of said license, to construct such mooring piles on the shore and mooring buoys as may be necessary to properly and safely moor vessels, and the right to moor vessels thereat to receive and discharge bulk cargoes of petroleum products through said pipelines; provided, the Grantee, its successors or assigns, shall quitclaim to the Grantors, their heirs, executors, administrators or assigns, all its right, title and interest in and to so much of the ten (10) foot right-of-way second hereinabove described, and any other rights-of-way, as shall be abandoned by the Grantee, its successors or assigns.

And it is hereby further understood and agreed that in the event trains are operated on the railroad right-of-way which runs in front and parallel to the westerly boundary line of the property first hereinabove described, the Grantee, its successors or assigns, shall have the right, and such right is hereby expressly granted to the Grantee, its successors and assigns, to construct, operate and maintain a spur track leading from said railroad right-of-way across said property now belonging to the Grantors to said property first hereinabove described.

It is further expressly understood and agreed that, subject only to the rights herein granted to the Grantee, its successors and assigns the Grantors, their heirs, executors, administrators, or assigns, shall have the free right of passage over any and all rights-of-way herein mentioned and described.

TO HAVE AND TO HOLD, together with the appurtenances and privileges

herein granted unto the said Grantee and unto its successors and assigns forever.

IN WITNESS WHEREOF, the Grantors have executed this deed as of the day and year first above written.

Witness to signatures of WILLIAM SANDHOLDT
William Sandholdt and MINNIE SANDHOLDT.
Minnie Sandholdt.

A. B. GROSSMAN.

In consideration of the premises and of the sum of One Dollar (\$1.00) lawful money of the United States of America, to the undersigned paid, receipt whereof is hereby acknowledged, the undersigned hereby confirm, ratify, and join in the foregoing deed to the same effect as if they had been named therein and made a party thereto as one of the Grantors.

IN WITNESS WHEREOF, the undersigned have set their hands and seals this 7th day of February, 1930.

CHRISTIAN F. KIMBALL (A single man)
A. B. GROSSMAN
L. GROSSMAN
J. ARON. (A single man).

STATE OF CALIFORNIA
(SS.
COUNTY OF ALAMEDA

On this 10th day of February, in the year One Thousand Nine Hundred and Thirty, before me, John Grossman, a Notary Public in and for the County of Alameda, State of California, residing therein, duly commissioned and sworn, personally appeared A. B. Grossman, known to me to be the same person whose name is subscribed to the within instruments as a witness thereto, who, being by me duly sworn, deposes and says that he resides in Alameda County, that he was present and saw William Sandholdt and Minnie Sandholdt, personally known to him to be the same person described in and who executed the said within instruments, as the parties thereto, sign, seal and deliver the same; and that the said parties duly acknowledged in the presence of said affiant, that they executed the same, and that he the said affiant, A. B. Grossman, thereupon at their request, subscribed his name as a witness thereto.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal, the day and year in this certificate first above written.

(NOTARIAL SEAL)

JOHN GROSSMAN
Notary Public in and for said County
of Alameda, State of California.

IN WITNESS WHEREOF we have hereunto set our hands this 24th day of November, 1942.

WILLIAM A. SPENCE

MARY G. SPENCE

STATE OF CALIFORNIA,)
COUNTY OF MONTEREY.) SS.

On November 24th, 1942, before me, C. G. DAKE, a Notary Public, in and for said County and State, personally appeared WILLIAM A. SPENCE and MARY G. SPENCE, husband and wife, known to me to be the persons whose names are subscribed to the within instrument, and acknowledged to me that they executed the same.

C. G. DAKE

Notary Public in and for said
County and State

(Notarial Seal)

My commission expires Jan. 1st, 1945.

Recorded at request of COAST COUNTIES LAND TITLE CO., Nov. 25, 1942, at 1 min.
past 3 P.M.....#11434.....Fee \$1.20.....Smith.

EASEMENT

THIS INDENTURE, made this 28th day of September 1942, by and between PARR-MOSS LANDING TERMINAL COMPANY, a California corporation (hereinafter called "TERMINAL COMPANY"); MINNIE SANDHOLDT, a widow (hereinafter called "SANDHOLDT"); and THE PERMANENTE METALS CORPORATION, a corporation (hereinafter called "PERMANENTE");

WITNESSETH:

That for and in consideration of the payments hereinafter specified to be paid by Permanente, and the covenants hereinafter stated by Permanente to be performed, Terminal Company, as lessee of the hereinafter described property, and Sandholdt, as owner of said property, do hereby grant to Permanente, its successors and assigns, the following rights and easements:

(a) An easement for the right to install, maintain, operate, use, repair and replace such salt water, water, oil and other pipelines and their appurtenances, and electric lines and telephone lines, together with wires and appurtenances therefor, as Permanente may from time to time deem advisable, upon and over the strip of land ten (10) feet in width, particularly described as Parcel 2, in "Exhibit A" attached hereto, and by reference incorporated herein and made a part hereof.

(b) An easement for the right to install, maintain, operate, use, repair and replace a sump and such pumping facilities and other equipment and facilities,

and housing therefor, incidental to the use and operation of said pipelines, as Permanente may from time to time deem advisable, upon the parcel of real property particularly described as Parcel 1 in said "Exhibit A" attached hereto.

(c) The right to install, maintain, operate, use, repair and replace a salt water pipeline extending from said Parcel 1 above referred to, along and under the wharf of Terminal Company and Sandholdt, in the manner shown on the plans and specifications attached hereto, marked "Exhibit B" and by reference incorporated herein and made a part hereof.

Said easements and rights are granted upon the following terms and conditions:

1. Permanente shall pay, as consideration for said easements and rights, the sum of ONE HUNDRED FIFTY DOLLARS (\$150.00) per month, commencing March 1, 1942, payable monthly.

2. Terminal Company shall have the free use of such waste water from Permanente's plant at Moss Landing as may be available, and is hereby granted a usable and convenient right-of-way from such point as Permanente may discharge said waste water, across the property of Permanente, for the purpose of conveying said water off the property of Permanente. The location of such right-of-way shall be selected by Permanente so as not to interfere with the operations of its plant. The pipeline, ditch or flume to convey said waste water from the point of discharge by Permanente shall be constructed at the sole risk and expense of Terminal Company, and said water shall be conducted from the point of discharge at the sole risk of Terminal Company. The manner of construction of such pipeline, ditch or flume over the property of Permanente shall be subject to the approval of Permanente. Permanente reserves the right, at any time, to use, or otherwise dispose of, all or any portion of such water for such purposes as it may deem advisable, and the right herein granted to Terminal Company is subject to such prior right on the part of Permanente. This grant shall in no way obligate Permanente to continue to operate the proposed plant, but Permanente shall at all times be entirely free to use its property and to conduct such operations and manufacturing processes as it desires on its properties at Moss Landing regardless of the effect of such operations on said waste water; and Permanente makes no representation or guaranty as to the amount, purity, chemical contents or continued supply of such waste water. Terminal Company agrees that in the event it takes said water, it will not dispose of it in such a manner as to cause dilution of Permanente's salt water supply.

3. The pipeline extending from Parcel 1 along and under said wharf shall be constructed substantially in the manner shown in the plans and specifications marked "Exhibit B" attached hereto.

It is the intention of Permanente that the construction and installation of said pipeline along and under said wharf, shall be performed under the direction of Benjamin C. Gerwick. It is understood that during the progress of said work it may appear desirable to make certain alterations in the manner in which said pipe is extended along and under said wharf, and in the engineering details connected

therewith, and Permanente, with the approval of Terminal Company, shall, therefore, have the right to modify said plans and specifications and the manner in which said pipe is extended along and under said wharf, provided that such alterations do not substantially increase the amount of interference with the use of said wharf or weaken said wharf structurally. If, after the installation of said pipeline, it appears desirable to make further changes or modifications in the manner in which said pipe is extended along and under said wharf, Permanente may make such changes and modifications with the approval of Terminal Company, provided that such modifications do not substantially increase the interference with the use of said wharf or weaken said wharf structurally. In any case where the approval of Terminal Company is required, it shall not be arbitrarily withheld, and in the event that the parties cannot agree to a proposed modification or change in the manner in which said pipe is extended along and under said wharf, the matter shall be referred to said Benjamin C. Gerwick for decision, and his decision shall be final. In the event that, at any time, said Benjamin C. Gerwick is unable or unwilling to act in the approval or disapproval of any changes or modifications, and the parties are unable to agree upon another engineer to act in his place, Terminal Company and Sandholdt shall jointly appoint an engineer, and Permanente shall appoint an engineer to approve or disapprove said alterations or modifications; and in the event said engineers are unable to agree, they shall appoint a disinterested engineer who shall approve or disapprove said alterations or modifications. Permanente shall pay any charge or expense of said Benjamin C. Gerwick or other engineers who may be called upon to decide said matters.

Permanente shall, in connection with the installation of said pipeline along and under said wharf, make such repairs to said wharf as it shall deem necessary to place said wharf in condition for the proper support of said pipeline, and shall repair or replace all planking and other portions of the wharf removed or destroyed in the installation thereof.

Permanente shall, during the period that said pipeline is supported by the wharf, as herein provided, maintain and repair said wharf against the wear and tear arising from the use of said wharf in the support of said pipeline, and against the normal wear and tear arising from the usual action of the elements. Terminal Company shall maintain and repair said wharf from wear and tear arising from its use by Terminal Company or Sandholdt, or arising from its use by other persons holding under them or using the wharf with their permission. In the event that said wharf is damaged by any third person not using the same pursuant to any right or permission derived from Terminal Company or Sandholdt, or is damaged by act of God, public enemy, fire, unusual action of the elements, or other accidental means (other than arising from use by parties hereto or those permitted to use it by them), the extent to which said wharf shall be repaired and the allocation of the cost of such repairs shall be as mutually agreed upon; provided, however, that in the event Terminal Company or Sandholdt does not desire to make such repairs upon a mutually agreeable basis, Permanente shall have the right, at its option,

therewith, and Permanente, with the approval of Terminal Company, shall, therefore, have the right to modify said plans and specifications and the manner in which said pipe is extended along and under said wharf, provided that such alterations do not substantially increase the amount of interference with the use of said wharf or weaken said wharf structurally. If, after the installation of said pipeline, it appears desirable to make further changes or modifications in the manner in which said pipe is extended along and under said wharf, Permanente may make such changes and modifications with the approval of Terminal Company, provided that such modifications do not substantially increase the interference with the use of said wharf or weaken said wharf structurally. In any case where the approval of Terminal Company is required, it shall not be arbitrarily withheld, and in the event that the parties cannot agree to a proposed modification or change in the manner in which said pipe is extended along and under said wharf, the matter shall be referred to said Benjamin C. Gerwick for decision, and his decision shall be final. In the event that, at any time, said Benjamin C. Gerwick is unable or unwilling to act in the approval or disapproval of any changes or modifications, and the parties are unable to agree upon another engineer to act in his place, Terminal Company and Sandholdt shall jointly appoint an engineer, and Permanente shall appoint an engineer to approve or disapprove said alterations or modifications; and in the event said engineers are unable to agree, they shall appoint a disinterested engineer who shall approve or disapprove said alterations or modifications. Permanente shall pay any charge or expense of said Benjamin C. Gerwick or other engineers who may be called upon to decide said matters.

Permanente shall, in connection with the installation of said pipeline along and under said wharf, make such repairs to said wharf as it shall deem necessary to place said wharf in condition for the proper support of said pipeline, and shall repair or replace all planking and other portions of the wharf removed or destroyed in the installation thereof.

Permanente shall, during the period that said pipeline is supported by the wharf, as herein provided, maintain and repair said wharf against the wear and tear arising from the use of said wharf in the support of said pipeline, and against the normal wear and tear arising from the usual action of the elements. Terminal Company shall maintain and repair said wharf from wear and tear arising from its use by Terminal Company or Sandholdt, or arising from its use by other persons holding under them or using the wharf with their permission. In the event that said wharf is damaged by any third person not using the same pursuant to any right or permission derived from Terminal Company or Sandholdt, or is damaged by act of God, public enemy, fire, unusual action of the elements, or other accidental means (other than arising from use by parties hereto or those permitted to use it by them), the extent to which said wharf shall be repaired and the allocation of the cost of such repairs shall be as mutually agreed upon; provided, however, that in the event Terminal Company or Sandholdt does not desire to make such repairs upon a mutually agreeable basis, Permanente shall have the right, at its option,

to make such repairs to said wharf as it deems necessary for the adequate support of said pipeline; and in such event Permanente shall have no obligation to make further repairs to said wharf or to maintain said wharf, except to such extent as it deems necessary or desirable for its own purposes.

In the event of destruction of the existing wharf, neither Permanente, Terminal Company nor Sandholdt shall be obligated to replace or rebuild the same, and the obligation of the respective parties to maintain and repair said wharf, as above set forth, shall thereupon terminate, unless and until said wharf is replaced or rebuilt and is used by Permanente as hereinafter provided. The existing wharf shall be deemed destroyed in the event that it is by any cause so damaged, or in the event that it should notwithstanding repairs for normal wear and tear, so deteriorate that the cost of making necessary repairs to place said wharf in a condition safe and suitable for use in the manner in which it is now used, and for use in supporting said pipeline, exceeds the sum of \$5,000.00.

(a) Neither party (Terminal Company and Sandholdt on the one hand and Permanente on the other) shall, by reason of the use of said wharf or by reason of any defect in said wharf, or the failure or neglect of the maintaining party to repair such defect, have or make against the party maintaining the same any claim or demand for any loss, damage, liability, destruction, injury or death whatsoever arising from such defect, neglect or failure; but in the event of the failure or neglect of the maintaining party to repair or maintain said wharf, the other party shall have the right to repair the same at the expense of the maintaining party, which remedy shall be exclusive.

(b) This agreement, and particularly the provisions pertaining to the repair or maintenance of said wharf, is made for the sole and exclusive benefit of the parties hereto, and no rights arising hereunder shall in any way be deemed for the benefit of any outside party (other than the successors or assigns of the parties hereto).

(c) Permanente's right of access to the ocean for the purpose of maintaining a salt water pipe out to a sufficient depth to obtain a suitable supply of salt water for its plant at Moss Landing, shall not terminate in the event of the destruction of said wharf. In the event of destruction of said wharf by the elements or otherwise, and in the event said wharf is not thereafter replaced by a structure suitable for the purpose of supporting said salt water pipe, Permanente shall have the right to extend said pipe from the sump and pumping facilities located on said Parcel 2, into the ocean, at substantially the existing location, by suitable means and to a depth adequate to obtain a suitable supply of salt water. The location and manner in which said pipe shall be extended into the ocean shall be subject to the approval of Terminal Company, but such approval shall not be arbitrarily withheld. In the event the existing wharf is destroyed and is replaced by a structure suitable to support said salt water pipe, Permanente shall have the right to extend said pipe along and under said wharf in substantially the manner in which said pipe was extended along and under the existing

wharf, and upon the same terms as herein set forth, provided that the liability of Permanente for maintenance, as above provided, shall not exceed in amount its liability for maintenance of the present structure.

4. It is understood that Permanente shall have the right of exclusive occupancy of such portions of Parcel 2 as may be from time to time occupied by Permanente's facilities. Permanente shall maintain an adequate fence around said facilities so as to exclude the public therefrom, provided that if the sump and facilities are placed on any portion of Parcel 1 now covered by the existing wharf, said facilities shall in no way interfere with the use of said wharf.

5. Permanente's occupancy of the ten-foot right-of-way, described as Parcel 2 in "Exhibit A", shall not be exclusive, provided that Terminal Company and/or Sandholdt shall not in any way interfere with Permanente's facilities installed thereon, or the use thereof, or place thereon any structure which will prevent free access to said facilities. Permanente shall have the right to extend its pipelines and facilities across the slough or waters commonly referred to as the Salinas River, by supporting the same on piles attached to the existing bridge, substantially as shown on the plans and specifications attached hereto, marked "Exhibit C" and by reference incorporated herein and made a part hereof. It is understood, however, that Permanente shall obtain such permits, if any, as may be necessary, from the United States Government or other governmental body having jurisdiction of the premises, for authority to extend said pipes and facilities across said waters. Said pipes and facilities shall be maintained underground. Permanente may, if it desires, install said facilities aboveground, but in such event shall, upon written request by Terminal Company, place said facilities underground.

Permanente shall further have the right to install, maintain and operate said electric lines and telephone lines aboveground, together with poles, wires and appurtenances therefor, by an alternate route from the vicinity of the bridge crossing the Moro Cojo Slough, across the property of Terminal Company and Sandholdt to the property herein described as Parcel 1, following the route of the county road and the private road from the Salinas River to the wharf. In the event said alternate route is used by Permanente, said poles and wires shall be installed immediately adjacent to the county road and said private road.

All of the facilities and equipment installed by Permanente pursuant to the easements and rights herein granted shall be installed by Permanente at its own risk and expense; and wherever such facilities shall be attached to or supported by any bridge, wharf or other structure of Terminal Company or Sandholdt, the use of said structure by Permanente shall be at its own risk. Terminal Company and Sandholdt make no representations as to the soundness or suitability or condition of any such structures; and other than to the extent to which Terminal Company has agreed to maintain said wharf, Terminal Company and Sandholdt shall be under no obligation to retain or maintain any such structures.

Terminal Company and Sandholdt shall have the right to construct such roads

and railroad tracks across Parcel 2 as they shall deem desirable; in which event Permanente shall, at its own expense, protect the pipeline and other facilities installed along said easement.

6. In the event Terminal Company makes arrangements for or builds a railroad into Moss Landing, Permanente agrees to grant to Terminal Company a right-of-way connecting with any railroad that may be constructed from Southern Pacific Company's main line tracks to Permanente's plant for a single track railroad along the southerly portion of the property acquired by Permanente from J. P. Sandholdt, et al, by deed dated March 6, 1942, and recorded March 9, 1942, in Volume 758, page 221, Official Records of the County Recorder of Monterey County, California. The location of said right-of-way shall be as mutually agreed upon, but shall lie southerly of Permanente's plant, and shall be so located as to not interfere therewith. In the event said right-of-way is granted and a track constructed thereover, to Moss Landing, and a track is constructed between Southern Pacific Company's main line and Permanente's plant, Terminal Company shall be granted the free right to use the Permanente track between Southern Pacific Company's main line and the point of connection with the Moss Landing track; provided, however, that the operation shall not interfere with the operations of Permanente over said track, and Permanente shall have the free right to use the track constructed to Moss Landing. In the event said right-of-way is granted, Terminal Company shall pay for the same at the same rate per acre as Permanente has paid for said Sandholdt property, together with any severance or other damages resulting to Permanente by the conveyance of said right-of-way. Permanente will co-operate with Terminal Company in endeavoring to obtain the construction of a railroad from the Permanente track into Moss Landing; provided, however, that Permanente shall not be obligated to contribute to the cost thereof and, provided further, that nothing herein shall be deemed to obligate Permanente to build a track from Southern Pacific Company's main line to its plant. In the event said right-of-way is granted, Permanente shall reserve the right of access to cross said track at all convenient points, and shall further have the right, if it deems it desirable, to construct switches and spur tracks from any track constructed on said right-of-way.

7. The facilities installed by Permanente pursuant to the rights herein granted shall be used solely by Permanente, its successors and assigns.

Permanente agrees to pay promptly as they become due any and all taxes which may be levied during the term of this agreement upon any and all improvements and equipment which may be constructed or installed upon or used pursuant to the easements and rights herein granted; provided, however, that Permanente shall not be obligated to pay the taxes upon said wharf, other than the salt water line, including its appurtenances.

Permanente, its agents, servants and employees, shall have the right of access at all times, without toll or other charge, to the property of Sandholdt and Terminal Company for all purposes incidental to the construction, maintenance and

operation of the pipeline and appurtenances, including the right to operate vehicles along the roads on the property of Sandholdt and Terminal Company. Such right of access, however, shall be subject to reasonable rules and regulations not inconsistent with the right herein granted to Permanente, as may be established from time to time by Sandholdt or Terminal Company for the protection of their property, or pertaining to the weight of vehicles passing over bridges and other structures on said roads.

8. In the event that Permanente shall, at any time in its discretion, determine that the arrangement as herein provided for the extension of said pipeline along and under said wharf, is not suitable, Permanente shall have the right to remove the same and to extend said pipeline into the bay at another location. In such event it shall have the right to extend said pipe into the bay by wharf, submerged line or other suitable means, and to a depth and distance sufficient to obtain an adequate supply of salt water; provided, however, that said pipe shall be placed at a location so as not to interfere with the use of the existing wharf and so as to cause as little interference as possible with other facilities located on the property of Terminal Company and Sandholdt. In the event that said facilities are so removed, Permanente shall have the right to relocate the right-of-way and easements for the sump, pumping facilities, pipeline and other facilities and appurtenances. Said easements may be so located as to permit said pipeline to run in as direct a line as possible between Permanente's plant and the location where the pipe extends into the bay, but without interfering with the improvements of Terminal Company or Sandholdt. It is understood, however, that the right to relocate the pipe, as provided in this section, shall not apply to any portion or parcel of the property of Sandholdt which may hereafter be sold or transferred, unless such sale or transfer includes the property upon which the existing wharf is located, and the purchaser or grantee of any such portion or parcel of the property of Sandholdt, other than the portion on which said wharf is located, shall take free and clear of any right on the part of Permanente, its successors or assigns, to move the location of said pipeline, as in this section provided. The relocation of said pipeline, and the manner in which it is extended out into the bay, shall be subject to the approval of Terminal Company, but said approval shall not be arbitrarily withheld.

9. The easements and rights herein granted to Permanente shall extend for a period of fifty years from March 1, 1942, provided that Permanente may terminate said easements and rights at any time upon six months' written notice, and upon giving such notice Permanente, at any time thereafter and within six months after termination, shall have the right to remove all property placed on the demised premises pursuant to the rights herein granted; provided, however, that in the event Permanente does not remove such property, it shall leave all of said property in place. In the event Permanente removes said property, it shall be removed in a workmanlike manner, all excavations shall be filled, and the premises shall be left in a good condition. Upon said termination the obligation to pay rental

as herein set forth, and to maintain and repair said wharf, shall cease and terminate.

10. The payments herein provided to be made by Permanente shall be made by check payable to Parr-Moss Landing Terminal Company, and shall be mailed to said Parr-Moss Landing Terminal Company, No. 1 Drumm Street, San Francisco, California, or to such other person or place as Terminal Company may hereafter designate in writing.

Any notice required or permitted to be given hereunder shall be considered as given within twenty-four hours after the same shall have been deposited in the United States mail, with postage thereon fully prepaid, addressed as follows:

If to Terminal Company -

Parr-Moss Landing Terminal Company,
No. 1 Drumm Street,
San Francisco, California;

If to Sandholdt -

Mrs. Minnie Sandholdt,
Moss Landing, Monterey County, California;

If to Permanente -

The Permanente Metals Corporation,
1522 Latham Square Building,
Oakland, California;

or to such other place as the above named persons may hereafter designate in writing.

11. The easements and rights herein granted Permanente shall not terminate upon the termination or expiration, for any cause whatsoever, of the leasehold interest of Terminal Company. In the event of the expiration or sooner termination of said leasehold interest, the rentals herein provided shall be payable to Sandholdt.

12. In the event that by order of any governmental agency the full use of said wharf is prohibited solely because of the presence of Permanente's facilities on and about said wharf, then Permanente shall pay to Terminal Company, in addition to the rentals herein provided, during the period that the use of said wharf is so prohibited, a sum each month equivalent to the loss or decrease in the monthly net receipts from said wharf caused by such prohibition of its use. The monthly net receipts from said wharf shall be deemed to be the monthly average of the net receipts from said wharf, exclusive of the lease to Standard Oil Company, from the date of commencement of operations by Permanente to the date that such governmental regulation becomes effective, but not exceeding, however, \$3,000.00 per year.

13. All plant equipment and facilities installed upon the premises by Permanente shall remain personal property and the property of Permanente, and shall not be or become a part of the realty notwithstanding the fact that they

may be affixed to the premises.

This agreement shall be binding upon and shall inure to the successors and assigns of the parties hereto; provided, however, that Permanente may assign this agreement and the rights herein granted as collateral security for any obligation owing by Permanente; in which event such assignee shall not be deemed to have assumed the obligations of Permanente hereunder, unless and until such assignee shall enter into possession of and exercise the rights herein granted.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed this instrument, the day and year first above written.

PARR-MOSS LANDING TERMINAL COMPANY,

By FRED D. PARR

Its President

By CHARLES A. PINKHAM

Its Secretary

(CORPORATE SEAL)

MINNIE SANDHOLDT
(Minnie Sandholdt)

THE PERMANENTE METALS CORPORATION,

By E. E. TREFETHEN, JR.,

Its Vice-President

By G. G. SHERWOOD

Its Assistant Secretary

(CORPORATE SEAL)

STATE OF CALIFORNIA,)
COUNTY OF ALAMEDA) SS.

On this 30th day of September in the year one thousand nine hundred and forty-two, before me, F. A. NANCE, a Notary Public in and for the County of Alameda, State of California, residing therein, duly commissioned and sworn, personally appeared FRED D. PARR & CHAS. A. PINKHAM known to me to be the President & Secretary of the corporation described in and that executed the within instrument, and also known to me to be the persons who executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, in the County of Alameda, the day and year in this certificate first above written.

F. A. NANCE

Notary Public in and for the County
of Alameda State of California.

(Notarial Seal)

My Commission Expires March 30th. 1945

JESS HOWARD PAYNE BARNITZ any other property not now known or discovered which may belong to said estate or in which said estate may have any interest.

IT IS STILL FURTHER ORDERED that as to said \$300.00 withheld as aforesaid, said Executor pay the State and Federal Income Taxes, if such there be, when finally determined, and the balance thereof two-thirds to the said MAUDE GILLESPIE HANSON and one-third thereof to the said JESS HOWARD PAYNE BARNITZ.

DONE IN OPEN COURT this 21st day of December, 1942.

H. G. JORGENSEN

Judge of said Superior Court

The foregoing instrument is a correct copy
of the original on file in my office
DATED December 21st 1942

C. F. JOY

Clerk of the Superior Court in and for the
County of Monterey, State of California.

By Clara B. Creque Deputy

(COURT SEAL)

Recorded at request of SILAS W. MACK, Dec. 21, 1942, at 24 min. past 11 A. M.....
#12206.....Fee \$2.30.....Dishman.

CURRAN
MLP

THIS AGREEMENT, made this 30th day of July, 1942, by and between JENNIE TATE (hereinafter called "Tate"), and THE PERMANENTE METALS CORPORATION, a corporation (hereinafter called "Permanente"),

WITNESSETH:

WHEREAS, Tate is the owner of certain property located in the County of Monterey, State of California, as particularly described in "Exhibit A", attached hereto (which property is herein referred to as "Tate property"), and Permanente desires to acquire the right to drill certain wells upon the Tate property and to take water therefrom and to operate and maintain equipment and pipelines for the purpose of pumping and conveying the water to Permanente's plant in the vicinity of Moss Landing, Monterey County, all as hereinafter set forth; and Tate, for valuable consideration, desires to convey said rights to Permanente.

NOW, THEREFORE, it is hereby agreed:

1. For and in consideration of the sum of Ten Dollars (\$10.00) and other valuable consideration, the receipt of which is hereby acknowledged, Tate hereby grants to Permanente the right to drill, develop, maintain, operate and take water from four (4) wells upon the Tate property. Said wells shall be designated and located approximately as follows:

Wellsite No. 3: Beginning at a white post four inches by four inches marked MH 1 JK, standing at the most southerly corner of that certain 106.89 acre tract

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of land, being subdivision "C" of Lot 18, according to the decree and map in the partition suit entitled, "Kilpatrick, et al v. Kerritt, et al", in the Superior Court of the State of California, in and for the County of Monterey, thence north 41 degrees 51' east 1499.95 feet to the site of well No. 3;

Wellsite No. 2: Beginning at Well site No. 3, as above described, thence North 44 degrees 20 1/2' west 885.51 feet to Well No. 2;

Wellsite No. 1: Beginning at Well site No. 2, as above described, thence south 76 degrees 27 1/2' west 1009.0 feet to Well No. 1;

Wellsite No. 4: Beginning at Well site No. 1, as above described, thence north 60 degrees 18" east 3536.29 feet to Well No. 4.

2. Permanente shall have the right to drill and develop said wells in such manner and to such depth as it may deem desirable and, subject to the limitations hereinafter contained, to maintain and operate such pumps and equipment as it may deem necessary or desirable for the purpose of pumping and conveying the water therefrom.

3. Tate hereby grants to Permanente an easement for the right to install, maintain, repair and replace such pipeline or lines of initial or other size as it shall from time to time elect, for the conveyance of water to Permanente's existing plant at Moss Landing, over and upon a strip of land ten (10) feet in width, the center line of which is particularly described as follows:

Commencing at Well site No. 1, hereinabove described, thence in a direct line north 10 degrees, 33' 30" west 6550 feet, more or less, to the northerly boundary of the Tate property.

The pipe to be installed along said easement is herein referred to as the "main pipe".

Permanente shall also have the right to maintain pipelines for the conveyance of water from the respective wells maintained and operated by Permanente pursuant to the permission herein granted, connecting to the main pipe. Said subsidiary pipelines shall be located as mutually agreed upon, but so as to provide a practical convenient and direct connection from the wells to the main pipe. It is understood that Permanente has also an arrangement for the acquisition of wells on the property of Mary J. Gomez, and in the event such wells are so acquired, Permanente shall have the right to run a pipeline from the point of connection with the pipe from the Gomez wells at the southwesterly boundary of the Tate property across the Tate property to the main pipeline. Permanente shall also have the right to install and maintain such power lines, poles, wires and transformers to the well sites above referred to as may be necessary or desirable for the purpose of furnishing electric power for pumping purposes. Said power line, poles, wires and transformers may be installed, maintained and operated by Permanente or by the Pacific Gas and Electric Company or other supplier of electric energy.

All pipelines should be buried to a depth of four (4) feet, so as not to interfere with the use of the property for agricultural purposes.

4. It is understood and agreed that Well No. 4 shall be used as a stand-by

well by Permanente, and that Tate shall have the primary or first right to take water from said Well No. 4. Said well shall be used by Permanente for furnishing an auxiliary supply of water for its purposes and shall be used only as and when the quantity of water available from said wells numbered 1, 2 and 3 shall prove insufficient for Permanente's purposes. Permanente shall drill said well at its own expense and will furnish the power line and transformer. The motor, pumps and other equipment used by Tate for said well shall be supplied by Tate at such time as Tate desires to use said well. Should Permanente install a motor, pump or other equipment at said well said Tate shall have the right to use the same in taking water from said well for her use.

5. In the event that any of the wells herein referred to do not, upon completion and testing, produce 1,000 gallons of water a minute, drilling to reasonable depth, and using customary methods of pumping, comparable to other wells in the locality, Permanente shall have the right to abandon such well and in lieu thereof to drill another well at a location to be mutually agreed upon. It is further understood that the location of Well No. 3, is tentative, and that Permanente may relocate said well at a different and mutually agreeable site.

6. Tate now has and is operating a well, herein referred to as "Tate well", located approximately between and to the south of Well No. 1 and Well No. 3. Permanente agrees that the wells herein referred to shall be operated in such a manner as not to materially affect the water supply from the Tate well, and that said wells numbered 1, 2 and 3 shall not be operated in such a manner as to materially affect the water supply from said well number 4. Permanente further agrees that the wells herein referred to shall not be operated in such a manner as to affect unlawfully prior water rights on the property of others in the general location of the Tate property. Tate hereby agrees not to locate other wells upon the Tate property in such proximity to the wells herein referred to as to materially deplete or diminish the water supply from said wells.

7. Permanente agrees to pay for all damages to crops caused by the drilling of said wells or by the construction or maintenance of the pipelines or power lines referred to herein.

8. All equipment, facilities and pipelines installed by Permanente shall remain personal property of Permanente, and shall not be or become a part of the realty, notwithstanding the fact that they may be affixed to the real property, and Permanente shall have the right at any time to remove the same from the Tate property; provided, however, that the power line and transformer and the casing and such other equipment as Permanente installs at Well No. 4, which constitutes a part of the Well proper, shall not be removed.

9. It is understood that Permanente may not desire to drill or develop all the wells that are herein referred to at the present time and may not desire to construct all of said pipelines at the present time; and Permanente shall not, by lapse of time, by failure to drill any of the wells, or fully develop the same, lose any of the rights herein granted, but Permanente shall have the right at any

time to drill and develop said wells and to take water therefrom and to construct and maintain pipelines therefrom, as hereinabove described. Permanente shall be under no obligation to take water from any of said wells on property of Tate, or any amount thereof, but subject to the conditions herein stated, shall have the right to take such amount of water as is available and as it may from time to time desire. Permanente's right to take water shall not be limited by the amount of water actually taken by Permanente during any period, and the rights herein granted shall not lapse by Permanente's failure to take water or to exercise any of the rights herein granted; provided, however, that in the event Permanente shall permanently remove all of its pumping facilities and equipment and pipes and abandon the rights granted it hereunder, all water rights acquired by Permanente pertaining to the Tate property shall revert to Tate, her heirs, administrators, successors and assigns.

10. Permanente, its representatives and employees, shall at all times have access to said wells, pumping facilities and pipelines, as may be necessary or desirable for their installation, maintenance, repair and inspection. Permanente shall have the right to perform such maintenance in regard to said wells and pipes as it may deem necessary or desirable to fully develop and maintain the supply of water available therefrom, and in the event of the destruction of any of said wells, by any cause, whatsoever, Permanente shall have the right to replace the same at their existing locations, or, in the event that it is not possible or desirable to so replace said well, may relocate such well at such other location as may be mutually selected.

11. In the operation of Wellsite No. 4, Permanente shall pay such "stand-by" charge as may be assessed for the purpose of supplying electric power to said well, and shall pay for all power used by it for the purpose of pumping water. Tate shall pay for all power used by Tate at said well.

12. This agreement shall inure to and shall be binding upon the successors and assigns of the parties hereto. Permanente, its successors and assigns, agrees, however, that the water from said wells shall be used only in the operations of the company, or its successors in interest, and that none shall be sold to or used by any other person without the consent of Tate.

IN WITNESS WHEREOF, this agreement has been executed by the parties hereto the day and year first above written.

JENNIE TATE
Jennie Tate

THE PERMANENTE METALS CORPORATION

By E. E. TREFETHEN, JR.

Vice-President

(NO CORPORATE SEAL)

By G. G. SHERWOOD

Assistant Secretary

AGREEMENT

THIS AGREEMENT, made this 6th day of August, 1942, by and between MARY J. GOMEZ, (hereinafter called "Gomez"), and THE PERMANENTE METALS CORPORATION, a corporation (hereinafter called "Permanente")

WITNESSETH:

WHEREAS, Gomez is the owner of certain property located in the County of Monterey, State of California, as particularly described as follows, to wit:

Being a part of the Rancho Bolsa Nueva Y Moro Cojo, and being Lot IV of Subdivision of a portion of said Rancho as subdivided by S. W. Smith, County Surveyor, and particularly described to wit: Beginning at a post on the West side of the Road leading from the Town of Castroville to Moss Landing and running thence along the West side of said road, South 44-1/2° East 25.59 chains to post "R2"; thence along the line of fences of M. M. Moore S. 77-1/4° West 22.55 chains; thence South 16-1/4° West 18.50 chains to the Northeast bank of Tembladera Slough, thence along the bank of said Slough West 11.00 chains; South 22-3/4° West 8.00 chains; South 50° West 5.34 chains North 2-1/4° West 6.00 chains; North 83-1/2° West, 5.00 chains; South 61° West 2.00 chains; South 85-1/4° West 5.00 chains; North 55° West 6.00 chains, and North 2-1/2° West 7.68 chains to post "K.K." in a fence; thence along said fence North 51-1/2° East 57.00 chains to the place of beginning. Containing One Hundred Twenty-four 34/100 acres of land. Courses all true. Magnetic variation 15-1/2° East. (Excepting therefrom certain rights of way as appear of record.)

(which property is herein referred to as "Gomez Property") and Permanente desires to acquire the right to drill certain wells upon the Gomez property and to take water therefrom and to operate and maintain equipment and pipe lines for the purpose of pumping and conveying the water to Permanente's plant in the vicinity of Moss Landing, Monterey County, all as hereinafter set forth; and Gomez, for valuable consideration, desires to convey said rights to Permanente.

NOW, THEREFORE, IT IS HEREBY AGREED:

1. For and in consideration of the sum of Ten Dollars (\$10.00) and other valuable consideration, the receipt of which is hereby acknowledged, Gomez hereby grants to Permanente the right to drill, develop, maintain, operate and take water from two (2) wells, known as Wells Number 4 and Number 5, upon the Gomez property. Said wells shall be located approximately as follows:

Wellsite No. 4 shall be located on the Gomez Property at a point approximately 158 feet southerly from the boundary between the Gomez property and the State Highway and 45 feet from the center line of the County Road running between the Gomez Property and the property now or formerly standing in the name of Mabel Warnock.

Wellsite No. 5: Beginning at Wellsite No. 4 above described, thence south 52 degrees 23' west 1045.82 feet to well No. 4.

2. Permanente shall have the right to drill and develop said wells in such manner and to such depth as it may deem desirable, and to maintain and operate

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such pumps and equipment as it may deem necessary or desirable for the purpose of pumping and conveying the water therefrom.

3. Gomez hereby grants to Permanente an easement for the right to install, maintain, repair and replace such pipe line or lines of initial or other size as it shall from time to time elect, for the conveyance of water from the wells above referred to, over and upon a strip of land ten (10) feet in width, the center line of which is particularly described as follows:

Commencing at Well No. 5, hereinabove described, thence in a direct line to Well No. 4, thence continuing in a direct line to the northerly boundary of the Gomez property and the State Highway.

Permanente shall also have the right to install and maintain such power lines, poles, wires and transformers to the wellsites above referred to as may be necessary or desirable for the purpose of furnishing electric power for pumping purposes. Said power line, poles, wires and transformers may be installed, maintained and operated by Permanente or by the Pacific Gas and Electric Company or other supplier of electric energy.

All pipe lines shall be buried to a depth of four (4) feet, so as not to interfere with the use of the property for agricultural purposes.

4. Gomez shall have the right to use either well for domestic purposes, provided that such use shall be at the cost and risk of Gomez, and provided that such use shall not materially interfere with the use of said wells by Permanente.

5. In the event that upon completion and testing any of the wells herein referred to do not produce 1,000 gallons of water a minute, drilling to reasonable depth, and using customary methods of pumping, comparable to other wells in the locality, Permanente shall have the right to abandon such well and in lieu thereof to drill another well at a location to be mutually agreed upon.

6. In the event that pumping operations at either of the wells result in or contribute to a condition whereby the water supply at any other well now on property herein described is materially diminished in quality or quantity for irrigation purposes on said property, or in the event the cost of raising water for said purpose from the wells now on said property is materially increased by said pumping operations, then pumping operations at the well causing such result shall cease until the condition is remedied. Gomez agrees not to locate other wells on the Gomez Property in such proximity to the wells herein referred to as to materially diminish or deplete in quality or quantity the water supply from said wells.

7. Permanente agrees to pay for all damages to crops caused by the drilling of said wells or by the construction or maintenance of the pipe lines or power lines referred to herein.

8. All equipment, facilities and pipelines installed by Permanente shall remain personal property of Permanente, and shall not be or become a part of the realty, notwithstanding the fact that they may be affixed to the real property, and Permanente shall have the right at any time to remove the same from the

Gomez Property.

9. It is understood that Permanente may not desire to drill or develop any or all of the wells that are herein referred to at the present time and may not desire to construct all of said pipe lines or other facilities at the present time; and Permanente shall not, by lapse of time, by failure to drill any of the wells, or fully develop the same, lose any of the rights herein granted, but Permanente shall have the right at any time to drill and develop said wells and to take water therefrom and to construct and maintain pipe lines and other facilities therefrom, as hereinabove described. Permanente shall be under no obligation to take water from any of said wells on the property of Gomez, or any amount thereof, but subject to the conditions herein stated, shall have the right to take such amount of water as is available and as it may from time to time desire. Permanente's right to take water shall not be limited by the amount of water actually taken by Permanente during any period, and the rights herein granted shall not lapse by Permanente's failure to take water or to exercise any of the rights herein granted; provided, however, that in the event Permanente shall permanently remove all of its pumping facilities and equipment and pipes and abandon the rights granted it hereunder, all water rights acquired by Permanente pertaining to the Gomez property shall revert to Gomez, her heirs, administrators, successors and assigns.

10. Permanente, its representatives and employees, shall at all times have access to said wells, pumping facilities and pipe lines, as may be necessary or desirable for their installation, maintenance, repair and inspection. Permanente shall have the right to perform such maintenance in regard to said wells and pipes as it may deem necessary or desirable to fully develop and maintain the supply of water available therefrom, and in the event of the destruction of any of said wells, by any cause whatsoever, Permanente shall have the right to replace the same at their existing locations, or, in the event that it is not possible or desirable to so replace said well, may relocate such well at such other location as may be mutually selected.

11. This agreement shall inure to and shall be binding upon the successors and assigns of the parties hereto. Permanente, its successors and assigns, agrees, however, that the water from said wells shall be used only in the operations of Permanente, or its successors in interest, and that none shall be sold to or used by any other person without the consent of Gomez.

IN WITNESS WHEREOF, this agreement has been executed by the parties hereto the day and year first above written.

MARY J. GOMEZ
Mary J. Gomez

THE PERMANENTE METALS CORPORATION

By E. E. TREFETHEN, JR.

Vice-President

By G. G. SHERWOOD,

Assistant Secretary

(CORPORATE SEAL)

E A S E M E N T

Pipe Line & Pump House

THIS INDENTURE, made this 28th day of September, 1942, by and between PARR-MOSS LANDING TERMINAL COMPANY, a California Corporation (hereinafter called "Terminal Company"); MINNIE SANDHOLDT, a widow (hereinafter called "Sandholdt"); and THE PERMANENTE METALS CORPORATION, a corporation (hereinafter called "Permanente");

WITNESSETH:

That for and in consideration of the payments hereinafter specified to be paid by Permanente, and the covenants hereinafter stated by Permanente to be performed, Terminal Company, lessee of the hereinafter described property, and Sandholdt, as owner of said property, do hereby grant to Permanente, its successors and assigns, the following rights and easements:

(a) An easement for the right to install, maintain, operate, use, repair and replace such salt water, water, oil and other pipelines and their appurtenances, and electric lines and telephone lines, together with wires and appurtenances therefor, as Permanente may from time to time deem advisable, upon and over the strip of land ten (10) feet in width, particularly described as Parcel 2, in "Exhibit A" attached hereto, and by reference incorporated herein and made a part hereof.

(b) An easement for the right to install, maintain, operate, use, repair and replace a sump and such pumping facilities and other equipment and facilities, and housing therefor, incidental to the use and operation of said pipelines, as Permanente may from time to time deem advisable, upon the parcel of real property particularly described as Parcel 1 in said "Exhibit A" attached hereto.

(c) The right to install, maintain, operate, use, repair and replace a salt water pipeline extending from said Parcel 1 above referred to, along and under the wharf of Terminal Company and Sandholdt, in the manner shown on the plans and specifications attached hereto, marked "Exhibit B" and by reference incorporated herein and made a part hereof.

Said easements and rights are granted upon the following terms and conditions:

1. Permanente shall pay, as consideration for said easements and rights, the sum of One Hundred Fifty Dollars (\$150.00) per month, commencing March 1, 1942, payable monthly.
2. Terminal Company shall have the free use of such waste water from Permanente's plant at Moss Landing as may be available, and is hereby granted a usable and convenient right-of-way from such point as Permanente may discharge said waste water, across the property of Permanente, for the purpose of conveying said water off the property of Permanente. The location of such right-of-way shall be selected by Permanente so as not to interfere with the operations of its plant. The pipeline, ditch or flume to convey said waste water from the point of discharge by Permanente shall be constructed at the sole risk and expense of Terminal Company, and said water shall be conducted from the point of discharge at the sole risk of Terminal Company. The manner of construction of such pipeline, ditch or flume over the property of Permanente shall be subject to approval of Permanente. Permanente reserves the right, at any time to use, or otherwise dispose of, all or any portion of such water for such purposes as it may deem advisable, and the right herein granted to Terminal Company is subject to such prior right on the part of Permanente. This grant shall in no way obligate Permanente to continue to operate the proposed plant, but Permanente shall at all times be entirely free to use its property

and to conduct such operations and manufacturing processes as it desires on its properties at Moss Landing regardless of the effect of such operations on said waste water; and Permanente makes no representation or guaranty as to the amount, purity, chemical contents or continued supply of such waste water. Terminal Company agrees that in the event it takes said water, it will not dispose of it in such a manner as to cause dilution of Permanente's salt water supply.

3. The pipeline extending from Parcel 1 along and under said wharf shall be constructed substantially in the manner shown in the plans and specifications marked "Exhibit B" attached hereto.

It is the intention of Permanente that the construction and installation of said pipeline along and under said wharf, shall be performed under the direction of Benjamin C. Gerwick. It is understood that during the progress of said work it may appear desirable to make certain alterations in the manner in which said pipe is extended along and under said wharf, and in the engineering details connected therewith, and Permanente, with the approval of Terminal Company, shall, therefore, have the right to modify said plans and specifications and the manner in which said pipe is extended along and under said wharf, provided that such alterations do not substantially increase the amount of interference with the use of said wharf or weaken said wharf structurally. If, after the installation of said pipeline, it appears desirable to make further changes or modifications in the manner in which said pipe is extended along and under said wharf, Permanente may make such changes and modifications with the approval of Terminal Company, provided that such modifications do not substantially increase the interference with the use of said wharf or weaken said wharf

structurally. Any increase in the use of said wharf or weakening of said wharf shall not be arbitrarily withheld, and in the event that the parties cannot

agree upon a proposed increase or change in the manner in which said pipe is

is extended along and under said wharf, the matter shall be referred to said Benjamin C. Gerwick for decision, and his decision shall be final. In the event that, at any time, said Benjamin C. Gerwick is unable or unwilling to act in the approval or disapproval of any changes or modifications, and the parties are unable to agree upon another engineer to act in his place, Terminal Company and Sandholdt shall jointly appoint an engineer, and Permanente shall appoint an engineer to approve or disapprove said alterations or modifications; and in the event said engineers are unable to agree, they shall appoint a disinterested engineer who shall approve or disapprove said alterations or modifications. Permanente shall pay any charge or expense of said Benjamin C. Gerwick or other engineers who may be called upon to decide said matters.

Permanente shall, in connection with the installation of said pipeline along and under said wharf, make such repairs to said wharf as it shall deem necessary to place said wharf in condition for the proper support of said pipeline, and shall repair or replace all planking and other portions of the wharf removed or destroyed in the installation thereof.

Permanente shall, during the period that said pipeline is supported by the wharf, as herein provided, maintain and repair said wharf against the wear and tear arising from the use of said wharf in the support of said pipeline, and against the normal wear and tear arising from the usual action of the elements. Terminal Company shall maintain and repair said wharf from wear and tear arising from its use by Terminal Company or Sandholdt, or arising from its use by other persons holding under them or using the wharf with their permission. In the event that said wharf is damaged by any third person not using the same pursuant to any right or permission derived from Terminal Company or Sandholdt, or is damaged by the action of God, public enemy, or the unusual action of the elements, or other accidental means (other than arising from use by parties hereto or those permitted to use it under them), the cost of such damage shall be repaired and the

allocation of the cost of such repairs shall be as mutually agreed upon; provided, however, that in the event Terminal Company or Sandholdt does not desire to make such repairs upon a mutually agreeable basis, Permanente shall have the right, at its option, to make such repairs to said wharf as it deems necessary for the adequate support of said pipeline, and in such event Permanente shall have no obligation to make further repairs to said wharf or to maintain said wharf, except to such extent as it deems necessary or desirable for its own purposes.

In the event of destruction of the existing wharf, neither Permanente, Terminal Company nor Sandholdt shall be obligated to replace or rebuild the same, and the obligation of the respective parties to maintain and repair said wharf, as above set forth, shall thereupon terminate, unless and until said wharf is replaced or rebuilt and is used by Permanente as hereinafter provided. The existing wharf shall be deemed destroyed in the event that it is by any cause so damaged, or in the event that it should, notwithstanding repairs for normal wear and tear, so deteriorate that the cost of making necessary repairs to place said wharf in a condition safe and suitable for use in the manner in which it is now used, and for use in supporting said pipeline, exceeds the sum of \$5,000.00.

(a) Neither party (Terminal Company and Sandholdt on the one hand and Permanente on the other) shall, by reason of the use of said wharf or by reason of any defect in said wharf, or the failure or neglect of the maintaining party to repair such defect, have or make against the party maintaining the same any claim or demand for any loss, damage, liability, destruction, injury or death whatsoever arising from such defect, neglect or failure; but in the event of the failure or neglect of the maintaining party to repair or maintain said wharf, the other party shall have the right to repair the same at the expense of the maintaining party, which remedy shall be exclusive.

(b) This agreement, and particularly the provisions pertaining to the repair or maintenance of said wharf, is made for the sole exclusive benefit of the parties hereto, and no rights arising hereunder shall in any way be deemed for the benefit

of any outside party (other than the successors or assigns of the parties hereto).

(c) Permanente's right of access to the ocean for the purpose of maintaining a salt water pipe out to a sufficient depth to obtain a suitable supply of salt water for its plant at Moss Landing, shall not terminate in the event of the destruction of said wharf. In the event of the destruction of said wharf by the elements or otherwise, and in the event said wharf is not thereafter replaced by a structure suitable for the purpose of supporting said salt water pipe, Permanente shall have the right to extend said pipe from the sump and pumping facilities located on said Parcel 2, into the ocean, at substantially the existing location, by suitable means and to a depth adequate to obtain a suitable supply of salt water. The location and manner in which said pipe shall be extended into the ocean shall be subject to the approval of Terminal Company, but such approval shall not be arbitrarily withheld. In the event the existing wharf is destroyed and is replaced by a structure suitable to support said salt water pipe, Permanente shall have the right to extend said pipe along and under said wharf in substantially the manner in which said pipe was extended along and under the existing wharf, and upon the same terms as herein set forth, provided that the liability of Permanente for maintenance, as above provided, shall not exceed in amount its liability for maintenance of the present structure.

4. It is understood that Permanente shall have the right of exclusive occupancy of such portions of Parcel 2 as may be from time to time occupied by Permanente's facilities. Permanente shall maintain an adequate fence around said facilities so as to exclude the public therefrom, provided that if the sump and facilities are placed on any portion of Parcel 2 now covered by the existing wharf, said facilities shall in no way interfere with the use of said wharf.

Permanente's occupancy of the ten-foot right-of-way, described as Parcel 2 in said Exhibit A, shall not be exclusive, provided that Terminal Company and/or its successors shall not in any way interfere with the use of said right-of-way by Permanente.

thereon, or the use thereof, or place thereon any structure which will prevent free access to said facilities. Permanente shall have the right to extend its pipelines and facilities across the slough or waters commonly referred to as the Salinas River, by supporting the same on piles attached to the existing bridge, substantially as shown on the plans and specifications attached hereto, marked "Exhibit C" and by reference incorporated herein and made a part hereof. It is understood, however, that Permanente shall obtain such permits, if any, as may be necessary, from the United States Government or other governmental body having jurisdiction of the premises, for authority to extend said pipes and facilities across said waters. Said pipes and facilities shall be maintained underground. Permanente may, if it desires, install said facilities aboveground, but in such event shall, upon written request by Terminal Company, place said facilities underground.

Permanente shall further have the right to install, maintain and operate said electric lines and telephone lines aboveground, together with poles, wires and appurtenances therefor, by an alternate route from the vicinity of the bridge crossing the Moro Cojo Slough, across the property of Terminal Company and Sandholdt to the property herein described as Parcel 1, following the route of the county road and the private road from the Salinas River to the wharf. In the event said alternate route is used by Permanente, said poles and wires shall be installed immediately adjacent to the county road and said private road.

All of the facilities and equipment installed by Permanente pursuant to the easements and rights herein granted shall be installed by Permanente at its own risk and expense, and wherever such facilities shall be attached to or supported by any bridge, wharf or other structure of Terminal Company or Sandholdt, the use of said structure by Permanente shall be at its own risk. Terminal Company and Sandholdt make no representations as to the soundness or suitability or condition of any such structures, and other than to the extent to which Terminal Company has agreed to

maintain said wharf, Terminal Company and Sandholdt shall be under no obligation to retain or maintain any such structures.

Terminal Company and Sandholdt shall have the right to construct such roads and railroad tracks across Parcel 2 as they shall deem desirable; in which event Permanente shall, at its own expense, protect the pipelines and other facilities installed along said easement.

6. In the event Terminal Company makes arrangements for or builds a railroad into Moss Landing; Permanente agrees to grant to Terminal Company a right-of-way connecting with any railroad that may be constructed from Southern Pacific Company's main line tracks to Permanente's plant for a single track railroad along the southerly portion of the property acquired by Permanente from J. P. Sandholdt, et al, by deed dated March 6, 1942, and recorded March 9, 1942, in Volume 758, page 221, Official Records of the County Recorder of Monterey County, California. The location of said right-of-way shall be as mutually agreed upon, but shall lie southerly of Permanente's plant, and shall be so located as to not interfere therewith. In the event said right-of-way is granted and a track constructed thereover, to Moss Landing, and a track is constructed between Southern Pacific Company's main line and Permanente's plant, Terminal Company shall be granted the free right to use the Permanente track between Southern Pacific Company's main line and the point of connection with the Moss Landing track; provided, however, that the operation shall not interfere with the operations of Permanente over said track, and Permanente shall have the free right to use the track constructed to Moss Landing. In the event said right-of-way is granted, Terminal Company shall pay for the same at the same rate per acre as Permanente has paid for said Sandholdt property, together with any severance or other damages resulting to Permanente by the conveyance of said right-of-way. Permanente will co-operate with Terminal Company in endeavoring to obtain the construction of a railroad from Moss Landing to Moss Landing, provided, however, that Permanente shall

not be obligated to contribute to the cost thereof and, provided further, that nothing herein shall be deemed to obligate Permanente to build a track from Southern Pacific Company's main line to its plant. In the event said right-of-way is granted, Permanente shall reserve the right of access to cross said track at all convenient points, and shall further have the right, if it deems it desirable, to construct switches and spur tracks from any track constructed on said right-of-way.

7. The facilities installed by Permanente pursuant to the rights herein granted shall be used solely by Permanente, its successors and assigns.

Permanente agrees to pay promptly as they become due any and all taxes which may be levied during the term of this agreement upon any and all improvements and equipment which may be constructed or installed upon or used pursuant to the easements and rights herein granted; provided, however, that Permanente shall not be obligated to pay the taxes upon said wharf, other than the salt water line, including its appurtenances.

Permanente, its agents, servants, and employees, shall have the right of access at all times, without toll or other charge, to the property of Sandholdt and Terminal Company for all purposes incidental to the construction, maintenance and operation of the pipeline and appurtenances, including the right to operate vehicles along the roads on the property of Sandholdt and Terminal Company. Such right of access, however, shall be subject to reasonable rules and regulations not inconsistent with the right herein granted to Permanente, as may be established from time to time by Sandholdt or Terminal Company for the protection of their property, or pertaining to the weight of vehicles passing over bridges and other structures on said roads.

8. In the event that Permanente shall, at any time in its discretion, determine that the arrangement as herein provided for the extension of said pipeline along and under said wharf is not suitable, Permanente shall have the right to remove the same and to extend said pipeline into the bay at another location. In such event, the pipeline shall be extended into the bay by means of a submerged line or other suitable means, and to a depth and distance sufficient

to obtain an adequate supply of salt water; provided, however, that said pipe shall be placed at a location so as not to interfere with the use of the existing wharf and so as to cause as little interference as possible with other facilities located on the property of Terminal Company and Sandholdt. In the event that said facilities are so removed, Permanente shall have the right to relocate the right-of-way and easements for the sump, pumping facilities, pipeline and other facilities and appurtenances. Said easements may be so located as to permit said pipeline to run in as direct a line as possible between Permanente's plant and the location where the pipe extends into the bay, but without interfering with the improvements of Terminal Company or Sandholdt. It is understood, however, that the right to relocate the pipe, as provided in this section, shall not apply to any portion or parcel of the property of Sandholdt which may hereafter be sold or transferred, unless such sale or transfer includes the property upon which the existing wharf is located, and the purchaser or grantee of any such portion or parcel of the property of Sandholdt, other than the portion on which said wharf is located, shall take free and clear of any right on the part of Permanente, its successors or assigns, to move the location of said pipeline, as in this section provided. The relocation of said pipeline, and the manner in which it is extended out into the bay, shall be subject to the approval of Terminal Company, but said approval shall not be arbitrarily withheld.

9. The easement and rights herein granted to Permanente shall extend for a period of fifty years from March 1, 1942, provided that Permanente may terminate said easements and rights at any time upon six months' written notice, and upon giving such notice Permanente, at any time thereafter and within six months after termination, shall have the right to remove all property placed on the demised premises pursuant to the rights herein granted; provided, however, that in the event Permanente does not remove such property, it shall leave all of said property in place. In the event Permanente removes such property, it shall be removed and

a workmanlike manner, all excavations shall be filled, and the premises shall be left in a good condition. Upon said termination the obligation to pay rental as herein set forth, and to maintain and repair said wharf, shall cease and terminate.

10. The payments herein provided to be made by Permanente shall be made by check payable to Parr-Moss Landing Terminal Company, and shall be mailed to said Parr-Moss Landing Terminal Company, No. 1 Drumm Street, San Francisco, California, or to such other person or place as Terminal Company may hereafter designate in writing.

Any notice required or permitted to be given hereunder shall be considered as given within twenty-four hours after the same shall have been deposited in the United States mail, with postage thereon fully prepaid, addressed as follows:

If to Terminal Company -

Parr-Moss Landing Terminal Company,
No. 1 Drumm Street,
San Francisco, California;

If to Sandholdt -

Mrs. Minnie Sandholdt,
Moss Landing, Monterey County,
California;

If to Permanente -

The Permanente Metals Corporation,
1522 Latham Square Building,
Oakland, California;

or to such other place as the above named persons may hereafter designate in writing.

11. The easements and rights herein granted Permanente shall not terminate upon the termination or expiration, for any cause whatsoever, of the leasehold interest of Terminal Company. In the event of the expiration or sooner termination of said leasehold interest, the rentals herein provided shall be payable to Sandholdt.

12. In the event that by order of any governmental agency the full use of said wharf is prohibited solely because of the presence of Permanente's facilities on and about said wharf, then Permanente shall pay to Terminal Company, in addition to the rentals herein provided, during the period that the use of said wharf is so prohibited, a sum each month equivalent to the loss or decrease in monthly net receipts from said wharf caused by such prohibition of its use. The monthly net receipts from said wharf shall be deemed to be the monthly average of the net receipts from said wharf, exclusive of the lease to Standard Oil Company, from the date of commencement of operations by Permanente to the date that such governmental regulation becomes effective, but not exceeding, however, \$3,000.00 per year.

13. All plant equipment and facilities installed upon the premises by Permanente shall remain personal property and the property of Permanente, and shall not be or become a part of the realty notwithstanding the fact that they may be affixed to the premises.

This agreement shall be binding upon and shall inure to the successors and assigns of the parties hereto; provided, however, that Permanente may assign this agreement and the rights herein granted as collateral security for any obligation owing by Permanente; in which event such assignee shall not be deemed to have assumed the obligations of Permanente hereunder, unless and until such assignee shall inter into possession of and exercise the rights herein granted.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed this instrument, the day and year first above written.

PARR-MOSS LANDING TERMINAL COMPANY,

By FRED D. PARR

(SEAL)

Its President

By

CHARLES A. PINKHAM

Its Secretary

EXHIBIT A

PARCEL I.

All that certain lot, piece or parcel of land situate in the County of Monterey, State of California, described as follows:

BEGINNING at a 4" x 4" post from which the most westerly corner of that certain 0.861 acre tract of land conveyed by Minnie Sandholdt and William Sandholdt, her husband, to Hovden Food Products Corporation by deed recorded November 19, 1934 in Vol. 417 of Official Records of Monterey County at page 157, bears North $21^{\circ} 45'$ East 100 feet, and from which the northerly terminus of the thirteenth course of the Patent Survey of Monterey City Lands Tract No. III bears North $21^{\circ} 45'$ East 550 feet and North $6^{\circ} 40'$ East 538.7 feet and running thence from said point of beginning South $68^{\circ} 15'$ East 51.28 feet; thence South $26^{\circ} 15'$ West 18.78 feet; thence South $37^{\circ} 13' 20''$ West 10.00 feet; thence Northwesterly on a curve to the left, tangent to which at the last point bears North $52^{\circ} 46' 40''$ West, said curve having a radius of 145 feet and a central angle of $10^{\circ} 58' 20''$, an arc distance of 27.77 feet; thence North $63^{\circ} 45'$ West 56.00 feet; thence North $26^{\circ} 15'$ East 21.92 feet; thence South $63^{\circ} 45'$ East 34.38 feet to the point of beginning, containing an area of 0.046 acre more or less, the basis of bearings in this description being the meridian used in the above mentioned deed from Sandholdt et vir to Hovden Food Products Corporation.

PARCEL II

A strip of land 10 feet in width, lying 5 feet on either side of the following described centerline:

BEGINNING at a point in the southeasterly boundary line of Parcel I hereinafter described, distant thereon North $37^{\circ} 13' 20''$ West 10.00 feet from the most southerly corner of said Parcel I, and running thence southeasterly on a curve to the right, tangent to which at the point of beginning bears South $52^{\circ} 46' 40''$ East, said curve having a radius of 150 feet and a central angle of $9^{\circ} 15' 00''$, an arc distance of 24.21 feet; thence on a reverse curve to the left, tangent to which at the point of reversal bears South $43^{\circ} 31' 40''$ East, said curve having a radius of 150 feet and a central angle of $14^{\circ} 23' 20''$, an arc distance of 37.67 feet; thence South $52^{\circ} 55'$ East 51.28 feet, crossing the Salinas River; thence on a curve to the left, tangent to the last course, said curve having a radius of 200 feet and a central angle of $48^{\circ} 21'$, an arc distance of 168.77 feet; thence North $73^{\circ} 44'$ East 138.21 feet; thence on a curve to the right, tangent to the last course, said curve having a radius of 300 feet and a central angle of $22^{\circ} 12'$, an arc distance of 116.85 feet; thence South $83^{\circ} 57'$ East 537.40 feet; thence

on a curve to the left, tangent to the last course, said curve having a radius of 300 feet and a central angle of $140^{\circ} 29'$, an arc distance of 75.83 feet thence North $81^{\circ} 54'$ East 143.54 feet more or less to a point in the westerly right of way line of State Highway No. 1 leading from Watsonville to Castroville, from which point the intersection of the easterly right of way line of said Highway with the southerly line of Dolan Road bears North $3^{\circ} 19' 02''$ West 1475.82 feet.

Subject, however, to all rights of the County of Monterey in that portion of the above described strip of land lying within the County Road right of way, and containing a net area of 0.33 acre more or less.

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3010-6354 Main 103 Relocation
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AFTER RECORDING, RETURN TO:

FOR RECORDER'S USE ONLY

RELOCATION AGREEMENT

THIS AGREEMENT is made by and between KAISER ALUMINUM & CHEMICAL CORPORATION, a Delaware corporation, hereinafter called first party, and PACIFIC GAS AND ELECTRIC COMPANY, a California corporation, hereinafter called second party, for the purpose of changing the location of the right of way and easement within the strip of land described in the deed from John B. Stirling and others to Pacific Gas and Electric Company dated September 16, 1929 and recorded in Book 207 of Official Records at page 407, Records of the County of Monterey, State of California, under and by virtue of which second party is the owner of certain rights in, on, over, and across the lands described in said deed dated September 16, 1929 which include the lands of first party situate in said County of Monterey, described as follows:

(APN 211-023-01, -03)

The 359.25 acre and the 19.56 acre parcels of land described in the deed from William J. Stirling and others to Kaiser Aluminum & Chemical Corporation dated February 4, 1955 and recorded in Book 1588 of Official Records at page 113, Monterey County Records; excepting from said 19.56 acre parcel of land the 0.0548 acre parcel of land described in the deed from Robert N. Stirling and Mary Ruth Klaumann to The Pacific Telephone and Telegraph Company recorded December 8, 1953 in Book 1495 of Official Records at page 410, Monterey County Records.

NOW, THEREFORE, the parties hereto agree that the location of the right of way and easement within said strip of land be, and it hereby is, changed to the strip of land described as follows:

A strip of land of the uniform width of 30 feet extending from the center line of the county road known as Old Stage Road in a general northerly direction to the northwesterly boundary line of said 19.56 acre parcel of land and lying 15 feet on each side of the line which begins at a point in said center line and runs thence

(1) north 5° 09.0' east 114.1 feet, more or less,
to a point herein for convenience called Point "A"; thence

(2) north 24° 21.5' west 1641.2 feet; thence

(3) north 25° 40.1' east 591.1 feet; thence

(4) north 59° 28.5' east 370.1 feet; thence

(5) north 72° 52.5' east 324.8 feet; thence

(6) north 5° 09.0' east 18.7 feet, more or less,

to a point in said northwesterly boundary line, said northwesterly boundary line being the southeasterly boundary line of said Old Stage Road; said Point "A" bears south 32° 24.4' east 634.2 feet distant from the found 6-inch by 6-inch white post accepted as marking the intersection of the southwesterly boundary line of said Old Stage Road with the northwesterly boundary line of the 50.99 acre parcel of land described in the deed from Frederick Andersen and wife to Elmer L. Andersen and wife dated January 26, 1927 and recorded in Book 103 of Official Records at page 64, Monterey County Records.

As so modified the rights in, on, over, and across the lands described herein granted by said deed dated September 16, 1929 are hereby confirmed in second party on the terms and conditions therein set forth.

First party reserves the right to use and maintain first party's existing water well located approximately 1-1/2 feet inside of said strip as so relocated and second party hereby consents thereto; however, first party agrees (a) that no further encroachment will be made and no alterations will be made to said water well, (b) not to replace said well within said strip as so relocated in the event said well is destroyed and (c) that second party shall not be liable to first party or any person claiming under first party for any loss, cost, expense or damage, whether for damage to or loss of property or injury to or death of person, arising out of first party's occupancy of said strip as so relocated.

Except as expressly set forth herein, this agreement shall not in any way alter, modify, or terminate any provision of said deed dated September 16, 1929.

This agreement shall inure to the benefit of and bind the successors and assigns of the respective parties hereto.

IN WITNESS WHEREOF the parties hereto have executed this agreement this

12th day of January, 1981.

First Party:

KAISER ALUMINUM & CHEMICAL
CORPORATION

By

Richard J. Kostyrka
Richard J. Kostyrka, Manager, Real Estate

By

B. E. Chinn
Asst. Secretary

Second Party:

PACIFIC GAS AND ELECTRIC COMPANY

By

Norman W. Brown
Norman W. Brown
Director of Land Management

Coast Valleys

GM 191236

Dwg. 381394

Sh. 8 & 9

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M.D.B. & M.

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SE4 of SE4

Sec. 36

S2 of SW4

T.14S., R.3E.,

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NE4 of SE4

Sec. 1, NW4

NW4 of SW4

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Prepared W. E. G.

Checked W. E. G.

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③
EASEMENT AGREEMENT

1. Parties.

This Agreement is between Kaiser Aluminum & Chemical Corporation, a Delaware corporation, 300 Lakeside Drive, Oakland, California 94643, ("Kaiser") and Sea Products Company, a partnership, 140 Oliver Street, Monterey, California 93940, ("Sea Products").

2. Facts.

2.1. Kaiser owns and operates a magnesia plant at Moss Landing, California, which plant has a waste water pipeline for deposit of waste water from the plant into the Pacific Ocean at a distance of approximately 620 feet from shore.

2.2. Sea Products operates a fish processing plant near Kaiser's magnesia plant and Sea Products desires to connect its waste water pipeline to Kaiser's waste water pipeline to dispose of waste water generated during Sea Products' operations.

2.3. Officials of the California Regional Water Quality Control Board ("Board") have requested Kaiser's cooperation in allowing Sea Products to connect its waste water pipeline to Kaiser's waste water pipeline to dispose of Sea Products' waste water, and Kaiser is willing to accommodate the Board and Sea Products in resolving Sea Products' waste water problems as provided herein.

3. Easement Rights.

3.1. Grant of Easement. In consideration for the payment of \$100 per year, Kaiser grants to Sea Products a non-exclusive revokable right to connect its 3" waste water pipeline to Kaiser's pipeline at the location shown on the attached plot plan, which is marked ~~Exhibit A~~ and is incorporated herein by this reference. Sea Products shall have the right to come upon Kaiser's property to install, maintain, repair and remove the pipeline as necessary, provided Sea Products shall give prior notice to the plant manager of Kaiser's Moss Landing facility and obtain permission prior to any actual entry upon the lands of Kaiser. Kaiser and Sea Products shall coordinate such entry so as not to unreasonably interfere with Kaiser's use of its pipeline and the surrounding property.

3.2. Duties of Sea Products.

3.2.1. Sea Products shall install said pipeline in a 3' deep trench with 30" backfill, and shall connect said pipeline to Kaiser's existing man hole as shown on ~~Exhibit B~~. Sea Products shall not exercise any right granted hereunder without first obtaining prior specific approval of the plant manager or his delegate at Kaiser's Moss Landing plant for specific entry on Kaiser's property. Sea Products' construction activity shall not in any way interfere with Kaiser's effluent discharge. Sea Products shall design, install and maintain its pipeline connection in such manner that it will

not at any time interfere with or obstruct the flow of waste water from Kaiser's facility as originally designed.

3.2.2. Sea Products shall install and maintain its pipeline connection and effluent discharge in compliance with all applicable federal, state, regional and local laws and regulations of all types and kinds, shall pay for all costs associated therewith, shall not deposit materials in said pipeline or do any other act which will cause Kaiser's discharge of waste water to fail to comply with all applicable laws and regulations, and shall hold harmless, indemnify and defend Kaiser from and against any and all claims, costs, liabilities or expenses, including attorneys' fees, in any way arising out of or resulting from the grant by Kaiser or the exercise of any of the rights or duties by Sea Products hereunder. In the event Kaiser should receive a notice of claim, claim or complaint by any party, it shall promptly give notice thereof to Sea Products and Sea Products shall promptly and diligently settle, pay or dispose of the claim or complaint, all at no cost to Kaiser.

3.2.3. Sea Products shall take out and maintain during the term of this Agreement general liability insurance with Kaiser named as an additional named insured with combined single limit of not less than \$1,000,000. Sea Products shall give Kaiser a Certificate of Insurance evidencing compliance with this paragraph and providing also that Kaiser will be notified not less than 30 days prior to any termination or diminution of any insurance coverage provided thereunder.

3.2.4. Sea Products shall carefully and diligently complete or cause to be completed any construction or maintenance work on the property which work shall be performed to the satisfaction of Kaiser in a first class workmanlike manner, by a licensed contractor or contractors, which contractor or contractors will have public liability and workers' compensation insurance in limits acceptable to Kaiser.

3.2.5. Sea Products shall give Kaiser not less than ten days notice prior to any construction activity with sufficient information so that Kaiser can post and record appropriate notices of nonresponsibility with regard to the work of improvement and Sea Products shall pay for all construction work promptly so as to preclude any mechanic's liens being filed against the property.

3.3. Disclaimer. The rights granted to Sea Products herein are granted solely as a convenience to Sea Products to solve its water waste disposal problems, and in no way constitute a representation or warranty to Sea Products of the continued existence, use, or operation of Kaiser's pipeline, or the discharge of waste water from Kaiser's plant at any specific time or at any volume.

4. Term and Termination.

~~This Agreement and the rights granted to Sea Products hereunder shall be terminable by Kaiser at any time upon 60 days prior written notice delivered to Sea Products at the address set forth above. If, however, it is found that Sea~~

Products' discharge detrimentally affects Kaiser's NPDES Discharge Permit or in any way affects Kaiser's normal discharge rate, Sea Products shall terminate its discharge immediately upon notice from Kaiser until the cause of the problem can be corrected. In the event of termination of this Agreement, Sea Products shall, if requested by Kaiser, remove its pipeline and restore Kaiser's pipeline to the condition existing prior to the connection granted herein and shall pay all costs associated with such removal, including but not limited to any inspections and permits required as a result of such removal. The termination of this Agreement shall not extinguish Sea Products' duty to indemnify Kaiser as provided in 3.2.2. above.

5. Miscellaneous.

5.1. The rights provided herein shall not be assignable by Sea Products except on prior written consent of Kaiser. Any assignment without such consent shall operate to cause an immediate termination of the rights provided herein without prior notice to Sea Products.

5.2. Sea-Products shall notify Kaiser immediately upon any change in the partnership of Sea Products, including but not limited to, the transfer of any partnership interest, the dissolution or termination of such partnership.

5.3. This Agreement shall be interpreted and enforced in accordance with the laws of the State of California.

5.4. If either party initiates legal action to enforce this Agreement or for damages on account of a breach hereof, the non-prevailing party shall pay to the prevailing party all costs of suit including reasonable attorneys' fees.

Dated

April 14 1981

Sea Products Company

By

By

By

Being All of the Partners

Kaiser Aluminum & Chemical
Corporation

By

Title



32

(4)

LICENSE AGREEMENT

1. Parties.

This Agreement is between Kaiser Aluminum & Chemical Corporation, a Delaware corporation, 300 Lakeside Drive, Oakland, California 94643, ("Kaiser") and General Fish Corporation, P O Box 2232, San Francisco CA 94126 (General Fish).

2. Facts.

2.1. Kaiser owns and operates a magnesia plant at Moss Landing, California, which plant has a waste water pipeline for deposit of waste water from the plant into the Pacific Ocean at a distance of approximately 620 feet from shore.

2.2. General Fish operates a fish processing plant near Kaiser's magnesia plant and General Fish desires to connect its waste water pipeline to Kaiser's waste water pipeline to dispose of waste water generated during General Fish's operations.

2.3. The California Regional Water Control Board has determined that General Fish's waste water discharge will comply with all rules and regulations if discharged into Monterey Bay through Kaiser's pipeline. General Fish will obtain all necessary federal and state permits including a NPDES permit if required

by the regional Water Control Boards. Kaiser is willing to accommodate General Fish in resolving General Fish's waste water problems as provided herein.

3. License

3.1. License to General Fish. In consideration for the payment of \$100 per year, Kaiser gives to General Fish a non-exclusive revokable license, subject to all of the terms and conditions as set forth in this agreement, to connect its waste water pipeline to Kaiser's pipeline at the location shown on the attached plot plan, which is marked Exhibit A and is incorporated herein by this reference. General Fish shall have the right to come upon Kaiser's property to install, maintain, repair and remove the pipeline as necessary, provided General Fish shall give prior notice to the plant manager of Kaiser's Moss Landing facility and obtain permission prior to any actual entry upon the lands of Kaiser. Kaiser and General Fish shall coordinate such entry so as not to unreasonably interfere with Kaiser's use of its pipeline and the surrounding property.

3.2. Duties of General Fish.

3.2.1. General Fish shall install said pipeline in a 2 ft. deep trench with 24 inch. backfill, and shall connect said pipeline to Kaiser's existing

man hole as shown on Exhibit B. General Fish shall not exercise any right granted hereunder without first obtaining prior specific approval of the plant manager or his delegate at Kaiser's Moss Landing plant for specific entry on Kaiser's property. General Fish construction activity shall not in any way interfere with Kaiser's effluent discharge. General Fish shall design, install and maintain its pipeline connection in such manner that it will not at any time interfere with or obstruct the flow of waste water from Kaiser's facility as originally designed.

3.2.2. General Fish shall install and maintain its pipeline connection and effluent discharge in compliance with all applicable federal, state, regional and local laws and regulations of all types and kinds, shall pay for all costs associated therewith, shall not deposit materials in said pipeline or do any other act which will cause Kaiser's discharge of waste water to fail to comply with all applicable laws and regulations, and shall hold harmless, indemnify and defend Kaiser from and against any and all claims, costs, liabilities or expenses, including attorneys' fees, in any way arising out of or resulting from the grant by Kaiser or the exercise of any of the rights or duties by General Fish hereunder. In the event Kaiser should receive a notice of claim, claim or complaint by any

party, it shall promptly give notice thereof to General Fish and General Fish shall promptly and diligently settle, pay or dispose of the claim or complaint, all at no cost to Kaiser.

3.2.3. General Fish shall take out and maintain during the term of this Agreement general liability insurance with Kaiser named insured with combined single limit of not less than \$1,000,000. General Fish shall give Kaiser a Certificate of Insurance evidencing compliance with this paragraph and providing also that Kaiser will be notified not less than 30 days prior to any termination or diminution of any insurance coverage provided thereunder.

3.2.4. General Fish shall carefully and diligently complete or cause to be completed any construction or maintenance work on the property which work shall be performed to the satisfaction of Kaiser in a first class workmanlike manner, by a licensed contractor or contractors, which contractor or contractors will have public liability and workers' compensation insurance in limits acceptable to Kaiser.

3.2.5. General Fish shall give Kaiser not less than ten days notice prior to any construction activity with sufficient information so that Kaiser can post and record appropriate notices of non-responsibility with regard to the work of improvement and General

Fish shall pay for all construction work promptly so as to preclude any mechanic's liens being filed against the property.

3.3. Disclaimer. The rights granted to General Fish herein are granted solely as a convenience to General Fish to solve its water waste disposal problems, and in no way constitute a representation or warranty to General Fish of the continued existence, use, or operation of Kaiser' pipeline, or the discharge of waste water from Kaiser' plant at any specific time or at any volume.

4. Term and Termination.

This Agreement and the rights granted to General Fish hereunder shall be terminable by Kaiser at any time upon 60 days prior written notice delivered to General Fish at the address set forth above. If, however, it is found that General Fish's discharge detrimentally affects Kaiser's NPDES Discharge Permit or in any way affects Kaiser's normal discharge rate, General Fish shall terminate its discharge immediately upon notice from Kaiser until the cause of the problem can be corrected. In the event of termination of this Agreement, General Fish shall, if requested by Kaiser, remove its pipeline and restore Kaiser's pipeline to the condition existing prior to the connection granted

herein and shall pay all costs associated with such removal, including but not limited to any inspections and permits required as a result of such removal. The termination of this Agreement shall not extinguish General Fish's duty to indemnify Kaiser as provided in 3.2.2. above.

5. Miscellaneous.

5.1. The rights provided herein shall not be assignable by General Fish except on prior written consent of Kaiser. Any assignment without such consent shall operate to cause an immediate termination of the rights provided herein without prior notice to General Fish.

5.2. This Agreement shall be interpreted and enforced in accordance with the laws of the State of California.

Dated October 25, 1982.

GENERAL FISH CORPORATION,

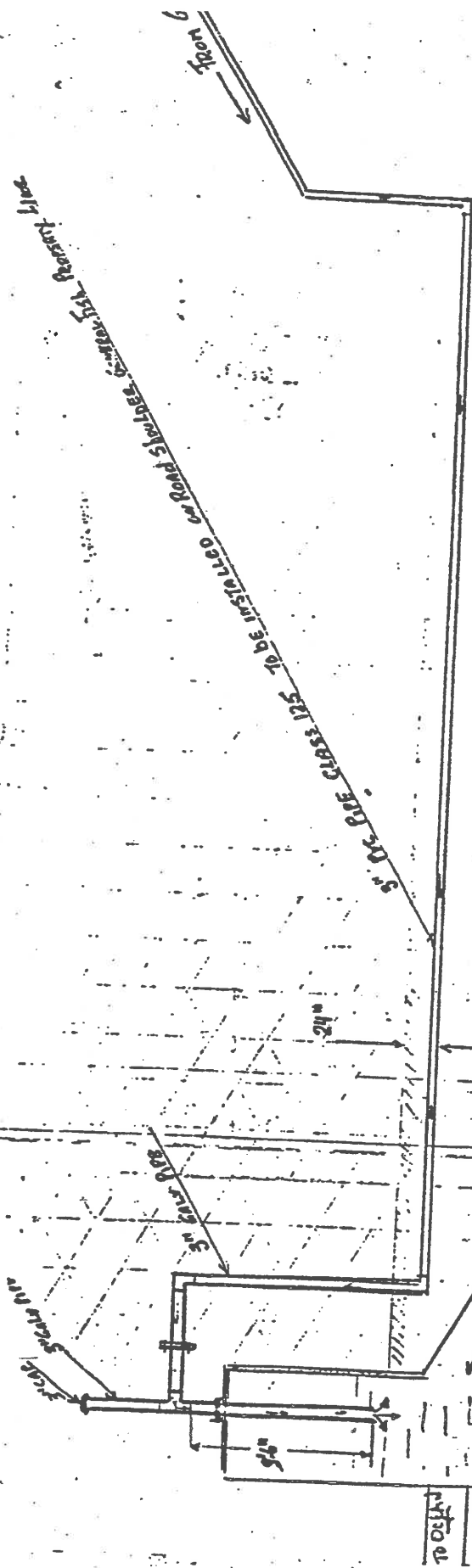
By: Patrick J. Flanagan, Secretary

KAISER ALUMINUM & CHEMICAL CORPORATION,

By: Thomas H. Matlin



EXHIBIT B



NO.	DATE
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REVISION

BY	DATE	APP'D
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REFERENCES

Drawn	Checked	Approved
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Scale 1/4" = 5' 0" 1/2"

File No.

Drawing No.

KAISER
REFRACTORIES

DIVISION OF KAISER ALUMINUM & CHEMICAL CORPORATION

COLLEMAN GED. METCO MEXICO SAN AMERICAL STON

MIRINE LABORATORY PARKING

PARKING STOP BARRIER

FISHING BOAT ACCESS PARKING

MAN HOLE

PIPE LINE (A)

SAND HOLT

ROAD

PERIMETER FENCE

MONTEREY COUNTY

PLANNING DEPARTMENT

(408) 422-9018 - P.O. BOX 1208 - SALINAS, CALIFORNIA 93902

ROBERT SLIMMON, JR.
DIRECTOR OF PLANNING



May 29, 1985

T. H. Mathis
Works Manager
Moss Landing-Natividad
National Refractories and
Minerals Corporation
P. O. Box 30
Moss Landing, CA 95039

Dear Mr. Mathis:

This will confirm previous conversations with Mr. Brian Owensby regarding the transfer of ownership of Kaiser Refractories to National Refractories and Minerals Corporation. The Use Permits which were granted to Kaiser Refractories at both the Natividad and Moss Landing sites were granted to conduct certain uses on a given piece of property. (Those permits are granted for the use of the land and are not granted to any specific firm, corporation or individual. No action is necessary by National Refractories and Minerals Corporation to transfer those permits.) National Refractories has full use of the permits as well as full responsibility for complying with the terms and requirements of those permits.

If you should have any questions concerning this matter, please do not hesitate to contact me.

Sincerely,

DALE ELLIS
Zoning Administrator

DE/mlk

70-15-87

KAISER REFRACTORIES
Moss Landing Area

MONTEREY COUNTY USE PERMITS

RECEIVED

DEC 27 1984

REFRACTORIES
ENGINEERING

<u>Date of Permit</u>	<u>Permit No.</u>	<u>Granted to:</u>	<u>Reason</u>
08-31-66	1576	Kaiser Aluminum	Addition to manufacturing use Natividad
11-30-66	1604	Kaiser Aluminum & Chemical Corp	Addition to manufacturing use Natividad
08-30-67	1674	Kaiser Aluminum & Chemical Corp PC-186	Crusher installation, waste pile, settling pond, dust collection for White Rock and Dolomite Sand plant dryer stack - Natividad
07-31-74	2205	Kaiser Refractories Division PC-2011	Two oil storage tanks Natividad
10-30-74	2319	Kaiser Refractories PC 2058	Carbon dioxide removal equipment - Moss Landing Magnesia
02-26-75	2349	Kaiser Refractories 2132	Processing facilities for soil stabilization line; new electrical control center for EMS; potable water system; pelletizing facilities for dust control system; retaining wall water slurry screws; fines addition to quarry waste; office, washrooms and master control center for rotary kilns; improvements to sacking; improve dust collection two small rotary dryers; additional landscaping; processing waste sand plant; new truck scale and scale house - Natividad
03-26-75	2360	Kaiser Refractories	New settling pond and raise existing dike; carbon dioxide removal; 2 new oil tanks with boiler; building for ore grinding with dust collection; addition

KAISER REFRACTORIES
Moss Landing Area

Monterey County Use Permits -- 2

<u>Date of Permit</u>	<u>Permit No.</u>	<u>Granted to:</u>	<u>Reason</u>
	2360 (continued)		or build new office; building and install facilities to add settling agent to thickener tanks; layout and move construction office; landscaping; duct-work replacement or rebuild 13 dust collectors - Moss Landing Magnesia Plant
			Install improved ore dryer; new building to add metal cases; wet bond tank and pumping facilities; retaining wall along tracks; relocate gasoline pump and underground storage; mobile equipment washing area; new truck-scale and roads; landscaping; duct work rebuild 7 dust collectors - Brick
06-27-75	2399	Kaiser Refractories PC-2274	Air-supported structure for storage - Natividad
08-27-75	2400	Kaiser Refractories PC-2275	Air-supported structure for storage - Magnesia
05-30-79	2299	Kaiser Aluminum & Chemical Corp PC-3579	Environmental control equipment - (dust collector #1 kiln) - Natividad
02-27-80	2671	Kaiser Aluminum PC-3911	Boiler building - Moss Landing Magnesia Plant
02-27-80	2672	Kaiser Aluminum PC-3912	Expansion of product line addition to APF Building - Magnesia
02-27-80	2673	Kaiser Aluminum PC-3913	Brick storage building - Natividad
10-29-80	2754	Kaiser Aluminum & Chemical Corp PC-4153	Rotary kiln feed modernization - (Filter Press Building) - Magnesia
11-24-80	ZA-4316	Kaiser Refractories	Addition to height requirements - new filter building conversion - Magnesia

KAISER REFRACTORIES
Moss Landing Area

Monterey County Use Permits -- 3

<u>Date of Permit</u>	<u>Permit No.</u>	<u>Granted to:</u>	<u>Reason</u>
05-27-81	2802	Kaiser Aluminum & Chemical Corp PC-4323	Control Room and electrical equipment building - Natividad
05-27-81	2803	Kaiser Aluminum & Chemical Corp PC-4331	Advanced product facility modernization - Magnesia
11-12-81	2833	Kaiser Refractories PC-4452	Maintenance facility building and engineering and construction trailer Magnesia
11-12-81	2834	Kaiser Refractories PC-4453	Coke handling facilities addition - Magnesia
11-12-81	2835	Kaiser Refractories PC-4454	Coke handling and pulverizing facilities - Natividad
12-10-81	ZA-4780	Kaiser Refractories	Addition to height requirements - Natividad
12-10-81	ZA-4781	Kaiser Refractories	Addition to height requirements - Magnesia
05-12-82	2870	Kaiser Refractories PC-4563	Ambient air quality monitoring station - Magnesia
02-23-83	2926	Kaiser Refractories PC-4714	Grinding facilities - (East Plant) - Natividad
07-13-83	2962	Kaiser Aluminum & Chemical Corp PC-4834	Hopper building - Magnesia
08-10-83	2970	Kaiser Refractories PC-4745	Removal of natural materials - Natividad
12-14-83	3000	Kaiser Aluminum PC-4966	Electrical control building - Magnesia
12-14-83	3001	Kaiser Refractories PC-4967	Two grinding mills - Natividad

March 22, 1995

Moss Landing Marine Laboratories
ATTN: Gary Greene, Director
Post Office Box 450
Moss Landing, CA 95039

Re: Letter of Intent For Seawater Intake
Through NR&M Outfall Line

Dear Dr. Greene:

This letter expresses the intent of National Refractories and Minerals ("NR&M") to enter into an agreement with California State University and/or Moss Landing Marine Laboratories (collectively "MLML") allowing for the installation and maintenance of a seawater intake system within the existing NR&M outfall line at Moss Landing. The intent expressed herein is premised on the following circumstances and assumptions.

MLML is in the process of obtaining all necessary local, regional, state and federal approvals for the reconstruction of the laboratories, including replacement of the seawater intake system functions destroyed in the 1989 Loma Prieta earthquake. One element of these approvals is the preparation of an Environmental Assessment ("EA") by the Federal Emergency Management Agency ("FEMA"). In connection with the preparation of the EA, FEMA has requested MLML to provide written confirmation of NR&M's intention to enter into an agreement allowing for installation of a seawater intake system, as generally described below.

MLML has proposed that two new six inch (6") diameter plastic intake pipes be routed inside NR&M's existing fifty-one inch (51") I.D. concrete outfall pipe. This is anticipated to provide a reliable seawater intake operating flow rate of 200 gallons per minute. Presently, discharged water from the NR&M outfall passes through a series of diffusers. The diffuser orifices consist of eight inch (8") diameter pipes, approximately two feet (2') in length, turned upward at approximately a 45° angle. It is proposed that the new intake pipes would extend approximately twenty feet (20') from the outfall diffusers. A screen would be attached at the end of each new intake pipe.

Moss Landing Marine Laboratories
ATTN: Gary Greene, Director
March 22, 1995
Page 2

Between the intake screen and where the piping enters the outfall pipe, the pipes would likely be secured with concrete blocking to the sea floor. Within the fifty-one inch (51") I.D. outfall pipe, the new plastic intake piping would be allowed to seek its own natural alignment. The new piping would exit the outfall pipe at "Manhole No. 2," where it would be secured and travel through concrete cores to a new intake pumphouse on the San Jose State University Foundation property. Thus the MLML seawater intake system will not pass under the harbor.

NR&M is prepared to enter into an agreement to accommodate the above-described system; said agreement to include the following conditions, which do not constitute an exhaustive recital of the terms that may be included:

1. MLML will be responsible for obtaining, at no expense to NR&M, all permits or approvals required for installation and maintenance of the seawater intake system, if any.

2. The installation and maintenance of the seawater intake shall not jeopardize or have any adverse effect on NR&M's existing National Pollution Discharge Elimination System ("NPDES") permit.

3. The installation and maintenance of the seawater intake system shall not jeopardize or have any adverse effect upon NR&M's operations/processes. In the event of any such interference, NR&M shall have the right to terminate the agreement, in which event MLML shall be responsible for removal of the seawater intake system and restoration of the outfall pipe to its original condition, at no cost to NR&M.

4. The final design of the seawater intake system shall be engineered at no expense to NR&M and shall be subject to NR&M approval.

5. MLML shall be responsible for monitoring the structural and functional integrity of the combined intake and outfall systems (including the interior of the outfall pipe) and the sea floor. Such activity shall be conducted by MLML at intervals to be determined in consultation with NR&M.

Moss Landing Marine Laboratories
ATTN: Gary Greene, Director
March 22, 1995
Page 3

6. MLML shall continue the quarterly monitoring and video reporting presently performed under contract to NR&M, provided however, that so long as the seawater intake system remains in the outfall pipe said services shall be rendered at no cost to NR&M.

7. The outfall pipe and diffusers will be cleaned by MLML prior to the installation of the new piping. This has been done in the past, at approximately 10-year intervals, by dragging a screen through the outfall pipe. Cleaning in the future would preferably be accomplished with the drag screen method with the new piping in place. However, if this method were not successful, the intake piping would likely be removed and replaced for cleaning of the outfall pipe.

8. MLML shall indemnify, defend and hold NR&M harmless from any actions or claims against NR&M, its subsidiaries and affiliates, arising in connection with or related to the placement and operation of the seawater intake system through the outfall pipe.

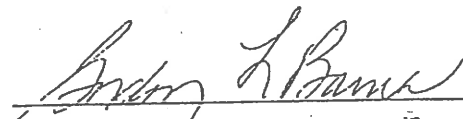
9. The agreement shall be subject to review and approval by NR&M's legal department.

NR&M has always enjoyed a good working relationship with MLML and is prepared to negotiate an agreement incorporating the basic terms described above. We look forward to working with you on this matter.

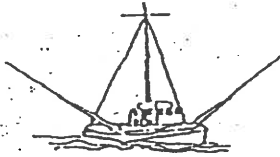
Yours very truly,

NATIONAL REFRACTORIES AND MINERALS

By:


VICE PRESIDENT QUALITY & ENG.

Title



MOSS LANDING HARBOR DISTRICT
CONSTRUCTION PERMIT
APPLICATION FORM
(Moss Landing Ordinance Code Section 26.300A)

1. Property Owner(s) Name: San Jose State University Foundation
Address: 1 Washington Square
City: San Jose State: CA Zip Code: 95192-0139
Telephone: (408) 924-1404
2. Applicant's Name: California State University - Moss Landing Marine Laboratories
Address: P.O. Box 450
City: Moss Landing State: CA Zip Code: 95039
Telephone: (408) 755-8650
Local contact: Melanie Mayer Consulting (408) 424-3940
3. Applicant's interest in property (owner, buyer, representative, etc.): Representative
4. Property address and nearest cross street: 7722 Sandholdt Road, Moss Landing Road
5. Property area (acres or square feet): _____
6. Assessor's Parcel Number(s): 133-232-006
7. Describe the proposed project: 2 eight inch pipes will be installed within the National Refractories outfall pipe. The intake pipes will extend 40 feet out beyond the end of National Refractories pipe. The piping will be used for providing seawater to Moss Landing Marine Laboratories and MBARI. An outfall pipe will open into the National Refractories manhole.
8. If new or additional construction is proposed, complete the following information (if it applies):
Number of employees (include all shifts) N/A
Number of parking spaces _____
Number of loading spaces _____
Lot coverage _____ %
Square feet of existing structure _____
Square feet of proposed structure _____
9. Will grading or filling be required: Yes _____ No X If yes, cubic yards _____

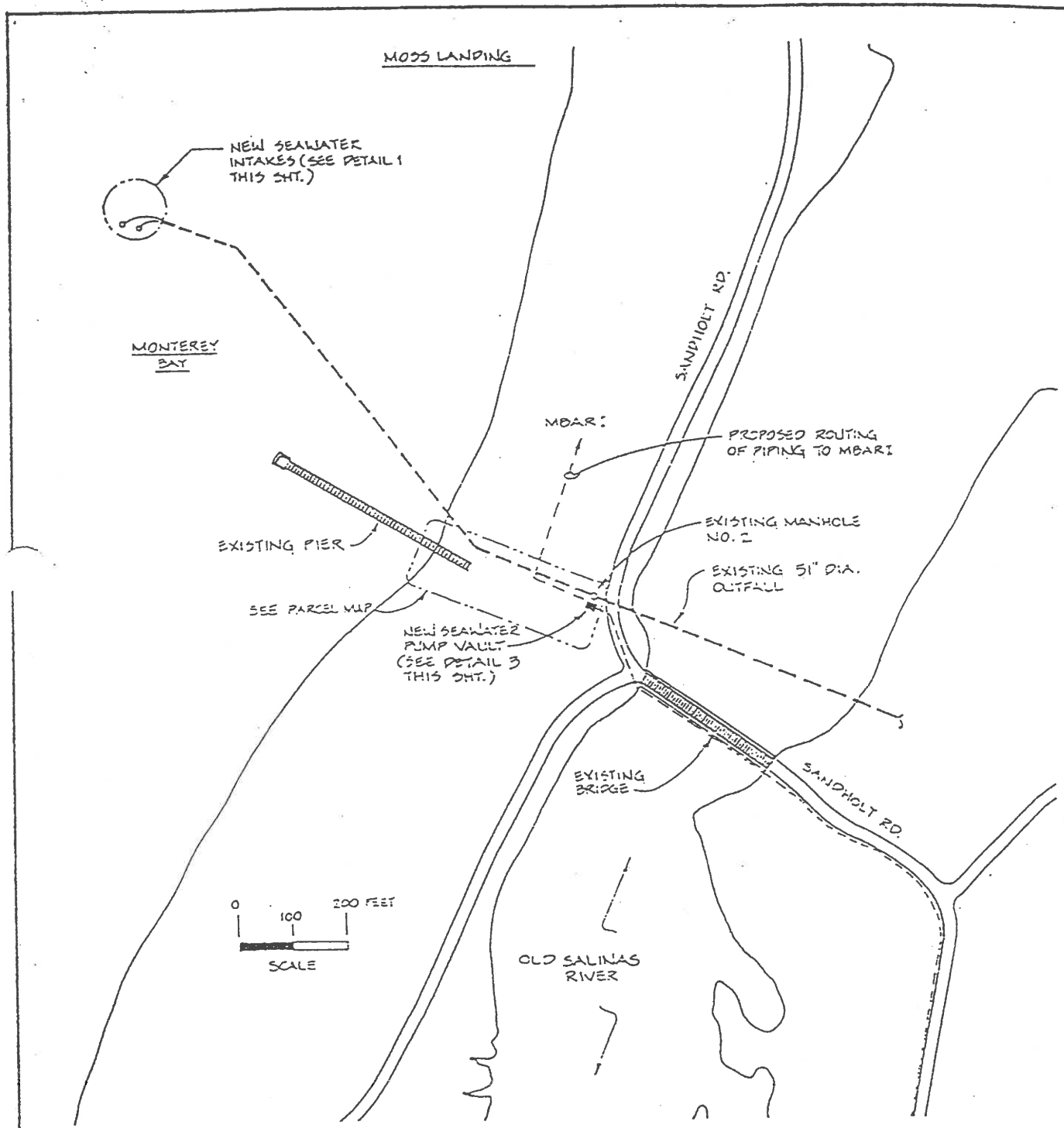
The undersigned hereby applies for a Construction Permit.

In signing and submitting this Application, I certify under penalty of perjury that the information provided in this Application and the accompanying Environmental Assessment Form is true and correct to the best of my knowledge.

Dated

Signature of Applicant or Property Owner

Printed Name



PURPOSED : SEAWATER INTAKE TO
MOSS LANDING MARINE LABS.

LOCATION SITE

SCALE AS SHOWN

MOSS LANDING
MARINE LABORATORIES

ON: LAND

AT: MOSS LANDING

COUNTY OF: MONTEREY STATE: CA

APPLICATION BY: CSU

SHEET 1 OF 8 DATE 4-19-96

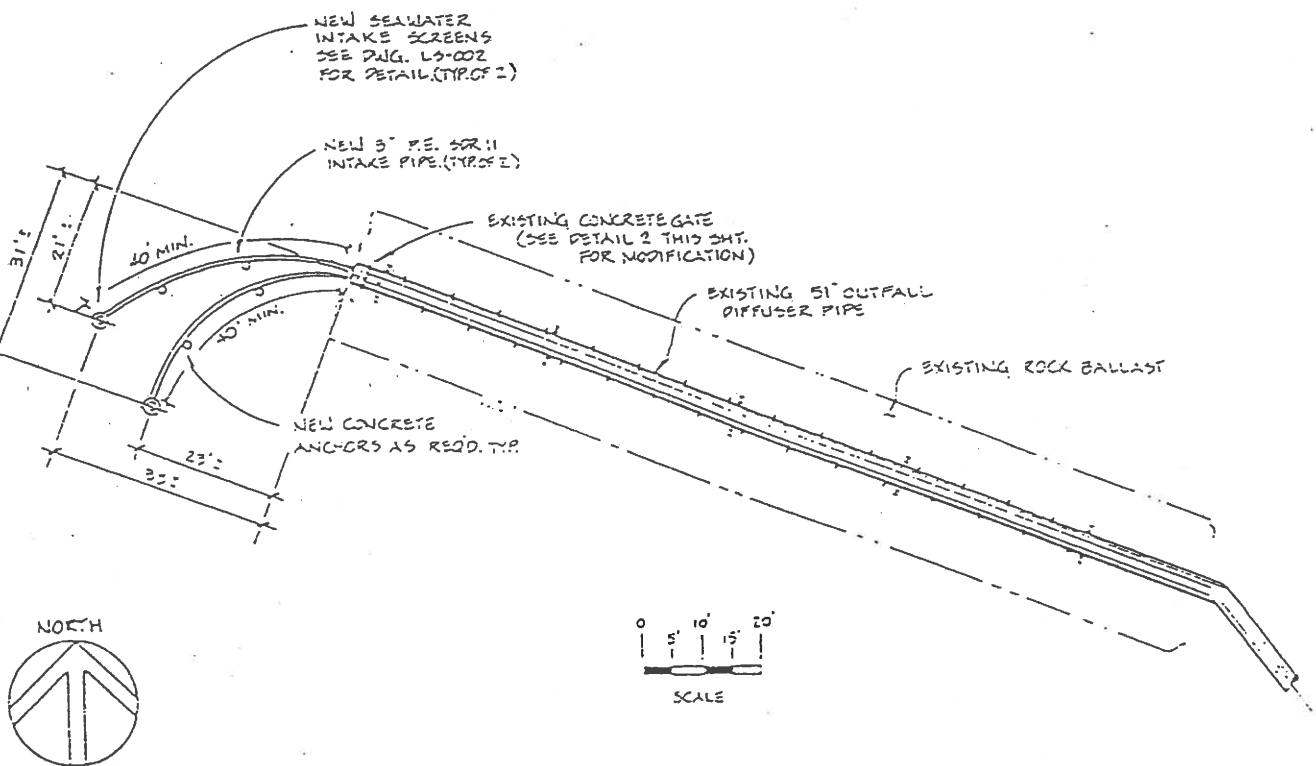
datum: NGVD

ADJACENT PROPERTY OWNERS:

① CA. DEPT. OF STATE PARKS

② MBARI

③ SANDHOLT ROAD



DETAIL 1

PURPOSED : SEAWATER INTAKE TO
MOSS LANDING MARINE LABS.

DATUM: NGVD

OCEAN INTAKE

SCALE AS SHOWN

MOSS LANDING
MARINE LABORATORIES

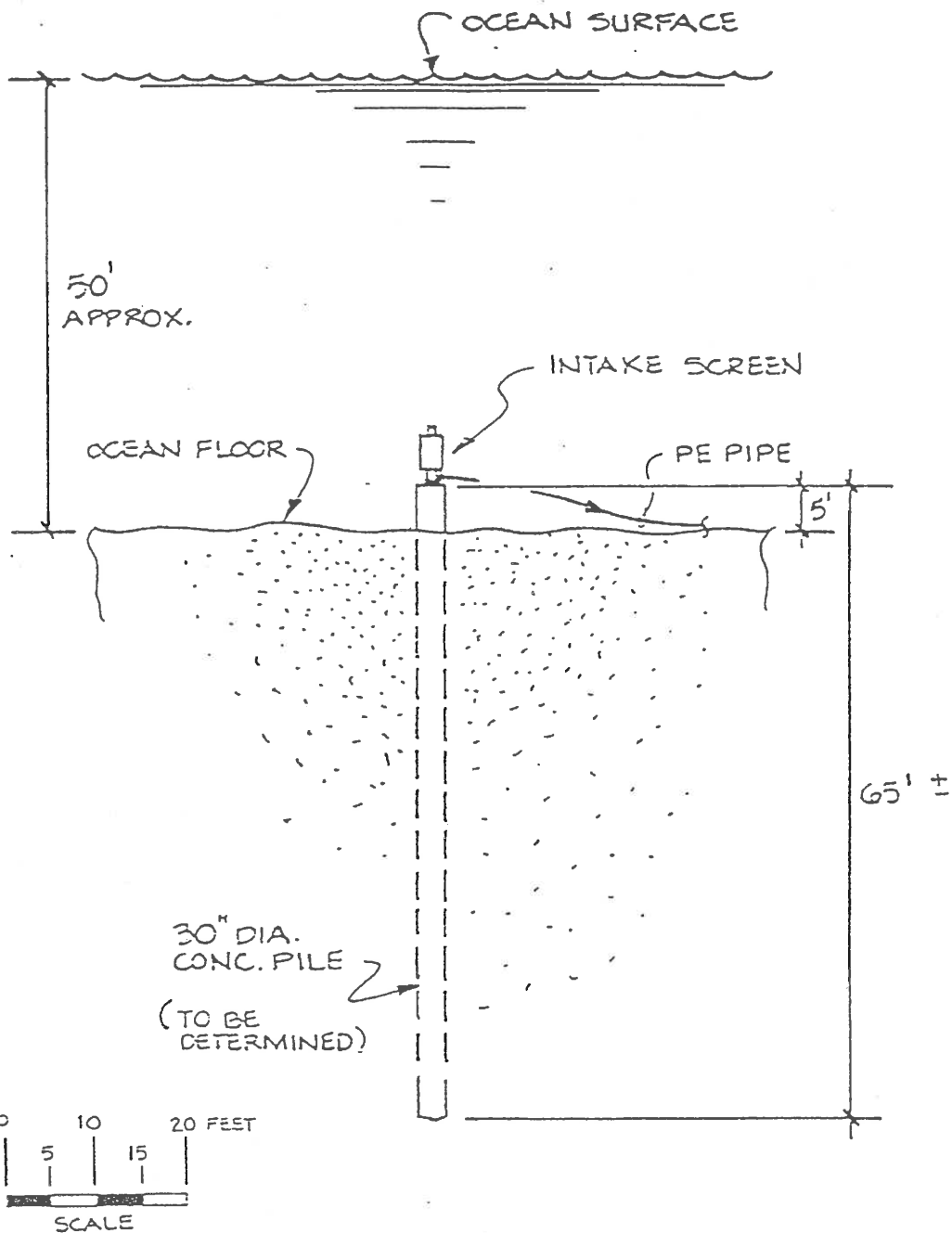
IN: OCEAN

AT: MOSS LANDING

COUNTY OF: MONTEREY STATE: CA

APPLICATION BY: CSU

SHEET 2 OF 8 DATE 4-19-96



PURPOSED : SEAWATER INTAKE TO
MOSS LANDING MARINE LABS.

DATUM: NGVD

ADJACENT PROPERTY OWNERS:

SEA FLOOR PILING

MOSS LANDING
MARINE LABORATORIES

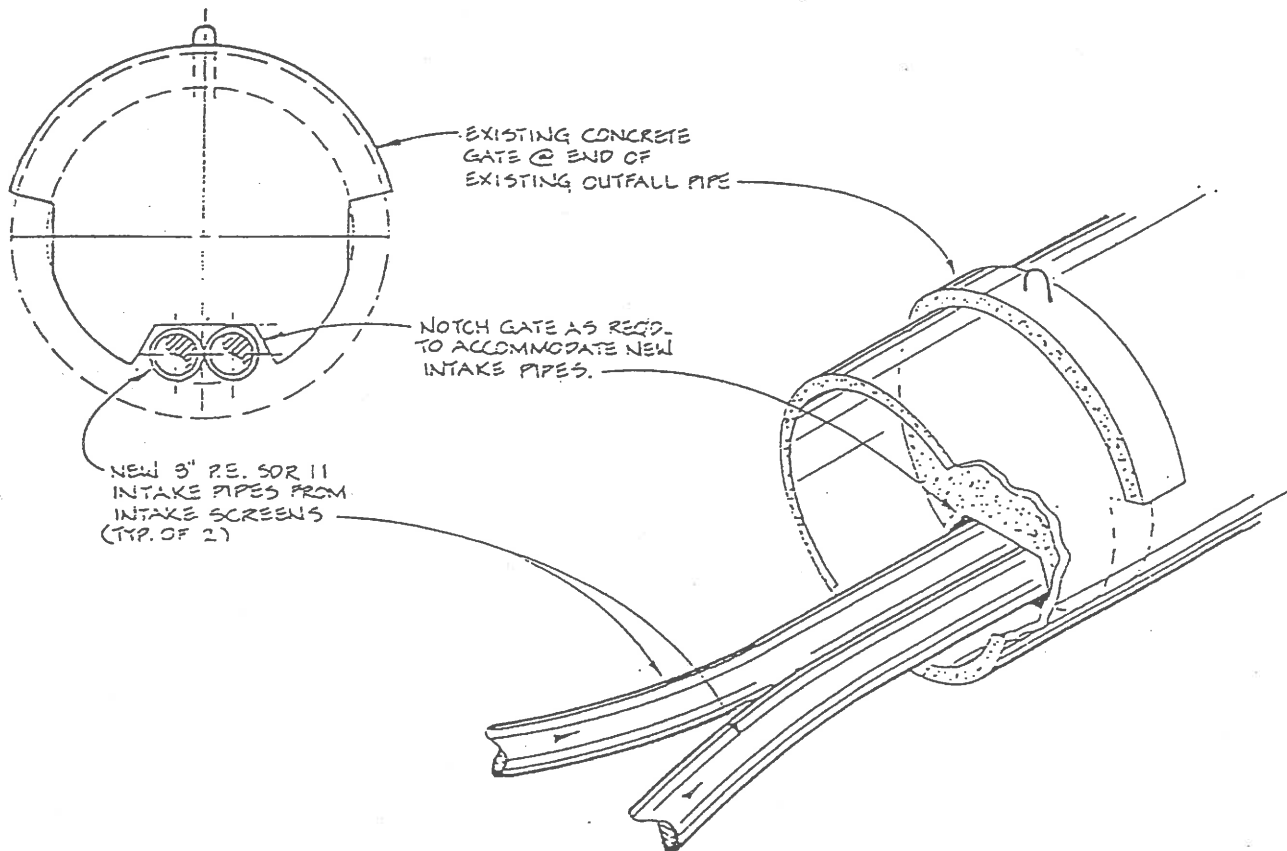
IN: OCEAN

AT: MOSS LANDING

COUNTY OF: MONTEREY STATE: CA

APPLICATION BY: CSU

SHEET 3 OF 8 DATE 4-19-96



DETAIL 2

PURPOSED : SEAWATER INTAKE TO
MOSS LANDING MARINE LABS.

JM: NGVD

GATE MODIFICATION

NO SCALE

MOSS LANDING
MARINE LABORATORIES

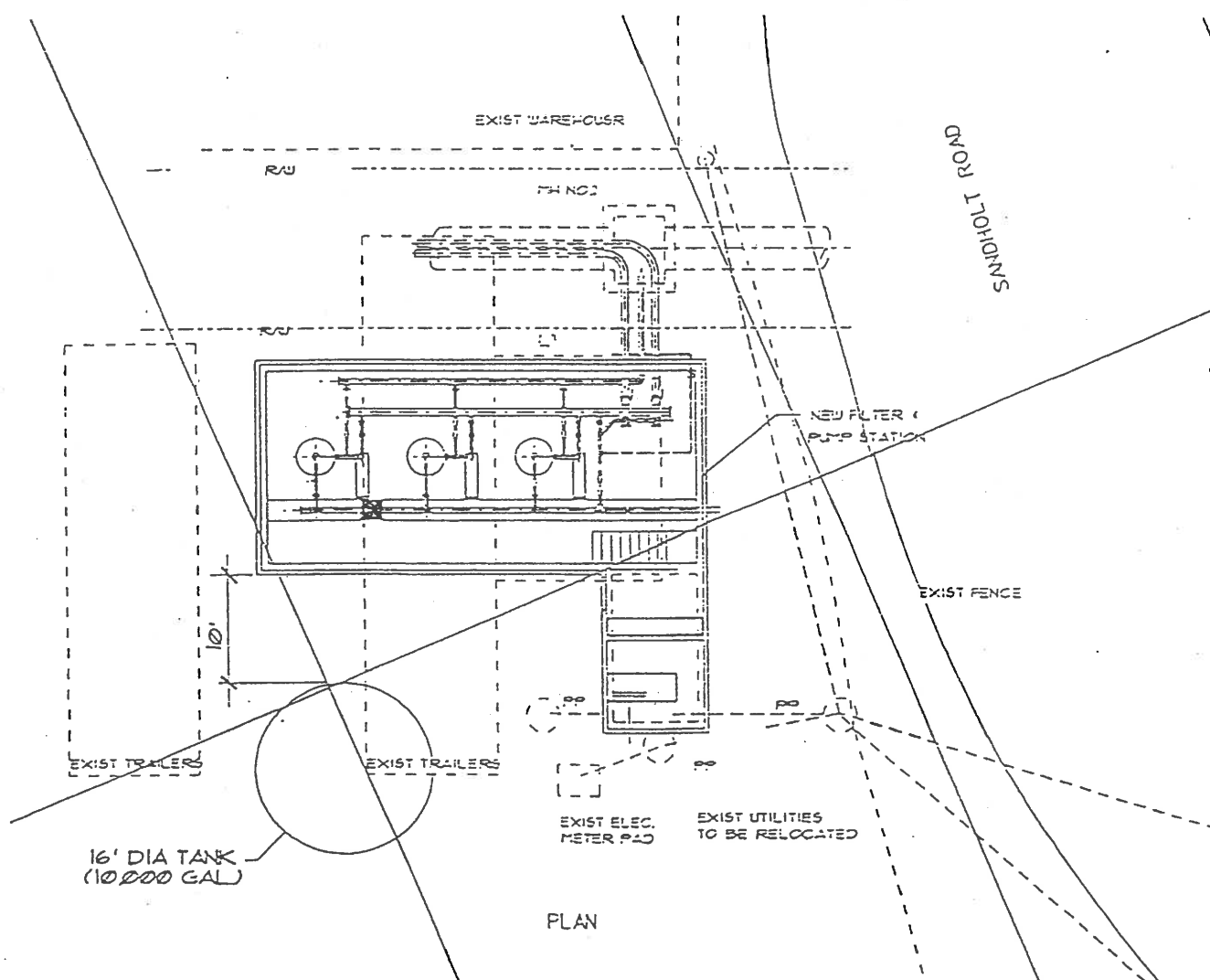
IN: OCEAN

AT: MOSS LANDING

COUNTY OF: MONTEREY STATE: CA

APPLICATION BY: CSU

SHEET 5 OF 8 DATE 4-19-96



PURPOSED : SEAWATER INTAKE TO
MOSS LANDING MARINE LABS.

DATUM: NGVD

ADJACENT PROPERTY OWNERS:

- ① CA. DEPT. OF STATE PARKS
- ② MBARI
- ③ SANDHOLT ROAD

PUMP HOUSE SITE

0 8.3 16.6 24.9



$\frac{1}{16}" = 1'-0"$

MOSS LANDING
MARINE LABORATORIES

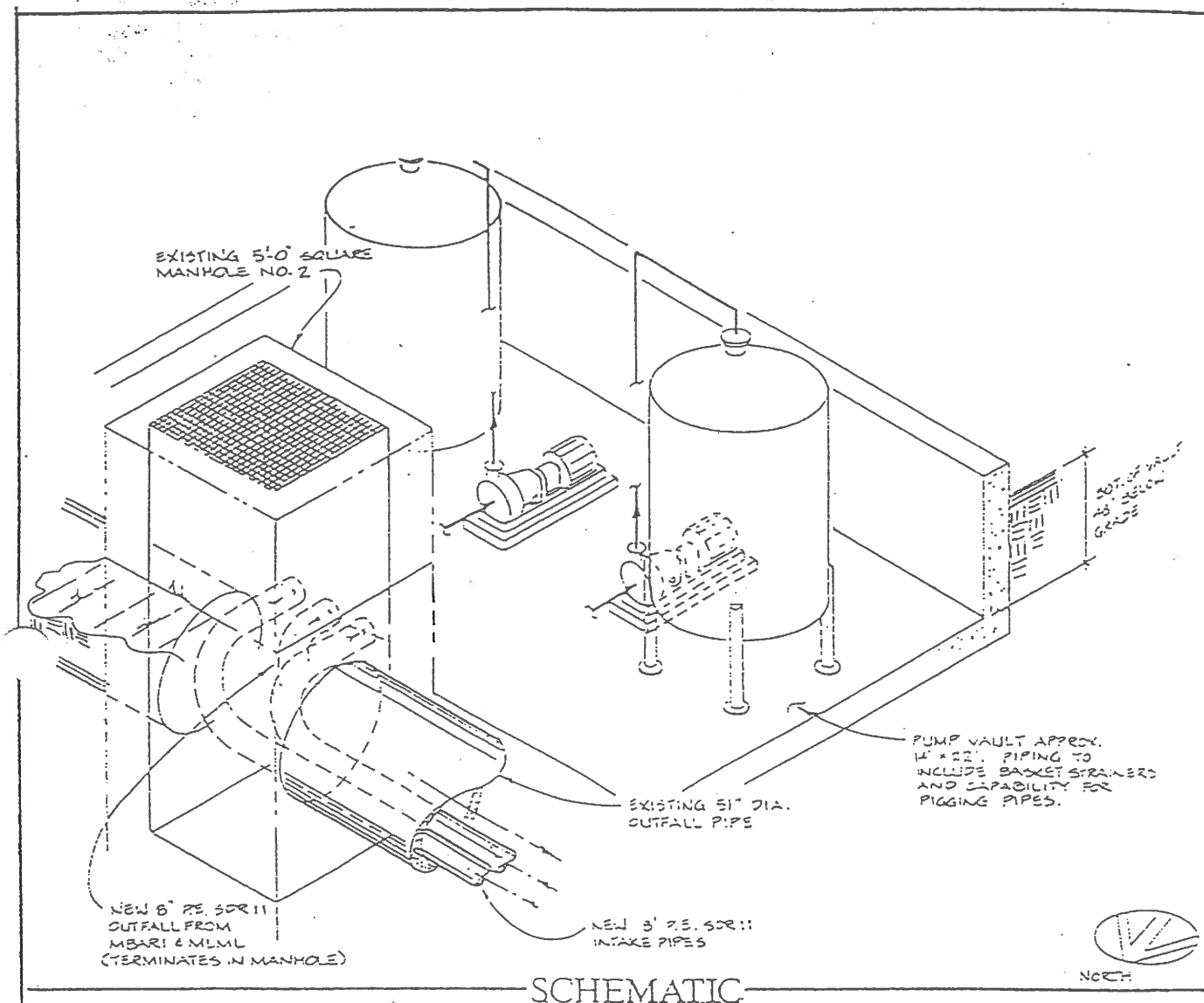
ON: LAND

AT: MOSS LANDING

COUNTY OF: MONTEREY STATE: CA

APPLICATION BY: CSU

SHEET 6 OF 8 DATE 6-95



PURPOSED : SEAWATER INTAKE TO
MOSS LANDING MARINE LASS.

UM: NGVD

ADJACENT PROPERTY OWNERS:

- ① CA. DEPT. OF STATE PARKS
- ② MBARI
- ③ SANDHOLT ROAD

SCHEMATIC

NO SCALE

MOSS LANDING
MARINE LABORATORIES

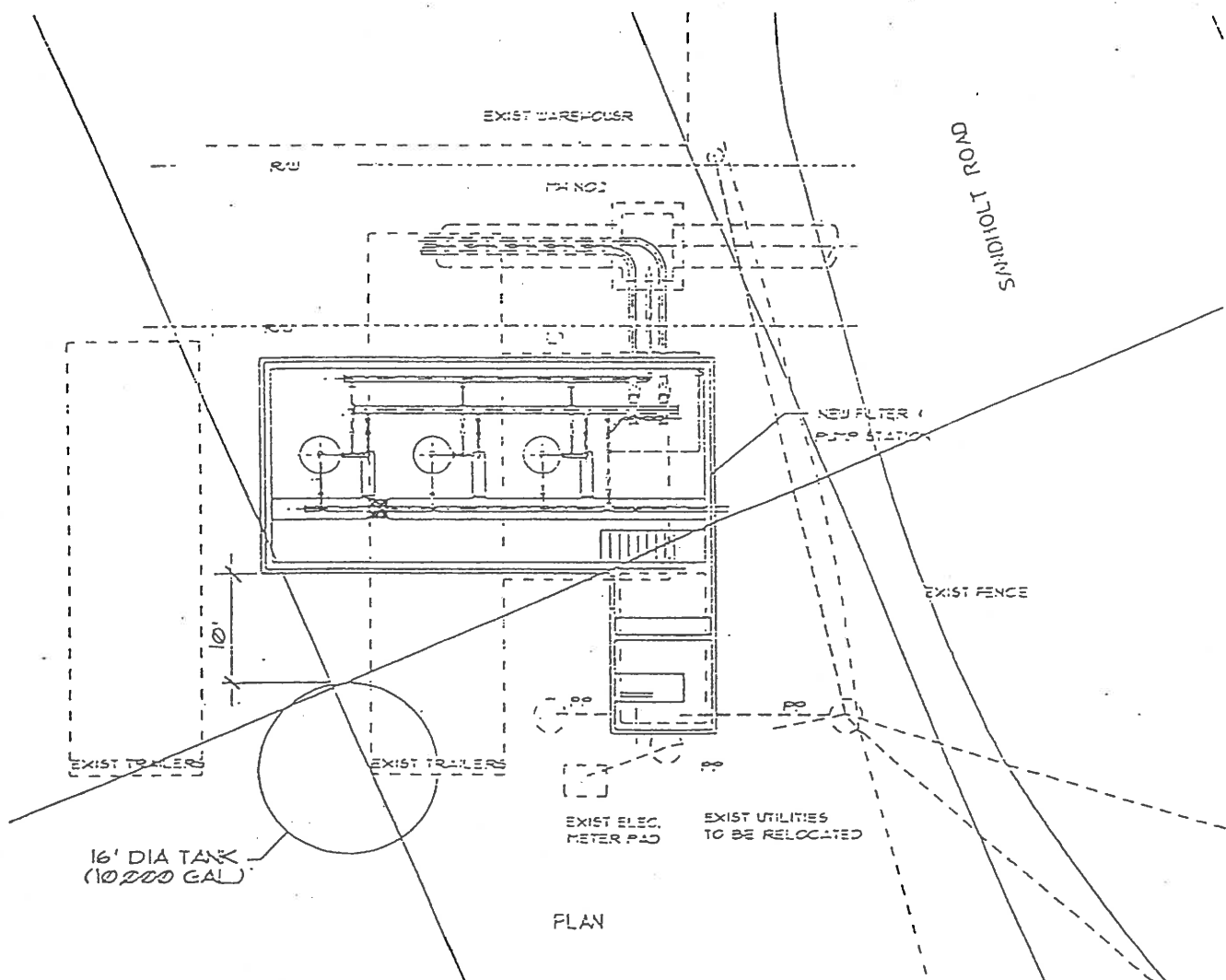
ON: LAND

AT: MOSS LANDING

COUNTY OF: MONTEREY STATE: CA

APPLICATION BY: CSU

SHEET 7 OF 8 DATE 4-19-96



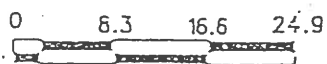
PURPOSED : SEAWATER INTAKE TO
MOSS LANDING MARINE LABS.

DATUM: NGVD

ADJACENT PROPERTY OWNERS:

- ① CA. DEPT. OF STATE PARKS
- ② MBARI
- ③ SANDHOLT ROAD

PUMP HOUSE SITE



1/16" = 1'-0"

MOSS LANDING
MARINE LABORATORIES

ON: LAND

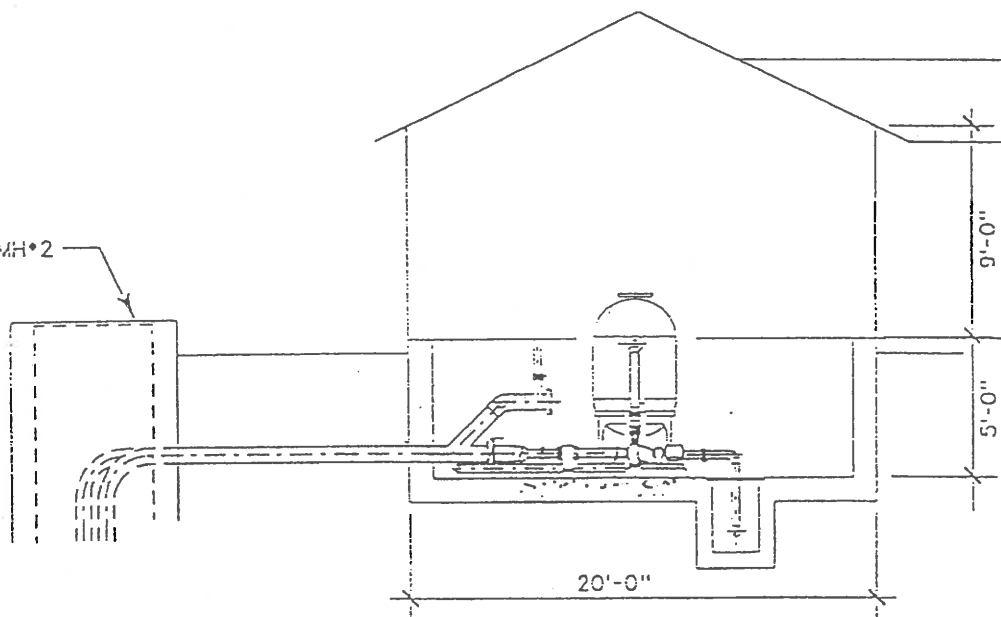
AT: MOSS LANDING

COUNTY OF: MONTEREY STATE: CA

APPLICATION BY: CSU

SHEET 6 OF 8 DATE 6-95

EXIST. MH#2



SECTION

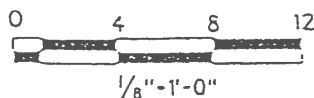
PURPOSED : SEAWATER INTAKE TO
MOSS LANDING MARINE LABS.

DATUM: NGVD

ADJACENT PROPERTY OWNERS:

- ① CA. DEPT. OF STATE PARKS
- ② MBARI
- ③ SANDHOLT ROAD

PUMP HOUSE SECTION



MOSS LANDING
MARINE LABORATORIES

ON: LAND

AT: MOSS LANDING

COUNTY OF: MONTEREY STATE: CA

APPLICATION BY: CSU

SHEET 8 OF 8 DATE 6-96

✓
WHEN RECORDED MAIL TO:

NATIONAL REFRACTORIES

BOX 30

MOSS LANDING, CA. 95039

ATTN: R. GONSALVES

Joseph F. Pitta
Monterey County Recorder
Recorded at the request of
Filer

CROLIE
10/25/2001
13:31:36

DOCUMENT: **2001090369**

Titles: 1/ Pages: 8



2001090369

Fees.... 29.00

Taxes...

Other...

AMT PAID \$29.00

THIS SPACE FOR RECORDER'S USE ONLY

TITLE OF DOCUMENT

*Amended and Restated Cease Agreement
(Pipelines and Pumping Pier)*

AMENDED AND RESTATED LEASE AGREEMENT

(PIPELINES AND PUMPING PIER)

This agreement is made this first day of December 1996, by and between Moss Landing Harbor District ("District"), a political subdivision of the State of California, and National Refractories & Minerals Corporation ("NRMC"), a California corporation.

RECITALS

WHEREAS, District and the Permanente Metals Corporation ("Permanente") entered into a Lease and Franchise Agreement ("Agreement") dated June 7, 1948, which provided for certain rights to run pipe lines across property within the boundaries of the District and to have and maintain a pumping pier on said lands; and

WHEREAS, Permanente changed its name to Kaiser Aluminum & Chemical Corporation, and NRMC has purchased certain assets from Kaiser Aluminum & Chemical Corporation and is successor in interest to the rights and liabilities of Kaiser under the Agreement; and

WHEREAS, the Agreement ends as of June 1, 1998, and NRMC and District desire to extend the term of the Agreement until **July 31, 2017**.

NOW, THEREFORE, in consideration of the payments hereinafter specified to be made by NRMC and the covenants and agreements hereinafter provided to be performed, District does hereby grant unto NRMC, its successors and assigns, the following rights, licenses, leases, franchises, wharfage agreement and preferential assignment:

(a) A pipe line license, lease and franchise for the installation, maintenance, operation, use, repair and replacement of sea water lines, together with utility pipe lines, electric and telephone lines and equipment, supporting structures and appurtenances in connection with the operation of said lines, as NRMC may from time to time deem advisable over and across the lands and tidal and submerged lands of the District, at substantially the location shown in Exhibit "A" attached hereto and by reference incorporated herein and made apart hereof.

(b) An exclusive wharfage agreement, preferential assignment, license, lease and franchise for the maintenance, operation, use repair and replacement of a pumping pier extending into Moss Landing Harbor at substantially the location shown in Exhibit "A". A pipe line license, lease and franchise for the maintenance, operation, use, repair and replacement of sea water lines, together with telephone and electric lines, utility pipe lines, pumping facilities and equipment and appurtenances in connection with the operation of said lines, upon said pier.

(c) The right of access to the property of the District, without toll or other charge by the District, for all purposes incidental to the maintenance, operation, use, repair or replacement of said pipe lines, pumping facilities, electric and telephone lines, pier and appurtenances therefor.

1. NRMC shall pay to the District, as consideration for said lease, franchises and rights, the sum of One Thousand Dollars per year, payable as follows: \$1,000.00 to be paid on or before the first day of December of each year.

The payments shall be made by check payable to Moss Landing Harbor District and shall be mailed or otherwise delivered to its secretary, or to such other person or place as said District may thereafter designate in writing.

2. Any notice required or permitted to be given shall be considered as given within 24 hours after the same shall have been deposited in the U.S. Mail as registered mail with postage thereon fully prepaid, addressed as follows: If to the District: Post Office Box 10, Moss Landing, California, 95039; if to NRMC: Post Office Box 30, Moss Landing, California, 95039, Attention: Plant Manager, or to such other place as the above named person may hereafter designate in writing.

3. The rights herein granted shall extend for a term continuing until **July 31, 2017**, provided that NRMC may terminate this agreement at any time upon six months' written notice in the event that it intends to terminate the use of all of the facilities herein described. In the event an annual rental payment shall become due within said six month period, the amount of rental payable on said annual rental date shall be such percentage of the annual rental as the number of months between said annual rental date and the date of termination bears to one year.

Upon giving such notice, NRMC at any time thereafter and within six months after termination shall have the right to remove all or any portion of the property placed on the property demised herein pursuant to the rights herein granted. In the event NRMC removes said property it shall be removed in a workmanlike manner and the premises shall be left in good condition. Upon said termination the obligation to pay rental as herein set forth and to maintain or repair any portion of the demised premises shall cease.

4. It is understood and agreed that NRMC shall have the right under this agreement to maintain at all times not in excess of two sea water lines. In the event that NRMC shall at any time in its discretion determine that the locations as herein provided for the maintenance of sea water lines or pumping pier are not suitable, NRMC shall have the right to remove and relocate the same, together with the facilities and appurtenances therefore, upon other lands and tidal and submerged lands of the District. It is understood, however, that the right to relocate as provided in this section shall not interfere with improvements heretofore or hereafter constructed upon the property of the District. The relocation of said pier or pipe lines shall be subject to the approval of the District, but said approval shall not be arbitrarily withheld.

5. In the event that NRMC shall install more than two 36 inch pipe lines, NRMC shall pay an additional rental charge in proportion to the increase in capacities provided.

6. NRMC shall have the right of exclusive use of the pumping pier herein referred to and shall have the right to maintain an adequate fence around said pier so as to exclude the public therefrom. NRMC's occupancy of property of the District other than occupied by the pier shall be non-exclusive, provided however that the District shall not in any way interfere with NRMC's facilities installed thereon, or the use or operation thereof, or place thereon any structure which will prevent free access to said facilities. Said pier is not intended to be used for mooring purposes, but if so used District reserves the right to exact toll charges from all vessels moored at said pier.

7. All of the facilities and equipment installed, maintained or operated by NRMC pursuant to this agreement shall be installed and maintained by NRMC at its own risk and expense, and NRMC agrees that it will indemnify and save harmless the District of and from all damages, loss, cost or expense caused or occasioned or resulting from the installation or maintenance of any said facilities and equipment.

8. Except as provided herein with reference to mooring, the facilities and equipment installed by NRMC pursuant to the rights herein granted shall be used solely by

NRMC, its successors and assigns.

9. All property, equipment or facilities installed by NRMC pursuant to this agreement shall remain and be the personal property of NRMC and shall not be or become a part of the demised property notwithstanding the fact that they may be affixed to the premises.

10. Upon failure of NRMC to pay the minimum charges herein provided for a period of six months after the District gives written notice of non-payment, the District may, at its election, terminate the franchise of NRMC, and access to said pier and channel.

11. In the event NRMC defaults under any other terms of this agreement and fails to cure such default within thirty (30) days after receipt of written notice of such default from the District, then District may without further notice elect to terminate this agreement. Time is of the essence hereof, and the waiver by District of any breach by NRMC shall not be a waiver of this provision.

12. This agreement shall be binding upon and shall enure to the benefit of the successors and assigns of the parties hereto.

13. The provisions of this agreement may be altered, amended or modified by written instrument with the mutual consent of both parties.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed the day and year first above written.

MOSS LANDING HARBOR DISTRICT

By [Signature]

Its President

NATIONAL REFRACTORIES &
MINERALS CORPORATION

By [Signature]

PRESIDENT & CEO

Its _____

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Monterey } ss.

On 6-29-01

Date

, before me, Mariana Mariscal

Name and Title of Officer (e.g., "Jane Doe, Notary Public")

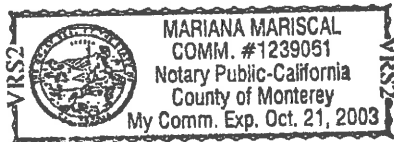
personally appeared Thomas T. Teradino

Name(s) of Signer(s)

☐ personally known to me

☒ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



Place Notary Seal Above

WITNESS my hand and official seal.

Mariana Mariscal

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

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Capacity(ies) Claimed by Signer

Signer's Name: _____

☐ Individual

☐ Corporate Officer — Title(s): _____

☐ Partner — ☐ Limited ☐ General

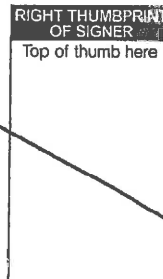
☐ Attorney in Fact

☐ Trustee

☐ Guardian or Conservator

☐ Other: _____

Signer is Representing: _____



CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of

San Mateo

SS.

On 6/29/01

Date

, before me, Mary A. Sauberan, Notary Public

Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared

Charles C. Smith

Name(s) of Signer(s)

☐ personally known to me

☒ proved to me on the basis of satisfactory evidence



to be the person(s) whose name(s) is are subscribed to the within instrument and acknowledged to me that he she they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Mary A. Sauberan

Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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☐ Attorney in Fact

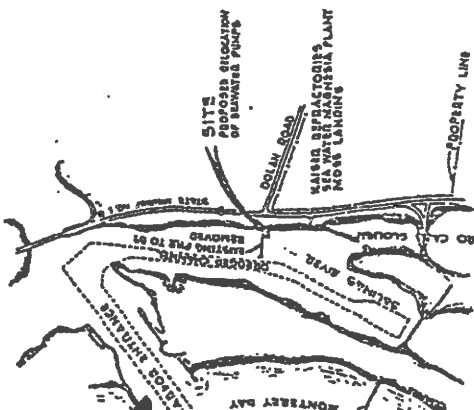
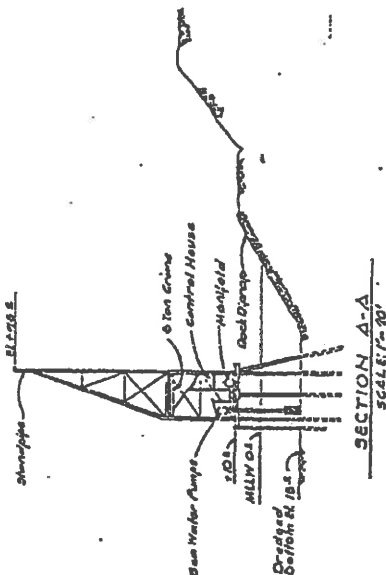
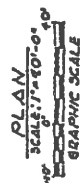
☐ Trustee

☐ Guardian or Conservator

☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER
Top of thumb here



VICINITY MAP

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 08-17-2017 BY 60322 uag

JOHN A. BLUM & ASSOCIATES, ENGINEERS
612 Howard Street
San Francisco 5, California

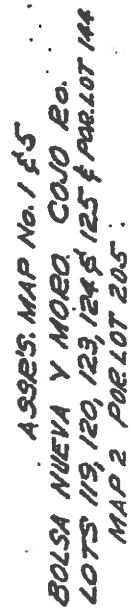
KAISER REFRACTORIES
MOSS LANDING MAGNESIA PLANT

RELOCATION OF SEA WATER INTAKE
-- SITE PLAN --

NAME	DATE
5.93	5K-1
10-11-60	10-11-60

AMENDED AND RESTATED LEASE AGR. EXHIBIT A

COUNTY OF MONTEREY
ASSESSOR'S MAP
BOOK 133 PAGE 1



(see Pg. 17)

END OF DOCUMENT

✓
WHEN RECORDED MAIL TO:

NATIONAL REFRACTORIES

P.O. BOX 30

MOSS LANDING, CA 95019

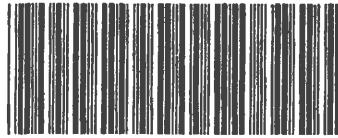
ATTN: R. GONSALVES

Joseph F. Pitta
Monterey County Recorder
Recorded at the request of
Filer

CROLIE
10/25/2001
13:31:36

DOCUMENT: **2001090370**

Titles: 1/ Pages: 6



2001090370

Fees.... 23.00
Taxes...
Other...
AMT PAID: \$23.00

THIS SPACE FOR RECORDER'S USE ONLY

TITLE OF DOCUMENT

GRANT OF EASEMENT AND AGREEMENT
(BERTHING SPACES)

**GRANT OF EASEMENT AND AGREEMENT
(BERTHING SPACES)**

THIS GRANT OF EASEMENT AND AGREEMENT is made and entered into by and between MOSS LANDING HARBOR DISTRICT, a political subdivision of the State of California, hereinafter called "District", and NATIONAL REFRACTORIES & MINERALS CORPORATION, a California corporation, hereinafter called "National", as follows:

WHEREAS, on or about August 26, 1975, Kaiser Aluminum & Chemical Sales, Inc. ("KACSI") entered into an Easement and Agreement with the Moss Landing Harbor District ("District") whereby KACSI granted an easement to District on terms and conditions stated therein, and

WHEREAS, National has purchased from KACSI the real property on which the easement is granted, and

WHEREAS, National and District desire to restate and extend the term of the easement as more fully set forth herein,

NOW THEREFORE, it is agreed as follows:

1. Grant of Easement. For and in consideration of the covenants and agreements herein contained, National hereby grants to District a limited easement and right of way for the purpose of locating, and maintaining approximately one hundred four (104) berthing spaces, together with related improvements and facilities, generally as indicated in United States Corps of Army Engineers Public Notice No. 74-57-86, over, along, and upon that real property situated in the County of Monterey, State of California, generally described as follows:

All that real property in the Moro Cojo Slough, Moss Landing, California, located north of Moss Landing Road and west of the easterly bank of the Moro Cojo Slough.

It is understood and agreed that access to such berthing spaces shall be from either the water or from the west shoreline of Moro Cojo Slough, and not from the east shoreline, which is owned by National.

2. Term. The term of this grant of easement and agreement shall be for a period ending **July 31, 2017**. The term of this grant of easement and agreement may be extended only by mutual agreement between the parties hereto, or their successors, and shall be upon such terms and conditions as the parties hereto, or their successors, may mutually agree.

3. Fee. The fee to be paid by District to National for this grant of easement and agreement shall be the sum of Five Hundred Dollars (\$500.00), payable upon the execution and delivery of this agreement.

4. Maintenance Dredging. During the term of this agreement District agrees at its sole expense, to do maintenance dredging in and around National's pier. District agrees to perform such maintenance dredging only at such times as it is conducting dredging operations in the area of the Moro Cojo Slough described in paragraph one hereof or in the channel leading thereto, and after notice to it from National that such dredging is required. The area to be so maintained is approximately 20 to 30 feet on each side of the pier, or approximately 100 feet in width, out in a westerly direction from the pier to the dredged channel in the Salinas River, all as is more specifically shown on the sketch attached hereto and incorporated herein. This areas will be dredged to a depth of 15 feet below mean low water. In the event that berths, piers, or other harbor improvements are installed by the District in any portion of the area to which the District's maintenance dredging obligation hereunder relates, the District shall not be obligated to do maintenance dredging where such improvements are installed, but may instead alter the area in

which such maintenance dredging is performed in any manner so long as an open channel, approximately 100 feet in width and dredged to a depth of 15 feet below mean low water, will be maintained out in a general westerly direction from the pier to the dredged channel in the Salinas River.

5. Bank Protection. District agrees during the term hereof, at its sole expense, to maintain the east bank of the Moro Cojo Slough north of Moss Landing Road and adjacent to the berthing facilities referred to in paragraph one hereof, below higher high water, to include installation of riprap, if required, because of wash from vessels using the berthing facilities herein referred to.

6. No Prescriptive Easement. District further agrees during the term hereof that National may at its own expense erect and maintain signs on the property in accordance with and to the effect provided by Section 1008 of the California Civil Code (or its successor statutes), in order to preclude the establishment of prescriptive rights in connection with the berthing spaces, improvements and facilities described in paragraph one above. The location of such signs shall be as the parties may mutually agree.

7. Binding Effect. This agreement shall be binding upon, and shall inure to the benefit of, the successors and assigns of the parties hereto.

8. Notices. Any notice required by this agreement, or otherwise, may be given to District at P.O. Box 10, Moss Landing, California, 95039, or to National at National Refractories & Minerals Corporation, Post Office Box 30, Moss Landing, California 95039.

Dated: December 1, 1996

NATIONAL REFRACTORIES & MINERALS CORPORATION,
a California corporation

By 

Its PRESIDENT & CEO

MOSS LANDING HARBOR DISTRICT,
a public corporation

By 

Its President

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Monterey } ss.

On 6-29-01
Date

, before me,

Mariana Mariscal Notary Public
Name and Title of Officer (e.g., "Jane Doe, Notary Public")

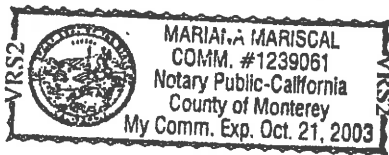
personally appeared

Thomas T. Tengadin
Name(s) of Signer(s)

☐ personally known to me

☒ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



Place Notary Seal Above

WITNESS my hand and official seal.

Mariana Mariscal
Signature of Notary Public

OPTIONAL

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Capacity(ies) Claimed by Signer

Signer's Name: _____

☐ Individual

☐ Corporate Officer — Title(s): _____

☐ Partner — ☐ Limited ☐ General

☐ Attorney in Fact

☐ Trustee

☐ Guardian or Conservator

☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER
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CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

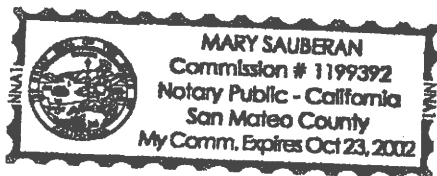
County of San Mateo } ss.

On 6/29/01, before me, Mary Sauberan, Notary Public

personally appeared Charles P. Smith

- ☐ personally known to me
☒ proved to me on the basis of satisfactory evidence

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Mary Sauberan
 Signature of Notary Public

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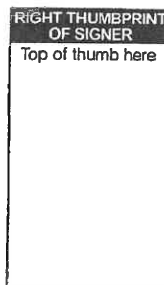
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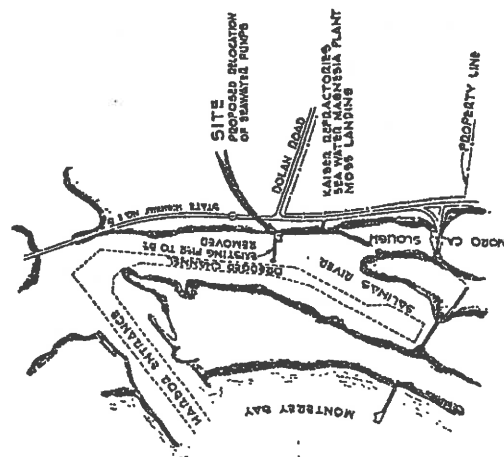
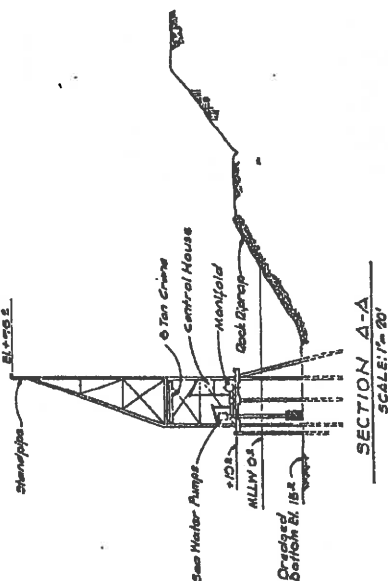
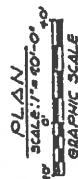
Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer

- Signer's Name: _____
- ☐ Individual
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____

Signer Is Representing: _____





VICTIMITY

222 M 6750

JOHN A. BLUME & ASSOCIATES, ENGINEERS
1512 Howard Street San Francisco 5, California

**KAISER REFRACTORIES
MOSS LANDING MAGNESIA PLANT**

RELOCATION OF SEA WATER INTAKE
.. SITE PLAN.

END OF DOCUMENT

California Regional Water Quality Control Board

Central Coast Region

895 Aerovista Place, Suite 101, San Luis Obispo, California 93401
Phone (805) 549-3147 • Fax (805) 543-0397
<http://www.waterboards.ca.gov/centralcoast/>



Arnold Schwarzenegger
Governor

Linda S. Adams
Agency Secretary

ORDER NO. R3-2009-0002
NPDES NO. CA0007005

WASTE DISCHARGE REQUIREMENTS FOR THE MOSS LANDING COMMERCIAL PARK AND MOSS LANDING CEMENT COMPANY MOSS LANDING CEMENT COMPANY FACILITY

Table 1. Discharger Information

Discharger	Moss Landing Commercial Park, LLC and Moss Landing Cement Company, LLC
Name of Facility	Moss Landing Cement Plant
Facility Address	7697 Highway 1
	Moss Landing, CA 95039
	Monterey County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

Discharges by the Moss Landing Cement Plant from the discharge point identified below are subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Calcium and Magnesium Depleted Seawater	36°, 48' 08" N	121°, 47' 29" W	Monterey Bay

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	March 20, 2009
This Order shall become effective on:	May 9, 2009
This Order shall expire on:	May 9, 2014
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of waste discharge requirements no later than:	November 10, 2013

IT IS HEREBY ORDERED, that in order to meet the provisions contained in division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Roger Briggs Executive Officer, do hereby certify that this Order, with all attachments, is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coastal Region, on **March 20, 2009**.

Roger W. Briggs, Executive Officer

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 3, CENTRAL COAST REGION**

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I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order.

Table 4. Facility Information

Discharger	Moss Landing Commercial Park, LLC (7695 Hwy 1, Moss Landing, CA 95039) and Moss Landing Cement Company, LLC (7697 Hwy 1, Moss Landing, CA 95039)
Name of Facility	Moss Landing Cement Plant
Facility Address	7697 Highway 1
	Moss Landing, CA 95039
	Monterey County
Facility Contact, Title, and Phone	Sam Bose, Director of Operations (408) 340-4600
Mailing Address	PO Box 777 Moss Landing, CA 95039
Type of Facility	Industrial
Facility Design Flow	Phase 1 = 0.04 million gallons per day (mgd)(daily average), 0.05 mgd (daily maximum) Phase 2 = 24 mgd (daily average), 25 mgd (daily maximum) Phase 3 = 56 mgd (daily average), 60 mgd (daily maximum)

II. FINDINGS

The California Regional Water Quality Control Board, Central Coast Region (hereinafter the Regional Water Board), finds:

A. Background. The Moss Landing Cement Company, LLC is the operator of the Moss Landing Cement Plant, which is located at 7697 Highway 1, Moss Landing on land owned by the Moss Landing Commercial Park, LLC. Together, the Moss Landing Commercial Park, LLC and the Moss Landing Cement Company, LLC are hereinafter referred to as the Discharger. The Discharger is currently authorized to discharge pursuant to Order No. R3-2001-030 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA-0007005. The Discharger submitted a Report of Waste Discharge, dated May 9, 2008, and applied to renew its NPDES permit to discharge up to 60 mgd, in three phases of development, of calcium and magnesium depleted seawater from the former National Refractories and Minerals Corporation Seawater Magnesia Plant.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. Seawater is pumped from Moss Landing Harbor by up to nine 100 horsepower pumps through two intake lines to the facility. Seawater, which contains calcium and magnesium chloride (CaCl_2 and MgCl_2), is combined with dolime, lime, brucite (magnesium hydroxide tailings from historical operations of the National Refractories and Minerals Corporation), sodium hydroxide, sodium carbonate, fly ash, and/or calcium and magnesium bearing silicate materials such as olivine and serpentine. The Discharger's precipitation process also utilizes carbon dioxide (CO_2), sparged from flue gases of the neighboring Moss Landing Power Plant. Following precipitating reactions, the seawater mixture will be directed to as many as seven 3-million gallon (capacity) tanks where settling of precipitated solids will occur. Settled material is then dried to be sold to the construction industry as green cement or as a cement supplement. Calcium and magnesium depleted seawater, decanted from the thickening tanks, will be discharged back to Monterey Bay, within the Monterey Bay National Marine Sanctuary, through Discharge Point 001. See section II. A of the Fact Sheet (Attachment F) for a more complete description of this facility.

C. Legal Authorities. This Order is issued pursuant to CWA section 402 and implementing regulations adopted by the USEPA, and Chapter 5.5, Division 7 of the California Water Code (the Water Code). It shall serve as an NPDES permit for point source discharges from this facility to surface waters; and it shall serve as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and through special studies. Attachments A through F, which contain background information and rationale for the requirements of the

Order, are hereby incorporated into this Order and therefore constitute part of the Findings for this Order.

- E. California Environmental Quality Act (CEQA).** Pursuant to California Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-Based Effluent Limitations.** CWA section 301 (b) and USEPA implementing regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet minimum water quality standards. The discharge authorized by this Order must meet applicable federal technology-based requirements based on Effluent Limitations Guidelines (ELGs) and Standards for industrial categories listed in 40 CFR Parts 402 through 699, and based on best professional judgment (BPJ) in accordance with 40 CFR 125.3. A detailed discussion of development of technology-based effluent limitations is included in the Fact Sheet (Attachment F).
- G. Water Quality-Based Effluent Limitations.** CWA 301 (b) and NPDES regulations at 40 CFR 122.44 (d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.
- NPDES regulations at 40 CFR Section 122.44 (d) (1) (i) mandate that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304 (a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, pursuant to NPDES regulations at 40 CFR 122.44 (d) (1) (vi).
- H. Water Quality Control Plans.** The Regional Water Board has adopted a Water Quality Control Plan for the Central Coast Region (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of very high levels of total dissolved solids (TDS) in marine waters, the receiving water for this discharge meets an exception to Resolution No. 88-63, which precludes waters with TDS levels greater than 3,000 mg/L from the MUN designation.

Table 5 presents the beneficial uses established by the Basin Plan for the coastal waters between Soquel Point and the Salinas River.

Table 5. Receiving Water Beneficial Uses Established by the Basin Plan

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean between Soquel Point and the Salinas River	<ul style="list-style-type: none"> • Water Contact (REC-1) and Non-Contact Recreation (REC-2) • Industrial Service Supply (IND) • Navigation (NAV) • Shellfish Harvesting (SHELL) • Commercial and Sport Fishing (COMM) • Marine Habitat (MAR) • Rare, Threatened, or Endangered Species (RARE) • Wildlife Habitat (WILD)

- I. California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005, and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the Pacific Ocean. The Ocean Plan identifies the following beneficial uses of ocean waters of the State.

Table 6. Receiving Water Beneficial Uses Established by the Ocean Plan

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	<ul style="list-style-type: none"> • Industrial Water Supply • Water Contact and Non-Contact Recreation, including Aesthetic Enjoyment • Navigation • Commercial and Sport Fishing • Rare and Endangered Species • Marine Habitat • Mariculture • Fish Migration • Fish Spawning and Shellfish Harvesting • Preservation of Designated Areas of Special Biological Significance

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

- J. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21] Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000 must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

- K. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations (WQBELs) for individual pollutants. As discussed in section IV.B. of the Fact Sheet, the Order establishes

technology-based effluent limitations for total suspended solids (TSS), settleable solids, oil and grease, turbidity, and pH for Discharge Point 001. These technology-based limitations implement the minimum, applicable federal technology-based requirements. The Order also contains effluent limitations in addition to the minimum federal technology-based requirements, necessary to meet applicable water quality standards. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. For Discharge Point 001, procedures for calculating individual WQBELs are based on the Ocean Plan, which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to NPDES regulations at 40 CFR 131.21 (c) (1).

Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

- L. Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet, the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
- M. Anti-Backsliding Requirements.** CWA sections 402 (o) (2) and 303 (d) (4) and NPDES regulations at 40 CFR 122.44 (l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The requirements of this Order are consistent with the anti-backsliding provisions of the Clean Water Act and with applicable NPDES regulations that pertain to backsliding.
- N. Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 - 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 - 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the State and federal acts pertaining to endangered species.

- O. Monitoring and Reporting.** NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting of monitoring results. California Water Code sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Plan (MRP), which is provided as Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements.
- P. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES discharges pursuant to NPDES regulations at 40 CFR 122.41 - 122.42, and which must be included in every NPDES permit, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).
- Q. Provisions and Requirements Implementing State Law.** The provisions and requirements in subsections IV. B, IV. C, and V. B of this Order are included to implement State law only. These provisions and requirements are not required or authorized under the federal CWA; consequently, violations of these provisions and requirements are not subject to the enforcement remedies that are available for NPDES violations.
- R. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the public hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

- A. Discharge of wastewater to the Pacific Ocean (Monterey Bay) at a location other than as described by this Order at 36° 48', 08" N. Latitude, 121° 47', 29" W. Longitude is prohibited.
- B. Discharge of any waste or discharges in any manner other than as described by this Order is prohibited.
- C. Discharges to Monterey Bay and within the Monterey Bay National Marine Sanctuary, which are authorized by this Order, shall not exceed the following daily discharge rates during each operational phase, as those operational phases are described by this Order.

Operational Phase	Daily Average Discharge (mgd)	Maximum Daily Discharge (mgd)
1	0.04	0.05
2	24	25
3	56	60

- D. The discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste to the Pacific Ocean and within the Monterey Bay National Marine Sanctuary is prohibited.
- E. Federal law prohibits the discharge of sludge by pipeline to the Pacific Ocean and within the Monterey Bay National Marine Sanctuary. The discharge of municipal or industrial

waste sludge or other material with high solids content directly to the Ocean or into a waste stream that discharges to the Ocean is prohibited.

- F. "Overflow" or "Bypass" of any wastewater other than spent ocean water is prohibited.
- G. The discharge of domestic wastewater at Discharge Point 001 is prohibited.
- H. The discharge of storm water at Discharge Point 001, pursuant to the limitations and conditions of this Order, is prohibited.
- I. The discharge of chemical additives not described herein, including, but not limited to, scale inhibitors, chelants, cleaning compounds, and any organic chemicals (except carbon dioxide and carbonate ion) is prohibited.
- J. The discharge of wastewater containing added coloration is prohibited.
- K. Wastewater discharged pursuant to this Order shall not be discharged to receiving water at a temperature that adversely affects beneficial uses.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001 at all times, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E).

Table 7. Effluent Limitations for Conventional Pollutants

Parameter	Units	Monthly 30-Day Average	Weekly 7-Day Average	Instantaneous Maximum
Oil and Grease	mg/L	25	40	75
Settleable Solids	mL/L	1.0	1.5	3.0
TSS	mg/L	60 ^[1]	---	---
Turbidity	NTU	75	100	225
pH	s.u.	Within 6.0 to 9.0 at all times		

^[1] Discharger shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

- b. The Discharger shall maintain compliance with the following effluent limitations for toxic pollutants at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E).

Table 8. Protection of Marine Aquatic Life

Parameter	Units	6-Month Median ^[5]	Daily Maximum ^[6]	Instantaneous Maximum ^[7]
Arsenic	µg/L	173	989	2621

	Phase 1	lb/day	0.072	0.41	1.1
	Phase 2	lb/day	36	206	546
	Phase 3	lb/day	87	495	1312
Cadmium		µg/L	34	136	340
	Phase 1	lb/day	0.014	0.057	0.14
	Phase 2	lb/day	7.1	28	71
	Phase 3	lb/day	17	68	170
Chromium(Hex) ^[1]		µg/L	68	272	680
	Phase 1	lb/day	0.028	0.11	0.28
	Phase 2	lb/day	14	57	142
	Phase 3	lb/day	34	136	340
Copper		µg/L	36	342	954
	Phase 1	lb/day	0.015	0.14	0.4
	Phase 2	lb/day	7.5	71	199
	Phase 3	lb/day	18	171	477
Lead		µg/L	68	272	680
	Phase 1	lb/day	0.028	0.11	0.28
	Phase 2	lb/day	14	57	142
	Phase 3	lb/day	34	136	340
Mercury		µg/L	1.3	5.4	14
	Phase 1	lb/day	0.00056	0.0023	0.0057
	Phase 2	lb/day	0.28	1.1	2.8
	Phase 3	lb/day	0.67	2.7	6.8
Nickel		µg/L	170	680	1700
	Phase 1	lb/day	0.071	0.28	0.71
	Phase 2	lb/day	35	142	354
	Phase 3	lb/day	85	340	851
Selenium		µg/L	510	2040	5100
	Phase 1	lb/day	0.21	0.85	2.1
	Phase 2	lb/day	106	425	1063
	Phase 3	lb/day	255	1021	2552
Silver		µg/L	19	90	233
	Phase 1	lb/day	0.0077	0.037	0.1
	Phase 2	lb/day	3.9	19	49
	Phase 3	lb/day	9.3	45	116
Zinc		µg/L	416	2456	6536
	Phase 1	lb/day	0.17	1.0	2.7
	Phase 2	lb/day	87	512	1363
	Phase 3	lb/day	208	1229	3271
Cyanide ^[2]		µg/L	34	136	340
	Phase 1	lb/day	0.014	0.057	0.14
	Phase 2	lb/day	7.1	28	71
	Phase 3	lb/day	17	68	170
Total Chlorine Residual ^[3]		µg/L	68	272	2040
	Phase 1	lb/day	0.028	0.11	0.85
	Phase 2	lb/day	14	57	425
	Phase 3	lb/day	34	136	1021

Ammonia(as N)	µg/L	20400	81600	204000
Phase 1	lb/day	8.5	34	85
Phase 2	lb/day	4253	17014	42534
Phase 3	lb/day	10208	40833	102082
Chronic Toxicity ^{[4], [8]}	TUc	-----	34	-----
Phenolic Compounds (non-chlorinated)	µg/L	1020	4080	10200
Phase 1	lb/day	0.43	1.7	4.3
Phase 2	lb/day	213	851	2127
Phase 3	lb/day	510	2042	5104
Chlorinated Phenolics	µg/L	34	136	340
Phase 1	lb/day	0.014	0.057	0.14
Phase 2	lb/day	7.1	28	71
Phase 3	lb/day	17	68	170
Endosulfan	µg/L	0.31	0.61	0.92
Phase 1	lb/day	0.00013	0.00026	0.00038
Phase 2	lb/day	0.064	0.13	0.19
Phase 3	lb/day	0.15	0.31	0.46
Endrin	µg/L	0.068	0.14	0.2
Phase 1	lb/day	0.000028	0.000057	0.000085
Phase 2	lb/day	0.014	0.028	0.043
Phase 3	lb/day	0.034	0.068	0.1
HCH ^[9]	µg/L	0.14	0.27	0.41
Phase 1	lb/day	0.000057	0.00011	0.00017
Phase 2	lb/day	0.028	0.057	0.085
Phase 3	lb/day	0.068	0.14	0.2
Radioactivity	Not to exceed limits specified in Title 17, Division 5, Chapter 4, Group 3, Article 3, Section 32069 of the California Code of Regulations.			

^[1] Discharger may, at its option, meet this limitation as a total chromium limitation.

^[2] If the Discharger can demonstrate to the satisfaction of the Regional Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR PART 136, as revised May 14, 1999.

^[3] Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours shall be determined using the following equation:

$\log y = -0.43(\log x) + 1.8$ where: y = the water quality objective (in µg/L) to apply when chlorine is being discharged; and

x = the duration of uninterrupted chlorine discharge in minutes.

The applicable effluent limitation must then be determined using Equation No. 1 from the Ocean Plan.

^[4] The Discharger shall conduct chronic toxicity testing if the minimum initial dilution of the effluent falls below 100:1 at the edge of the mixing zone. As the minimum initial dilution for the Moss Landing Cement Company Ocean Outfall is currently calculated as 33:1, chronic toxicity testing is required at this time.

^[5] The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred. The six-month median limit on daily mass emissions shall be determined using the six-month median effluent concentration

as Ce and the observed flow rate Q in millions of gallons per day (each variable referring to Equation 3 of the Ocean Plan).

- [6] The daily maximum shall apply to flow weighted 24-hour composite samples. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as Ce and the observed flow rate Q in millions of gallons per day (each variable referring to Equation 3 of the Ocean Plan).
- [7] The instantaneous maximum shall apply to grab sample determinations.
- [8] This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

Chronic Toxicity - Expressed as Toxic Units Chronic (TUC)

$$TUC = \frac{100}{NOEL}$$

No Observed Effect Level (NOEL) - The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Appendix II.

- [9] See Definitions (Attachment A)

Table 9. Protection of Human Health - Non-Carcinogens

Parameter	Units	30-Day Average
Acrolein	µg/L	7480
Phase 1	lb/day	3.1
Phase 2	lb/day	1560
Phase 3	lb/day	3743
Antimony	µg/L	40800
Phase 1	lb/day	17
Phase 2	lb/day	8507
Phase 3	lb/day	20416
Bis(2-Chloroethoxy)Methane	µg/L	150
Phase 1	lb/day	0.062
Phase 2	lb/day	31
Phase 3	lb/day	75
Bis(2-Chloroisopropyl)Ether	µg/L	40800
Phase 1	lb/day	17
Phase 2	lb/day	8507
Phase 3	lb/day	20416
Chlorobenzene	µg/L	19380
Phase 1	lb/day	8.1
Phase 2	lb/day	4041
Phase 3	lb/day	9698
Chromium (III)	µg/L	6460000
Phase 1	lb/day	2694
Phase 2	lb/day	1346910
Phase 3	lb/day	3232584
Di-n-Butyl Phthalate	µg/L	119000
Phase 1	lb/day	50
Phase 2	lb/day	24812
Phase 3	lb/day	59548
Dichlorobenzenes ^[1]	µg/L	173400
Phase 1	lb/day	72
Phase 2	lb/day	36154

	Phase 3	lb/day	86769
Diethyl Phthalate		µg/L	1122000
	Phase 1	lb/day	468
	Phase 2	lb/day	233937
	Phase 3	lb/day	561449
Dimethyl Phthalate		µg/L	27880000
	Phase 1	lb/day	11626
	Phase 2	lb/day	5812980
	Phase 3	lb/day	13951152
2-Methyl-4,6-Dinitrophenol		µg/L	7480
	Phase 1	lb/day	3.1
	Phase 2	lb/day	1560
	Phase 3	lb/day	3743
2,4-Dinitrophenol		µg/L	136
	Phase 1	lb/day	0.057
	Phase 2	lb/day	28
	Phase 3	lb/day	68
Ethylbenzene		µg/L	139400
	Phase 1	lb/day	58
	Phase 2	lb/day	29065
	Phase 3	lb/day	69756
Fluoranthene		µg/L	510
	Phase 1	lb/day	0.21
	Phase 2	lb/day	106
	Phase 3	lb/day	255
Hexachlorocyclopentadiene		µg/L	1972
	Phase 1	lb/day	0.82
	Phase 2	lb/day	411
	Phase 3	lb/day	987
Nitrobenzene		µg/L	167
	Phase 1	lb/day	0.069
	Phase 2	lb/day	35
	Phase 3	lb/day	83
Thallium		µg/L	68
	Phase 1	lb/day	0.028
	Phase 2	lb/day	14
	Phase 3	lb/day	34
Toluene		µg/L	2890000
	Phase 1	lb/day	1205
	Phase 2	lb/day	602565
	Phase 3	lb/day	1446156
Tributyltin		µg/L	0.048
	Phase 1	lb/day	0.00002
	Phase 2	lb/day	0.0099
	Phase 3	lb/day	0.024
1,1,1-Trichloroethane		µg/L	18360000
	Phase 1	lb/day	7656
	Phase 2	lb/day	3828060

Phase 3	lb/day	9187344
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Table 10. Protection of Human Health – Carcinogens

Parameter	Units	30-Day Average
Acrylonitrile	µg/L	3.4
Phase 1	lb/day	0.0014
Phase 2	lb/day	0.71
Phase 3	lb/day	1.7
Aldrin	µg/L	0.00075
Phase 1	lb/day	0.00000031
Phase 2	lb/day	0.00016
Phase 3	lb/day	0.00037
Benzene	µg/L	201
Phase 1	lb/day	0.084
Phase 2	lb/day	42
Phase 3	lb/day	100
Benzidine	µg/L	0.0023
Phase 1	lb/day	0.00000098
Phase 2	lb/day	0.00049
Phase 3	lb/day	0.0012
Beryllium	µg/L	1.1
Phase 1	lb/day	0.00047
Phase 2	lb/day	0.23
Phase 3	lb/day	0.56
Bis(2-Chloroethyl)Ether	µg/L	1.5
Phase 1	lb/day	0.00064
Phase 2	lb/day	0.32
Phase 3	lb/day	0.77
Bis(2-Ethylhexyl)Phthalate	µg/L	119
Phase 1	lb/day	0.05
Phase 2	lb/day	25
Phase 3	lb/day	60
Carbon Tetrachloride	µg/L	31
Phase 1	lb/day	0.013
Phase 2	lb/day	6.4
Phase 3	lb/day	15
Chlordane ⁽¹⁾	µg/L	0.00078
Phase 1	lb/day	0.00000033
Phase 2	lb/day	0.00016
Phase 3	lb/day	0.00039
Chlorodibromomethane	µg/L	292
Phase 1	lb/day	0.12
Phase 2	lb/day	61
Phase 3	lb/day	146
Chloroform	µg/L	4420
Phase 1	lb/day	1.8

	Phase 2	lb/day	922
	Phase 3	lb/day	2212
DDT (total) ⁽¹⁾		µg/L	0.0058
	Phase 1	lb/day	0.0000024
	Phase 2	lb/day	0.0012
	Phase 3	lb/day	0.003
1,4 Dichlorobenzene		µg/L	612
	Phase 1	lb/day	0.26
	Phase 2	lb/day	128
	Phase 3	lb/day	306
3,3'-Dichlorobenzidine		µg/L	0.28
	Phase 1	lb/day	0.00011
	Phase 2	lb/day	0.057
	Phase 3	lb/day	0.14
1,2-Dichloroethane		µg/L	952
	Phase 1	lb/day	0.4
	Phase 2	lb/day	198
	Phase 3	lb/day	476
1,1-Dichloroethylene		µg/L	31
	Phase 1	lb/day	0.013
	Phase 2	lb/day	6.4
	Phase 3	lb/day	15
Dichlorobromomethane		µg/L	211
	Phase 1	lb/day	0.088
	Phase 2	lb/day	44
	Phase 3	lb/day	105
Methylene Chloride		µg/L	15300
	Phase 1	lb/day	6.4
	Phase 2	lb/day	3190
	Phase 3	lb/day	7656
1,3-Dichloropropylene		µg/L	303
	Phase 1	lb/day	0.13
	Phase 2	lb/day	63
	Phase 3	lb/day	151
Dieldrin		µg/L	0.0014
	Phase 1	lb/day	0.00000057
	Phase 2	lb/day	0.00028
	Phase 3	lb/day	0.00068
2,4-Dinitrotoluene		µg/L	88
	Phase 1	lb/day	0.037
	Phase 2	lb/day	18
	Phase 3	lb/day	44
1,2-Diphenylhydrazine		µg/L	5.4
	Phase 1	lb/day	0.0023
	Phase 2	lb/day	1.1
	Phase 3	lb/day	2.7
Halomethanes ⁽¹⁾		µg/L	4420

	Phase 1	lb/day	1.84
	Phase 2	lb/day	922
	Phase 3	lb/day	2212
Heptachlor		µg/L	0.0017
	Phase 1	lb/day	0.00000071
	Phase 2	lb/day	0.00035
	Phase 3	lb/day	0.00085
Heptachlor Epoxide		µg/L	0.00068
	Phase 1	lb/day	0.00000028
	Phase 2	lb/day	0.00014
	Phase 3	lb/day	0.00034
Hexachlorobenzene		µg/L	0.0071
	Phase 1	lb/day	0.000003
	Phase 2	lb/day	0.0015
	Phase 3	lb/day	0.0036
Hexachlorobutadiene		µg/L	476
	Phase 1	lb/day	0.2
	Phase 2	lb/day	99
	Phase 3	lb/day	238
Hexachloroethane		µg/L	85
	Phase 1	lb/day	0.035
	Phase 2	lb/day	18
	Phase 3	lb/day	43
Isophorone		µg/L	24820
	Phase 1	lb/day	10
	Phase 2	lb/day	5175
	Phase 3	lb/day	12420
N-Nitrosodimethylamine		µg/L	248
	Phase 1	lb/day	0.1
	Phase 2	lb/day	52
	Phase 3	lb/day	124
N-Nitrosodi-n-Propylamine		µg/L	13
	Phase 1	lb/day	0.0054
	Phase 2	lb/day	2.7
	Phase 3	lb/day	6.5
N-Nitrosodiphenylamine		µg/L	85
	Phase 1	lb/day	0.035
	Phase 2	lb/day	18
	Phase 3	lb/day	43
PAHs (total) ^[1]		µg/L	0.3
	Phase 1	lb/day	0.00012
	Phase 2	lb/day	0.062
	Phase 3	lb/day	0.15
PCBs ^[1]		µg/L	0.00065
	Phase 1	lb/day	0.00000027
	Phase 2	lb/day	0.00013
	Phase 3	lb/day	0.00032

TCDD Equivalents ⁽¹⁾	µg/L	0.00000013
Phase 1	lb/day	0.000000000055
Phase 2	lb/day	0.0000000028
Phase 3	lb/day	0.0000000066
1,1,2,2-Tetrachloroethane	µg/L	78
Phase 1	lb/day	0.033
Phase 2	lb/day	16
Phase 3	lb/day	39
Tetrachloroethylene	µg/L	68
Phase 1	lb/day	0.028
Phase 2	lb/day	14
Phase 3	lb/day	34
Toxaphene	µg/L	0.0071
Phase 1	lb/day	0.000003
Phase 2	lb/day	0.0015
Phase 3	lb/day	0.0036
Trichloroethylene	µg/L	918
Phase 1	lb/day	0.38
Phase 2	lb/day	191
Phase 3	lb/day	459
1,1,2-Trichloroethane	µg/L	320
Phase 1	lb/day	0.13
Phase 2	lb/day	67
Phase 3	lb/day	160
2,4,6-Trichlorophenol	µg/L	9.9
Phase 1	lb/day	0.0041
Phase 2	lb/day	2.1
Phase 3	lb/day	4.9
Vinyl Chloride	µg/L	1224
Phase 1	lb/day	0.51
Phase 2	lb/day	255
Phase 3	lb/day	612

⁽¹⁾ See definitions (Attachment A)

- c. **Initial Dilution:** The minimum initial dilution at the point of discharge to Monterey Bay and within the Monterey Bay National Marine Sanctuary shall not be less than 33 to 1 (seawater to effluent) at any time.

2. Interim Effluent Limitations

This section of the standardized permit template is not applicable to this facility.

B. Land Discharge Specifications

This section of the standardized permit template is not applicable to this facility.

C. Reclamation Specifications

This section of the standardized permit template is not applicable to this facility.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The following receiving water limitations are based on water quality objectives contained in the Ocean Plan and are a required part of this Order. Compliance shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.

1. Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Water Board, but including all kelp beds, the following bacteriological objectives shall be maintained throughout the water column.

30-Day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each receiving water monitoring location.

- a. Total coliform density shall not exceed 1,000 per 100 mL, and
- b. Fecal coliform density shall not exceed 200 per 100 mL, and
- c. Enterococcus density shall not exceed 35 per 100 mL.

Single Sample maximum;

- a. Total coliform density shall not exceed 10,000 per 100 mL, and
 - b. Fecal coliform density shall not exceed 400 per 100 mL, and
 - c. Enterococcus density shall not exceed 104 per 100 mL, and
 - d. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1.
2. At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the following bacteriological objectives shall be maintained throughout the water column:
 - a. The median total coliform density shall not exceed 70 organisms per 100 mLs, and in not more than 10 percent of samples shall coliform density exceed 230 organisms per 100 mLs.
 3. Floating particulates and grease and oil shall not be visible.

4. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.
5. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.
6. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.
7. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as a result of the discharge of oxygen demanding waste material.
8. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
9. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
10. The concentration of substances set forth in Chapter IV, Table B of the Ocean Plan in marine sediments shall not be increased to levels that would degrade indigenous biota.
11. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.
12. Nutrient levels shall not cause objectionable aquatic growths or degrade indigenous biota.
13. Discharges shall not cause exceedances of water quality objectives for ocean waters of the State established in Table B of the Ocean Plan.
14. Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.
15. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
16. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.
17. Discharge of radioactive waste shall not degrade marine life.

B. Groundwater Limitations

Activities at the facility shall not cause exceedance or deviation from the following water quality objectives for groundwater established by the Basin Plan.

1. Groundwater shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.
2. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. The Discharger shall comply with the following provision:
 - a. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease in flow in any portion of an inland watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Wat. Code § 1211.)

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program (MRP), and future revisions thereto, in Attachment E of this Order. All monitoring shall be conducted according to 40 CFR Part 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*.

C. Special Provisions

1. Reopener Provisions

- a. This permit may be reopened and modified in accordance with NPDES regulations at 40 CFR 122 and 124, as necessary, to include additional conditions or limitations based on newly available information or to implement any U.S. EPA approved, new, State water quality objective.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

If the discharge consistently exceeds an effluent limitation for toxicity specified by Section IV of this Order, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) in accordance with the Discharger's TRE Workplan.

A TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the

reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE. A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases – characterization, identification, and confirmation using aquatic organism toxicity tests. The TRE shall include all reasonable steps to identify the source of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level once the source of toxicity is identified.

The Discharger shall maintain a TRE Workplan which describes steps that the Discharger intends to follow in the event that a toxicity effluent limitation established by this Order is exceeded in the discharge. The Workplan shall be prepared in accordance with current technical guidance and reference material, including EPA/600/2-88-070 (for industrial discharges) or EPA/600/2-88/062 (for municipal discharges), and shall include, at a minimum:

- Actions that will be taken to investigate/identify the causes/sources of toxicity,
- Actions that will be evaluated to mitigate the impact of the discharge, to correct the non-compliance, and/or to prevent the recurrence of acute or chronic toxicity (this list of action steps may be expanded, if a TRE is undertaken), and
- A schedule under which these actions will be implemented.

When monitoring measures toxicity in the effluent above a limitation established by this Order, the Discharger shall resample immediately, if the discharge is continuing, and retest for whole effluent toxicity. Results of an initial failed test and results of subsequent monitoring shall be reported to the Executive Officer (EO) as soon as possible following receipt of monitoring results. The EO will determine whether to initiate enforcement action, whether to require the Discharger to implement a TRE, or to implement other measures. The Discharger shall conduct a TRE giving due consideration to guidance provided by the USEPA's Toxicity Reduction Procedures, Phases 1, 2, and 3 (EPA document nos. EPA 600/3-88/034, 600/3-88/035, and 600/3-88/036, respectively). A TRE, if necessary, shall be conducted in accordance with the following schedule:

Table 11. Toxicity Reduction Evaluation Schedule

Action Step	When Required
Take all reasonable measures necessary to immediately reduce toxicity, where the source is known.	Within 24 hours of identification of noncompliance.
Initiate TRE in accordance with Workplan.	Within 7 days of notification by EO.
Conduct the TRE following the procedures in the	Within the period specified in the Workplan

Workplan.	(not to exceed one year, without an approved Workplan).
Submit the results of the TRE, including summary of findings, required corrective action, and all results and data.	Within 60 days of completion of the TRE.
Implement corrective actions to meet Permit limits and conditions.	To be determined by the EO.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Goal

The goal of the Pollutant Minimization Program is to reduce potential sources of Ocean Plan Table B toxic pollutants through pollutant minimization (control) strategies, including pollution prevention measures, to maintain effluent concentrations at or below the effluent limitation.

b. Determining the Need for a Pollutant Minimization Program

(1) The Discharger shall develop and implement a Pollutant Minimization Program if:

- (a) A calculated effluent limitation is less than the reported Minimum Level,
- (b) The concentration of the pollutant is reported as DNQ, and
- (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation. Such evidence may include: health advisories for fish consumption; presence of whole effluent toxicity; results of benthic or aquatic organism tissue sampling; sample results from analytical methods more sensitive than methods included in the permit; and the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL.

(2) Alternatively, the Discharger shall develop and implement a Pollutant Minimization Program if:

- (a) A calculated effluent limitation is less than the Method Detection Limit (MDL),
- (b) The concentration of the pollutant is reported as ND, and
- (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation. Such evidence may include: health advisories for fish consumption; presence of whole effluent toxicity; results of benthic or aquatic organism tissue sampling; sample results from analytical methods more sensitive than methods included in the permit; and the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL.

c. Elements of a Pollutant Minimization Program

A Pollutant Minimization Program shall include actions and submittals acceptable to the Regional Water Board including, but not limited to, the following.

- (1) An annual review and semiannual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;
- (2) Quarterly monitoring for the reportable pollutant in influent to the wastewater treatment system;
- (3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant in the effluent at or below the calculated effluent limitation;
- (4) Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy;
- (5) An annual status report that shall be sent to the Executive Officer that includes:
 - (i) All Pollutant Minimization Program monitoring results for the previous year;
 - (ii) A list of potential sources of the reportable pollutant;
 - (iii) A summary of all actions taken in accordance with the control strategy; and
 - (iv) A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specification

This section of the standardized permit template is not applicable to the Facility.

5. Special Provisions for Municipal Facilities (POTWs Only)

This section of the standardized permit template is not applicable to the Facility.

6. Other Special Provisions

- a. **Discharges of Storm Water.** For the control of storm water discharged from the site, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Resources Control Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*.

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	3272006001
Discharger	Moss Landing Commercial Park and Moss Landing Cement Company, LLC
Name of Facility	Moss Landing Cement Company Facility
Facility Address	7697 Highway 1
	Moss Landing, CA 95039
	Monterey County
Facility Contact, Title and Phone	Sam Bose, Director of Operations (408) 340-4600 Brent Constantz, Managing Member (408) 340-4600
Authorized Person to Sign and Submit Reports	Sam Bose, Director of Operations (408) 340-4600
Mailing Address	PO Box 777, Moss Landing, CA 95039
Billing Address	PO Box 777, Moss Landing, CA 95039
Type of Facility	Green Cement Plant
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	B
Pretreatment Program	NA
Reclamation Requirements	NA
Facility Permitted Flow	Phase 1 = 0.04 million gallons per day (mgd) (daily average), 0.05 mgd (daily maximum) Phase 2 = 24 mgd (daily average), 25 mgd (daily maximum) Phase 3 = 56 mgd (daily average), 60 mgd (daily maximum)
Facility Design Flow	Phase 1 = 0.04 mgd (daily average), 0.05 mgd (daily maximum) Phase 2 = 24 mgd (daily average), 25 mgd (daily maximum) Phase 3 = 56 mgd (daily average), 60 mgd (daily maximum)
Watershed	NA
Receiving Water	Pacific Ocean (Monterey Bay)
Receiving Water Type	Pacific Ocean

- A. Moss Landing Cement Company, LLC is the operator of the Moss Landing Cement Company Plant. Moss Landing Commercial Park, LLC owns the property at 7697 Highway 1, Moss Landing, CA, on which the facility is located. Together Moss Landing Cement Company, LLC and Moss Landing Commercial Park, LLC are referred to as the Discharger. The facility extracts calcium and magnesium from seawater and by precipitation processes produces cement or an intermediate product for the production of cement.

- b. **Phase 1 Discharge Characterization Study.** In addition to monitoring required by section IV. A of the Monitoring and Reporting Plan (Attachment E), in order to more fully characterize the discharge, the Discharger shall perform the following monitoring of influent and effluent at Discharge Point 001 during Phase 1 of operations. Monitoring results for the entire Phase 1 period of operations shall be summarized and submitted to the Regional Water Board within 30 days of completion of Phase 1 operations. The Discharger shall not initiate discharges under Phase 2 until the Regional Water Board Executive Officer has reviewed results of this Phase 1 Discharge Characterization Study and has confirmed in writing that the character of the discharge is as contemplated by this Order and is therefore properly regulated by this Order. If monitoring requirements established for this Phase 1 Discharge Characterization Study are duplicated in section IV. A of the Monitoring and Reporting Plan, monitoring performed for this Phase 1 Discharge Characterization Study shall satisfy the requirements of the Monitoring and Reporting Plan.

Table 12. Phase 1 Discharge Characterization Monitoring Requirements

Parameter	Units	Sample Type	Sample Location	Minimum Sampling Frequency
Flow	mgd	Metered	Eff-001	Daily
Specific Conductivity	µmhos/cm	Grab	Inf-001 Eff-001	Daily
Total Dissolved Solids (TDS)	mg/L	Grab	Inf-001 Eff-001	Weekly
Settleable Solids	ml/L	Grab	Inf-001 Eff-001	Weekly
Total Suspended Solids (TSS)	mg/L	Grab	Inf-001 Eff-001	Weekly
Turbidity	NTU	Grab	Inf-001 Eff-001	Daily
pH	Units	Grab	Inf-001 Eff-001	Daily
Chronic Toxicity ^[1]	TUc	Grab	Inf-001 Eff-001	Monthly
Ocean Plan Table B Metals ^{[2],[4]}	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Ocean Plan Table B Pollutants ^{[3], [4]}	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
1,3-Butadiene ^[5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Acetaldehyde ^[5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Formaldehyde ^[5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Naphthalene ^[5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Propylene Oxide ^[5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly

Parameter	Units	Sample Type	Sample Location	Minimum Sampling Frequency
Xylenes ^[5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Total Organic Carbon (TOC) ^[5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly

^[1] Whole effluent chronic toxicity monitoring shall be conducted according to the requirements established in section V. of this Monitoring and Reporting Plan; however, tests shall be performed with a vertebrate, an invertebrate, and an aquatic plant during each monitoring event performed for the Phase 1 Discharge Characterization Study.

^[2] The metals with applicable water quality objectives established by Table B of the Ocean Plan (2005) – As, Cd, Cr⁺⁶, Cu, Pb, Hg, Ni, Se, Ag, Zn.

^[3] The pollutants, excluding radioactivity and acute toxicity, with applicable water quality objectives established by Table B of the Ocean Plan (2005). Monitoring for the Table B metals, which occurs quarterly, shall satisfy that portion (for the Table B metals) of this monitoring requirement.

^[4] Analyses, compliance determination, and reporting for these pollutants shall adhere to applicable provisions of the Ocean Plan, including the Standard Monitoring Procedures presented in Appendix III of the Ocean Plan. The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix II of the Ocean Plan are the lowest calibration standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of Table B; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML.

^[5] The analytical method selected for a parameter shall be the one that can measure the lowest detected limit for that parameter.

7. Compliance Schedules

This section of the standardized permit template is not applicable to the Facility.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

B. Multiple Sample Data.

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

ATTACHMENT A – DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Acute Toxicity:

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\frac{96\text{-hr LC}}{50\%}}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log(100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Areas of Special Biological Significance (ASBS) are those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

Average Monthly Effluent Limitation (AMEL): The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix II.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degrade: Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species.

Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Detected, but Not Quantified (DNQ) are those sample results less than the reported Minimum Level, but greater than or equal to the laboratory's MDL.

Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Downstream Ocean Waters shall mean waters downstream with respect to ocean currents.

Dredged Material: Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil".

Enclosed Bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Initial Dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Water Board, whichever results in the lower estimate for initial dilution.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Kelp Beds, for purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

Mariculture is the culture of plants and animals in marine waters independent of any pollution source.

Material: (a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

MDL (Method Detection Limit) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, PART 136, Appendix B.

Minimum Level (ML) is the concentrations at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.

Natural Light: Reduction of natural light may be determined by the Regional Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Water Board.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table B pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Reported Minimum Level is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Shellfish are organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-month Median Effluent Limitation: the highest allowable moving median of all daily discharges for any 180-day period.

State Water Quality Protection Areas (SWQPAs) are non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution No.s 74-28,

74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

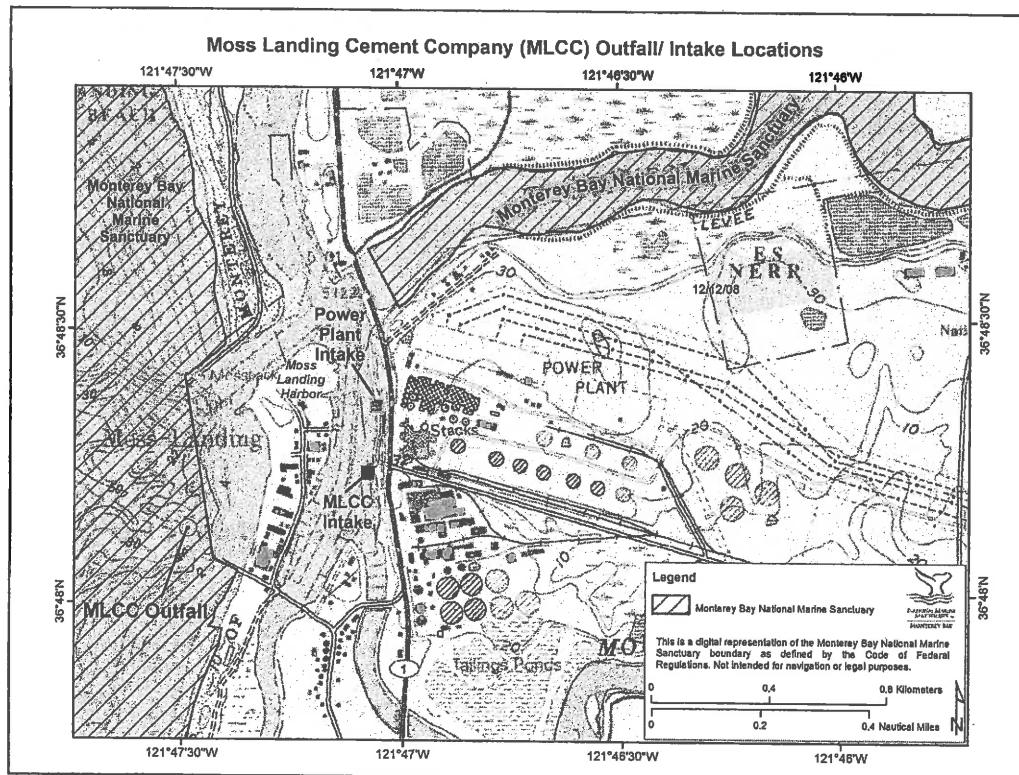
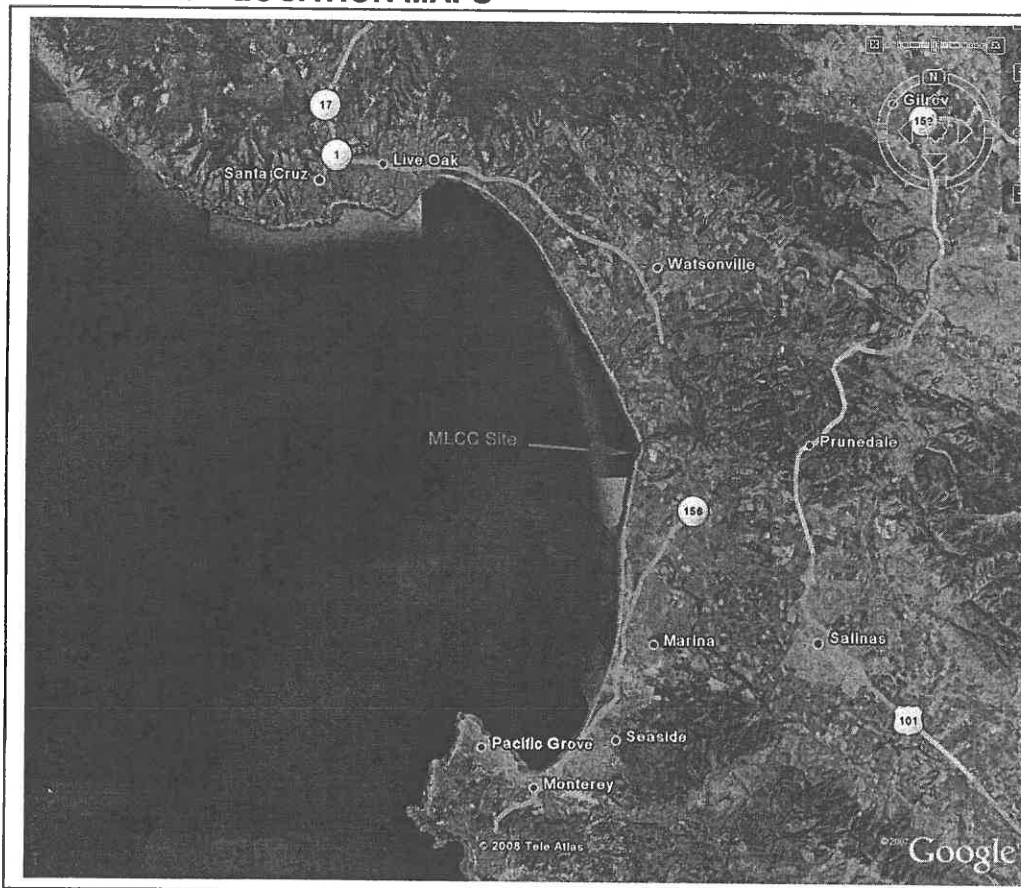
Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A TOXICITY IDENTIFICATION EVALUATION (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Waste: As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Reclamation: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

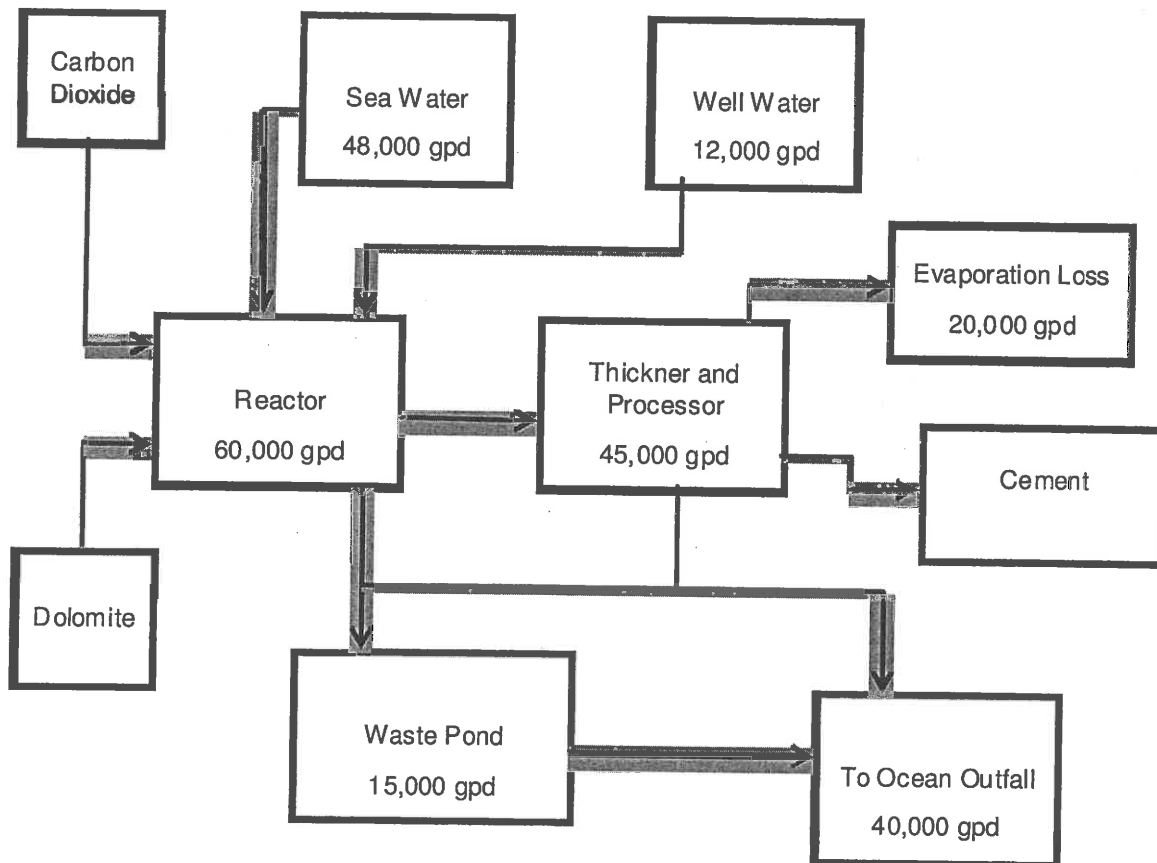
ATTACHMENT B – LOCATION MAPS



ATTACHMENT C – FLOW SCHEMATIC

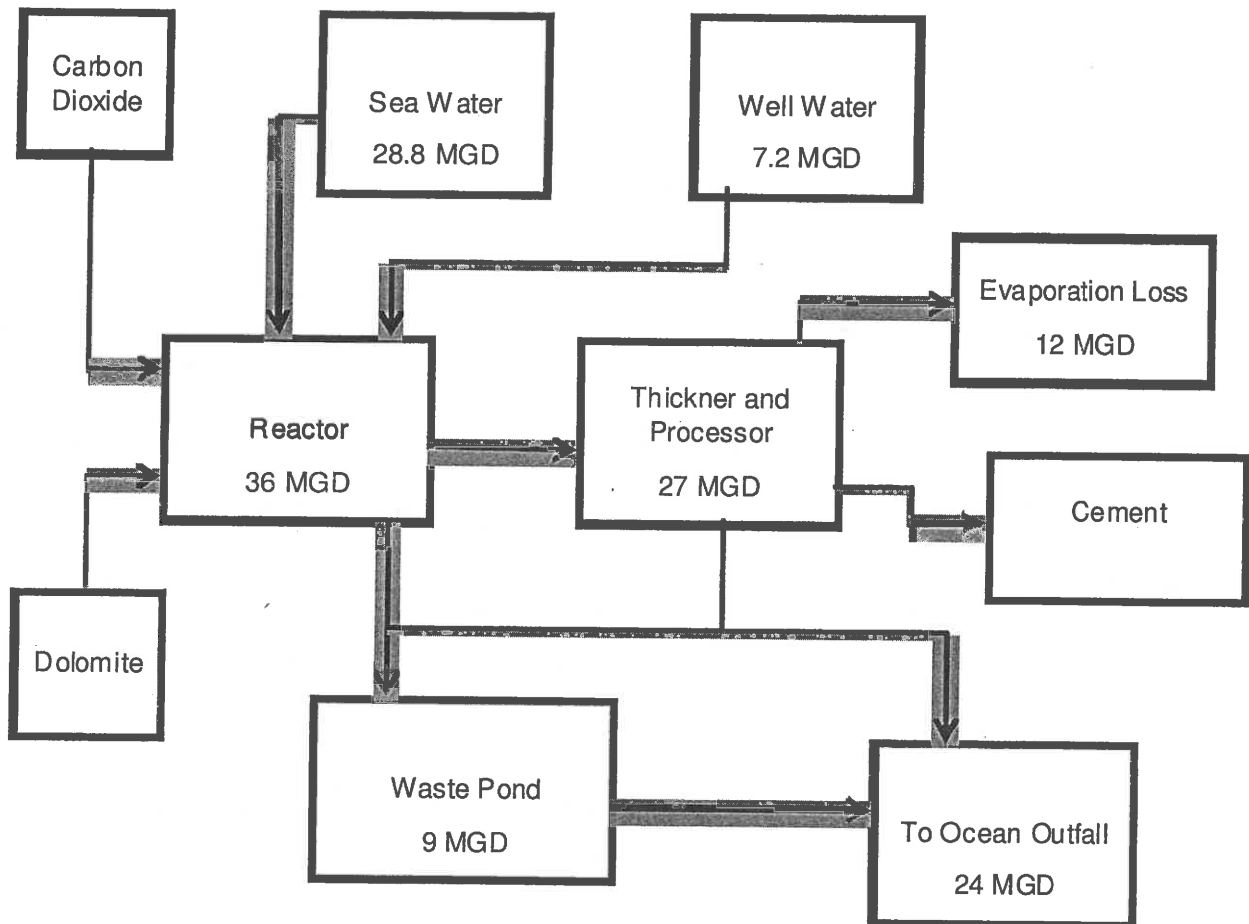
SCHEMATIC DRAWING OF WATER FLOW

Phase I Pilot Process



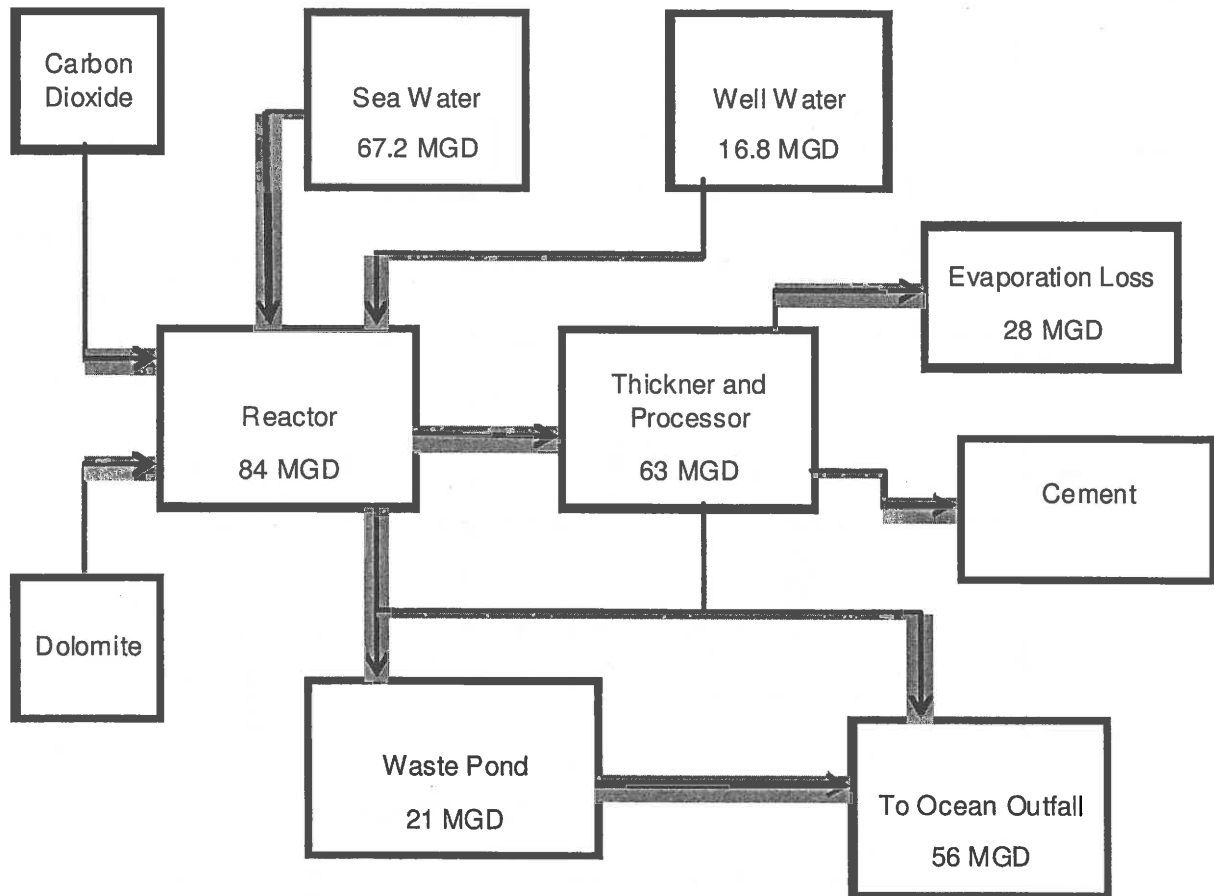
SCHEMATIC DRAWING OF WATER FLOW

Phase II Prototype Process



SCHEMATIC DRAWING OF WATER FLOW

Phase III Full-Scale Process



ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the CWA and the CWC and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [40 CFR §122.41(a)].
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [40 CFR §122.41(a)(1)].

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order [40 CFR §122.41(c)].

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment [40 CFR §122.41(d)].

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [40 CFR §122.41(e)].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [40 CFR §122.41(g)].
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [40 CFR §122.5(c)].

F. Inspection and Entry

The Discharger shall allow the Regional Water Quality Control Board (Regional Water Board), State Water Resources Control Board (State Water Board), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [40 CFR §122.41(i)] [CWC 13383(c)]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [40 CFR §122.41(i)(1)];
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [40 CFR §122.41(i)(2)];
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [40 CFR §122.41(i)(3)];
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [40 CFR §122.41(i)(4)].

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [40 CFR §122.41(m)(1)(i)].
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [40 CFR §122.41(m)(1)(ii)].
2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 and I.G.5 below [40 CFR §122.41(m)(2)].
3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [40 CFR §122.41(m)(4)(i)]:

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [40 CFR §122.41(m)(4)(A)];
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [40 CFR §122.41(m)(4)(B)]; and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [40 CFR §122.41(m)(4)(C)].
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [40 CFR §122.41(m)(4)(ii)].
5. Notice
- a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [40 CFR §122.41(m)(3)(i)].
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [40 CFR §122.41(m)(3)(ii)].

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [40 CFR §122.41(n)(1)].

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph H.2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [40 CFR §122.41(n)(2)].
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [40 CFR §122.41(n)(3)]:

- a. An upset occurred and that the Discharger can identify the cause(s) of the upset [40 CFR §122.41(n)(3)(i)];
 - b. The permitted facility was, at the time, being properly operated [40 CFR §122.41(n)(3)(i)];
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [40 CFR §122.41(n)(3)(iii)]; and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [40 CFR §122.41(n)(3)(iv)].
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [40 CFR §122.41(n)(4)].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition [40 CFR §122.41(f)].

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [40 CFR §122.41(b)].

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC [40 CFR §122.41(l)(3)] [40 CFR §122.61].

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR §122.41(j)(1)].
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)].

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [40 CFR §122.41(j)(2)].

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [40 CFR §122.41(j)(3)(i)];
2. The individual(s) who performed the sampling or measurements [40 CFR §122.41(j)(3)(ii)];
3. The date(s) analyses were performed [40 CFR §122.41(j)(3)(iii)];
4. The individual(s) who performed the analyses [40 CFR §122.41(j)(3)(iv)];
5. The analytical techniques or methods used [40 CFR §122.41(j)(3)(v)]; and
6. The results of such analyses [40 CFR §122.41(j)(3)(vi)].

C. Claims of confidentiality for the following information will be denied [40 CFR §122.7(b)]:

1. The name and address of any permit applicant or Discharger [40 CFR §122.7(b)(1)]; and
2. Permit applications and attachments, permits and effluent data [40 CFR §122.7(b)(2)].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [40 CFR §122.41(h)] [CWC 13267].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [40 CFR §122.41(k)].
2. All permit applications shall be signed as follows:
 - a. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [40 CFR §122.22(a)(3)].
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in paragraph V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in paragraph (2.) of this provision [40 CFR §122.22(b)(1)];
 - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position) [40 CFR §122.22(b)(2)]; and
 - c. The written authorization is submitted to the Regional Water Board, State Water Board, or USEPA [40 CFR §122.22(b)(3)].
4. If an authorization under Standard Provisions – Reporting V.B.3. above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, State Water Board or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted

is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations" [40 CFR §122.22(d)].

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the MRP in this Order [40 CFR §122.41(l)(4)].
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices [40 CFR §122.41(l)(4)(i)].
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [40 CFR §122.41(l)(4)(ii)].
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [40 CFR §122.41(l)(4)(iii)].

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date [40 CFR §122.41(l)(5)].

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [40 CFR §122.41(l)(6)(i)].
2. The following shall be included as information that must be reported within 24 hours under this paragraph [40 CFR §122.41(l)(6)(ii)]:
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(A)].

- b. Any upset that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(B)].
 - c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [40 CFR §122.41(l)(6)(ii)(C)].
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [40 CFR §122.41(l)(6)(iii)].

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [40 CFR §122.41(l)(1)]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [40 CFR §122.41(l)(1)(i)]; or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [40 CFR §122.41(l)(1)(iii)].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [40 CFR §122.41(l)(2)].

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [40 CFR §122.41(l)(7)].

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the

Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information [40 CFR §122.41(l)(8)].

VI. STANDARD PROVISIONS – ENFORCEMENT

- A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):
 - a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));
 - b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4 dinitrophenol and 2 methyl 4,6 dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(2)):
 - a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));
 - b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT D-1 - CENTRAL COAST WATER BOARD STANDARD PROVISIONS (JANUARY 1985)

I. Central Coast General Permit Conditions

A. Central Coast Standard Provisions – Prohibitions

1. Introduction of "incompatible wastes" to the treatment system is prohibited.
2. Discharge of high-level radiological waste and of radiological, chemical, and biological warfare agents is prohibited.
3. Discharge of "toxic pollutants" in violation of effluent standards and prohibitions established under Section 307(a) of the Clean Water Act is prohibited.
4. Discharge of sludge, sludge digester or thickener supernatant, and sludge drying bed leachate to drainageways, surface waters, or the ocean is prohibited.
5. Introduction of pollutants into the collection, treatment, or disposal system by an "indirect discharger" that:
 - a. Inhibit or disrupt the treatment process, system operation, or the eventual use or disposal of sludge; or,
 - b. Flow through the system to the receiving water untreated; and,
 - c. Cause or "significantly contribute" to a violation of any requirement of this Order, is prohibited.
6. Introduction of "pollutant free" wastewater to the collection, treatment, and disposal system in amounts that threaten compliance with this order is prohibited.

B. Central Coast Standard Provisions – Provisions

1. Collection, treatment, and discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code.
2. All facilities used for transport or treatment of wastes shall be adequately protected from inundation and washout as the result of a 100-year frequency flood.
3. Operation of collection, treatment, and disposal systems shall be in a manner that precludes public contact with wastewater.
4. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed in a manner approved by the Executive Officer.
5. Publicly owned wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23 of the California Administrative Code.

6. After notice and opportunity for a hearing, this order may be terminated for cause, including, but not limited to:
 - a. violation of any term or condition contained in this order;
 - b. obtaining this order by misrepresentation, or by failure to disclose fully all relevant facts;
 - c. a change in any condition or endangerment to human health or environment that requires a temporary or permanent reduction or elimination of the authorized discharge; and,
 - d. a substantial change in character, location, or volume of the discharge.
7. Provisions of this permit are severable. If any provision of the permit is found invalid, the remainder of the permit shall not be affected.
8. After notice and opportunity for hearing, this order may be modified or revoked and reissued for cause, including:
 - a. Promulgation of a new or revised effluent standard or limitation;
 - b. A material change in character, location, or volume of the discharge;
 - c. Access to new information that affects the terms of the permit, including applicable schedules;
 - d. Correction of technical mistakes or mistaken interpretations of law; and,
 - e. Other causes set forth under Sub-part D of 40 CFR Part 122.
9. Safeguards shall be provided to assure maximal compliance with all terms and conditions of this permit. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions. Preventative and contingency plans for controlling and minimizing the affect of accidental discharges shall:
 - a. identify possible situations that could cause "upset", "overflow" or "bypass", or other noncompliance. (Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.)
 - b. evaluate the effectiveness of present facilities and procedures and describe procedures and steps to minimize or correct any adverse environmental impact resulting from noncompliance with the permit.
10. Physical Facilities shall be designed and constructed according to accepted engineering practice and shall be capable of full compliance with this order when

properly operated and maintained. Proper operation and maintenance shall be described in an Operation and Maintenance Manual. Facilities shall be accessible during the wet-weather season.

11. Production and use of reclaimed water is subject to the approval of the Regional Water Board. Production and use of reclaimed water shall be in conformance with reclamation criteria established in Chapter 3, Title 22, of the California Administrative Code and Chapter 7, Division 7, of the California Water Code. An engineering report pursuant to section 60323, Title 22, of the California Administrative Code is required and a waiver or water reclamation requirements from the Regional Water Board is required before reclaimed water is supplied for any use, or to any user, not specifically identified and approved either in this Order or another order issued by this Board.

C. Central Coast Standard Provisions – General Monitoring Requirements

1. If results of monitoring a pollutant appear to violate effluent limitations based on a weekly, monthly, 30-day, or six-month period, but compliance or non-compliance cannot be validated because sampling is too infrequent, the frequency of sampling shall be increased to validate the test within the next monitoring period. The increased frequency shall be maintained until the Executive Officer agrees the original monitoring frequency may be resumed.

For example, if copper is monitored annually and results exceed the six-month median numerical effluent limitation in the permit, monitoring of copper must be increased to a frequency of at least once every two months (Central Coast Standard Provisions – Definitions I.G.13.). If suspended solids are monitored weekly and results exceed the weekly average numerical limit in the permit, monitoring of suspended solids must be increased to at least four (4) samples every week (Central Coast Standard Provisions – Definitions I.G.14.).

2. Water quality analyses performed in order to monitor compliance with this permit shall be by a laboratory certified by the State Department of Health Services for the constituent(s) being analyzed. Bioassay(s) performed in order to monitor compliance with this permit shall be in accord with guidelines approved by the State Water Resources Control Board and the State Department of Fish and Game. If the laboratory used or proposed for use by the discharger is not certified by the California Department of Health Services or, where appropriate, the Department of Fish and Game due to restrictions in the State's laboratory certification program, the discharger shall be considered in compliance with this provision provided:
 - a. Data results remain consistent with results of samples analyzed by the Central Coast Water Board;
 - b. A quality assurance program is used at the laboratory, including a manual containing steps followed in this program that is available for inspections by the staff of the Central Coast Water Board; and,

- c. Certification is pursued in good faith and obtained as soon as possible after the program is reinstated.
3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken during periods of peak loading conditions. Influent samples shall be samples collected from the combined flows of all incoming wastes, excluding recycled wastes. Effluent samples shall be samples collected downstream of the last treatment unit and tributary flow and upstream of any mixing with receiving waters.
4. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

D. Central Coast Standard Provisions – General Reporting Requirements

1. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of the Monitoring and Reporting Program shall include at least the following information:
 - a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).
 - b. A description of sampling stations, including differences unique to each station (e.g., station location, grain size, rocks, shell litter, calcareous worm tubes, evident life, etc.).
 - c. A description of the sampling procedures and preservation sequence used in the survey.
 - d. A description of the exact method used for laboratory analysis. In general, analysis shall be conducted according to Central Coast Standard Provisions – C.1 above, and Federal Standard Provision – Monitoring III.B. However, variations in procedure are acceptable to accommodate the special requirements of sediment analysis. All such variations must be reported with the test results.
 - e. A brief discussion of the results of the survey. The discussion shall compare data from the control station with data from the outfall stations. All tabulations and computations shall be explained.
2. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule shall be submitted within 14 days following each scheduled date unless otherwise specified within the permit. If reporting noncompliance, the report shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance. A second report shall be submitted within 14 days of full compliance.

3. The "Discharger" shall file a report of waste discharge or secure a waiver from the Executive Officer at least 180 days before making any material change or proposed change in the character, location, or plume of the discharge.
4. Within 120 days after the discharger discovers, or is notified by the Central Coast Water Board, that monthly average daily flow will or may reach design capacity of waste treatment and/or disposal facilities within four (4) years, the discharger shall file a written report with the Central Coast Water Board. The report shall include:
 - a. the best estimate of when the monthly average daily dry weather flow rate will equal or exceed design capacity; and,
 - b. a schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

In addition to complying with Federal Standard Provision – Reporting V.B., the required technical report shall be prepared with public participation and reviewed, approved and jointly submitted by all planning and building departments having jurisdiction in the area served by the waste collection, treatment, or disposal facilities.

5. All "Dischargers" shall submit reports to the:

California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906

In addition, "Dischargers" with designated major discharges shall submit a copy of each document to:

Regional Administrator
US Environmental Protection Agency, Region 9
Attention: CWA Standards and Permits Office (WTR-5)
75 Hawthorne Street
San Francisco, California 94105

6. Transfer of control or ownership of a waste discharge facility must be preceded by a notice to the Central Coast Water Board at least 30 days in advance of the proposed transfer date. The notice must include a written agreement between the existing "Discharger" and proposed "Discharger" containing specific date for transfer of responsibility, coverage, and liability between them. Whether a permit may be transferred without modification or revocation and reissuance is at the discretion of the Board. If permit modification or revocation and reissuance is necessary, transfer may be delayed 180 days after the Central Coast Water Board's receipt of a complete permit application. Please also see Federal Standard Provision – Permit Action II.C.

7. Except for data determined to be confidential under Section 308 of the Clean Water Act (excludes effluent data and permit applications), all reports prepared in accordance with this permit shall be available for public inspection at the office of the Central Coast Water Board or Regional Administrator of EPA. Please also see Federal Standard Provision – Records IV.C.
8. By January 30th of each year, the discharger shall submit an annual report to the Central Coast Water Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. The discharger shall discuss the compliance record and corrective actions taken, or which may be needed, to bring the discharge into full compliance. The report shall address operator certification and provide a list of current operating personnel and their grade of certification. The report shall inform the Board of the date of the Facility's Operation and Maintenance Manual (including contingency plans as described Central Coast Standard Provision – Provision B.9., above), of the date the manual was last reviewed, and whether the manual is complete and valid for the current facility. The report shall restate, for the record, the laboratories used by the discharger to monitor compliance with effluent limits and provide a summary of performance relative to Section C above, General Monitoring Requirements.

If the facility treats industrial or domestic wastewater and there is no provision for periodic sludge monitoring in the Monitoring and Reporting Program, the report shall include a summary of sludge quantities, analyses of its chemical and moisture content, and its ultimate destination.

If applicable, the report shall also evaluate the effectiveness of the local source control or pretreatment program using the State Water Resources Control Board's "Guidelines for Determining the Effectiveness of Local Pretreatment Programs."

E. Central Coast Standard Provisions – General Pretreatment Provisions

1. Discharge of pollutants by "indirect dischargers" in specific industrial sub-categories (appendix C, 40 CFR Part 403), where categorical pretreatment standards have been established, or are to be established, (according to 40 CFR Chapter 1, Subchapter N), shall comply with the appropriate pretreatment standards:
 - a. By the date specified therein;
 - b. Within three (3) years of the effective date specified therein, but in no case later than July 1, 1984; or,
 - c. If a new indirect discharger, upon commencement of discharge.

F. Central Coast Standard Provisions – Enforcement

1. Any person failing to file a report of waste discharge or other report as required by this permit shall be subject to a civil penalty not to exceed \$5,000 per day.

2. Upon reduction, loss, or failure of the treatment facility, the "Discharger" shall, to the extent necessary to maintain compliance with this permit, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided.

G. Central Coast Standard Provisions – Definitions

(Not otherwise included in Attachment A to this Order)

1. A "composite sample" is a combination of no fewer than eight (8) individual samples obtained at equal time intervals (usually hourly) over the specified sampling (composite) period. The volume of each individual sample is proportional to the flow rate at the time of sampling. The period shall be specified in the Monitoring and Reporting Program ordered by the Executive Officer.
2. "Daily Maximum" limit means the maximum acceptable concentration or mass emission rate of a pollutant measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling. It is normally compared with results based on "composite samples" except for ammonia, total chlorine, phenolic compounds, and toxicity concentration. For all exceptions, comparisons will be made with results from a "grab sample".
3. "Discharger", as used herein, means, as appropriate: (1) the Discharger, (2) the local sewerage entity (when the collection system is not owned and operated by the Discharger), or (3) "indirect discharger" (where "Discharger" appears in the same paragraph as "indirect discharger", it refers to the discharger.)
4. "Duly Authorized Representative" is one where:
 - a. the authorization is made in writing by a person described in the signatory paragraph of Federal Standard Provision V.B.;
 - b. the authorization specifies either an individual or the occupant of a position having either responsibility for the overall operation of the regulated facility, such as the plant manager, or overall responsibility for environmental matters of the company; and,
 - c. the written authorization was submitted to the Central Coast Water Board.
5. A "grab sample" is defined as any individual sample collected in less than 15 minutes. "Grab samples" shall be collected during peak loading conditions, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with the daily maximum limits identified in Central Coast Standard Provision – Provision G.2. and instantaneous maximum limits.
6. "Hazardous substance" means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.
7. "Incompatible wastes" are:

- a. Wastes which create a fire or explosion hazard in the treatment works;
 - b. Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0 unless the works is specifically designed to accommodate such wastes;
 - c. Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation of treatment works;
 - d. Any waste, including oxygen demanding pollutants (BOD, etc), released in such volume or strength as to cause inhibition or disruption in the treatment works and subsequent treatment process upset and loss of treatment efficiency; and,
 - e. Heat in amounts that inhibit or disrupt biological activity in the treatment works or that raise influent temperatures above 40 °C (104 °F) unless the treatment works is designed to accommodate such heat.
8. "Indirect Discharger" means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.
9. "Log Mean" is the geometric mean. Used for determining compliance of fecal or total coliform populations, it is calculated with the following equation:

$$\text{Log Mean} = (C1 \times C2 \times \dots \times Cn)^{1/n},$$

in which "n" is the number of days samples were analyzed during the period and any "C" is the concentration of bacteria (MPN/100 ml) found on each day of sampling. "n" should be five or more.

10. "Mass emission rate" is a daily rate defined by the following equations:

$$\text{mass emission rate (lbs/day)} = 8.34 \times Q \times C; \text{ and,}$$

$$\text{mass emission rate (kg/day)} = 3.79 \times Q \times C,$$

where "C" (in mg/L) is the measured daily constituent concentration or the average of measured daily constituent concentrations and "Q" (in mgd) is the measured daily flow rate or the average of measured daily flow rates over the period of interest.

11. The "Maximum Allowable Mass Emission Rate," whether for a month, week, day, or six-month period, is a daily rate determined with the formulas in paragraph G.10, above, using the effluent concentration limit specified in the permit for the period and the average of measured daily flows (up to the allowable flow) over the period.
12. "Maximum Allowable Six-Month Median Mass Emission Rate" is a daily rate determined with the formulas in Central Coast Standard Provision – Provision G.10, above, using the "six-month Median" effluent limit specified in the permit, and the average of measured daily flows (up to the allowable flow) over a 180-day period.

13. "Median" is the value below which half the samples (ranked progressively by increasing value) fall. It may be considered the middle value, or the average of two middle values.
14. "Monthly Average" (or "Weekly Average", as the case may be) is the arithmetic mean of daily concentrations or of daily mass emission rates over the specified 30-day (or 7-day) period.

$$\text{Average} = (X1 + X2 + \dots + Xn) / n$$

in which "n" is the number of days samples were analyzed during the period and "X" is either the constituent concentration (mg/L) or mass emission rate (kg/day or lbs/day) for each sampled day. "n" should be four or greater.

15. "Municipality" means a city, town, borough, county, district, association, or other public body created by or under state law and having jurisdiction over disposal of sewage, industrial waste, or other waste.
16. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including pumping facilities.
17. "Pollutant-free wastewater" means inflow and infiltration, storm waters, and cooling waters and condensates which are essentially free of pollutants.
18. "Primary Industry Category" means any industry category listed in 40 CFR Part 122, Appendix A.
19. "Removal Efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using "Monthly averages" of pollutant concentrations (C, in mg/L) of influent and effluent samples collected about the same time and the following equation (or its equivalent):
- $$C_{\text{Effluent}} \text{ Removal Efficiency (\%)} = 100 \times (1 - C_{\text{Effluent}} / C_{\text{Influent}})$$
20. "Severe property damage" means substantial physical damage to property, damage to treatment facilities which causes them to become inoperable, or substantial and permanent loss to natural resources which can reasonably be expected to occur in the absence of a "bypass". It does not mean economic loss caused by delays in production.
21. "Sludge" means the solids, residues, and precipitates separated from, or created in, wastewater by the unit processes of a treatment system.
22. To "significantly contribute" to a permit violation means an "indirect discharger" must:
- Discharge a daily pollutant loading in excess of that allowed by contract with the "Discharger" or by Federal, State, or Local law;

- b. Discharge wastewater which substantially differs in nature or constituents from its average discharge;
 - c. Discharge pollutants, either alone or in conjunction with discharges from other sources, which results in a permit violation or prevents sewage sludge use or disposal; or
 - d. Discharge pollutants, either alone or in conjunction with pollutants from other sources that increase the magnitude or duration of permit violations.
23. "Toxic Pollutant" means any pollutant listed as toxic under Section 307 (a) (1) of the Clean Water Act or under 40 CFR Part 122, Appendix D. Violation of maximum daily discharge limitations are subject to 24-hour reporting (Federal Standard Provisions V.E.).
24. "Zone of Initial Dilution" means the region surrounding or adjacent to the end of an outfall pipe or diffuser ports whose boundaries are defined through calculation of a plume model verified by the State Water Resources Control Board.

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with Water Code section 13176, and must include quality assurance/quality control data with their reports.
- B. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and approval of the Regional Water Board.
- C. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references:
 1. A Guide to Methods and Standards for the Measurement of Water Flow, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421)
 2. Water Measurement Manual, U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027).
 3. Flow Measurement in Open Channels and Closed Conduits, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)
 4. NPDES Compliance Sampling Manual, U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp (Available from the

General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)

- D. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this MRP.
- F. Unless otherwise specified by this MRP, all monitoring shall be conducted according to test procedures established at 40 CFR 135, *Guidelines Establishing Test Procedures for Analysis of Pollutants*. All analyses shall be conducted using the lowest practical quantification limit achievable using the specified methodology. Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analysis for toxics listed by the California Toxics Rule shall also adhere to guidance and requirements contained in the Policy for *Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005). Analyses for toxics listed in Table B of the California Ocean Plan (2005) shall adhere to guidance and requirements contained in that document.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
---	INF-001	At a location where a representative sample of intake seawater can be obtained prior to its contact with any operations, chemical application, other water or waste streams, and/or treatment.
001	EFF-001	At a point where an effluent sample can be collected that is representative of discharges to the Pacific Ocean, but before dilution occurs with ocean water and other waste streams not authorized by this Order (e.g., Moss Landing Marine Laboratories and Monterey Bay Aquarium Research Institute).

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

The Discharger shall monitor influent seawater at Monitoring Location INF-001, during all phases of operation, in accordance with the following schedule.

Table E-2. Influent Seawater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	Units	Grab	Daily
Temperature	°F	Grab	Weekly
Turbidity	NTU	Grab	Weekly
Specific Conductivity	µmhos/cm	Grab	Weekly
Settleable Solids	mL/L/hr	Grab	Weekly
TDS	mg/L	Grab	Monthly
Ocean Plan Table B Metals ^[1]	µg/L	Grab	Annually ^[2]

^[1] The metals with applicable water quality objectives established by Table B of the Ocean Plan (2005) – As, Cd, Cr+6, Cu, Pb, Hg, Ni, Se, Ag, Zn. Analyses, compliance determination, and reporting for these pollutants shall adhere to applicable provisions of the Ocean Plan, including the Standard Monitoring Procedures presented in Appendix III of the Ocean Plan. The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix II of the Ocean Plan are the lowest calibration standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of Table B; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML.

^[2] Monitoring for the Ocean Plan Table B metals shall be performed during the first year following the effective date of this Order and every year thereafter.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

The Discharger shall monitor its discharge to Monterey Bay at Monitoring Location EFF-001, during all phases of operation, in accordance with the following schedule.

Table E-3. Effluent Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	mgd	Metered	Daily
pH	Units	Grab	Daily
Temperature	°C	Grab	Weekly
Specific Conductivity	µmhos/cm	Grab	Weekly
TDS	mg/L	Grab	Weekly
Settleable Solids	ml/L	Grab	Weekly
TSS	mg/L	Grab	Monthly
Turbidity	NTU	Grab	Monthly
Oil and Grease	mg/L	Grab	Annually
Chronic Toxicity ^[1]	TUc	Grab	Quarterly
Ocean Plan Table B Pollutants ^{[2], [3]}	µg/L	Grab	Annually
1,3-Butadiene ^[4]	µg/L	Grab	Annually
Acetaldehyde ^[4]	µg/L	Grab	Annually
Formaldehyde ^[4]	µg/L	Grab	Annually
Naphthalene ^[4]	µg/L	Grab	Annually
Propylene Oxide ^[4]	µg/L	Grab	Annually
Xylenes ^[4]	µg/L	Grab	Annually

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Organic Carbon (TOC) ^[4]	µg/L	24-hr composite	Annually

- [1] Whole effluent chronic toxicity monitoring shall be conducted according to the requirements established in section V. of this Monitoring and Reporting Plan.
- [2] The pollutants, excluding radioactivity and acute toxicity, with applicable water quality objectives established by Table B of the Ocean Plan (2005).
- [3] Analyses, compliance determination, and reporting for these pollutants shall adhere to applicable provisions of the Ocean Plan, including the Standard Monitoring Procedures presented in Appendix III of the Ocean Plan. The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix II of the Ocean Plan are the lowest calibration standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of Table B; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML.
- [4] The analytical method selected for a parameter shall be the one that can measure the lowest detected limit for that parameter.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity

The presence of chronic toxicity shall be estimated as specified in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, EPA-821/600/R-95/136; *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, EPA-600-4-91-003; *Procedures Manual for Conducting Toxicity Tests developed by the Marine Bioassay Project, SWRCB 1996, 96-1WQ*; and/or *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, EPA/600/4-87-028 or subsequent editions.

Chronic toxicity measures a sub lethal effect (e.g., reduced growth or reproduction) to experimental test organisms exposed to an effluent compared to that of the control organisms. The no observed effect concentration (NOEC) is the maximum tested concentration in a medium which does not cause known adverse effects upon chronic exposure in the species in question (i.e. the highest effluent concentration to which organisms are exposed in a chronic test that causes no observable adverse effects on the test organisms; (e.g., the highest concentration of a toxicant to which the values for the observed responses are not statistically significantly different from the controls). Examples of chronic toxicity include but are not limited to measurements of toxicant effects on reproduction, growth, and sublethal effects that can include behavioral, physiological, and biochemical effects. Test results shall be reported in chronic toxicity units (TUc), where $TUc = 100/NOEC$. For this discharge, the presence of chronic toxicity at more than 34 TUc shall trigger the TRE requirements of the Order.

If the effluent to be discharged to a marine or estuarine system (e.g., salinity values in excess of 1,000 mg/L) originates from a freshwater supply, salinity of the effluent must be increased with dry ocean salts (e.g., FORTY FATHOMS®) to match salinity of the receiving water. This modified effluent shall then be tested using marine species.

Test species shall include a vertebrate, an invertebrate, and an aquatic plant. After a screening period, monitoring may be reduced to the most sensitive species. Screening phase chronic toxicity monitoring shall be conducted with approved test protocols and species shown in Table E-4 below.

Table E-4. Approved Tests – Chronic Toxicity

Species	Test	Tier ^[1]	Reference ^[2]
Giant Kelp, <i>Macrocystis pyrifera</i>	percent germination; germ tube length	1	a, c
Red abalone, <i>Haliotis rufescens</i>	abnormal shell development	1	a, c
Oyster, <i>Crassostrea gigas</i> ; mussels, <i>Mytilus spp.</i>	abnormal sell development; percent survival	1	a, c
Urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent normal development; percent fertilization	1	a, c
Shrimp, <i>Homesimysis costata</i>	percent survival; growth	1	a, c
Shrimp, <i>Menidia beryllina</i>	percent survival; fecundity	2	b, d
Topsmelt, <i>Atherinops affinis</i>	larval growth rate; percent survival	1	a, c
Silverside, <i>Menidia beryllina</i>	larval growth rate; percent survival	2	b, d

^[1] First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the Regional Water Board

^[2] Protocol References:

- Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. U.S. EPA Report No. EPA/600/R-95/136
- Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. U.S. EPA Report No. EPA-600-4-91-003.
- SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.
- Webber, C.I., W.B. Horning II, D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1998. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA/600/4-87/028.

Authorized dischargers shall conduct toxicity tests using effluent dilutions of 100%, 85%, 70%, 50%, and 25%. Dilution and control waters shall be obtained from an area of the receiving waters, typically upstream, which is unaffected by the discharge. Standard dilution water can be used, if the receiving water itself exhibits toxicity or if approved by the Regional Water Board. If the dilution water used in testing is different from the water in which the test organisms were cultured, a second control sample using culture water shall be tested.

The sensitivity of test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results.

B. Toxicity Reporting

- The Discharger shall include a full report of toxicity test results with the regular monthly monitoring report and include the following information.

- a. toxicity test results,
 - b. dates of sample collection and initiation of each toxicity test, and
 - c. and/or chronic toxicity discharge limitations (or value).
2. Toxicity test results shall be reported according to the appropriate guidance - *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, U.S. EPA Office of Water, EPA-821-R-02-012 (2002) or the latest edition, or, EPA-821-R-02-012 (2002) or subsequent editions.
 3. If the initial investigation TRE workplan is used to determine that additional (accelerated) toxicity testing is unnecessary, these results shall be submitted with the monitoring report for the month in which investigations conducted under the TRE workplan occurred.
 4. Within 14 days of receipt of test results exceeding the chronic toxicity discharge limitation, the Discharger shall provide written notification to the Executive Officer of:
 - a. Findings of the TRE or other investigation to identify the cause(s) of toxicity,
 - b. Actions the Discharger has taken/will take, to mitigate the impact of the discharge and to prevent the recurrence of toxicity. When corrective actions, including TRE, have not been completed, a schedule under which corrective actions will be implemented, or the reason for not taking corrective action, if no action has been taken.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

This section of the standardized permit form is not applicable.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

This section of the standardized permit form is not applicable.

IX. OTHER MONITORING REQUIREMENTS

A. Video Tape Survey of Diffuser and Diffuser Area

A video tape reconnaissance survey of the diffuser and diffuser area shall be conducted annually. Surveys shall occur during periods of safe diving conditions and water clarity conducive to good video taping. The surveys shall include the diffuser and bottom area within at least 20 feet on each side of the diffuser. The videotape shall be submitted to the Regional Water Board and shall be accompanied by a diver narrative describing bottom conditions, any fish or macroinvertebrates, and any apparent effects of the diffuser and outfall system.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.
3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.
4. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements
5. The Discharger shall report the results of chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, Section V.G.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Website will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutants more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	May 9, 2009	All	Submit with monthly SMR

Daily	May 9, 2009	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month	Submit with monthly SMR
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	Submit with next monthly SMR
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	Submit with monthly SMR
Annually	January 1 following (or on) permit effective date	January 1 through December 31	Submit with Annual Report

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Qualified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to the DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected", or ND.
- d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is a differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
- b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
- c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

6. An Annual Self Monitoring Report shall be due on February 1 following each calendar year and shall include:
 - a. All data required by this MRP for the corresponding monitoring period, including appropriate calculations to verify compliance with effluent limitations.
 - b. A discussion of any incident of non-compliance and corrective actions taken.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below.

Standard Mail

State Water Resources Control Board
Division of Water Quality
c/o DMR Processing Center
PO Box 100
Sacramento, CA 95812-1000

Fed Ex / UPS / Other Private Carrier

State Water Resources Control Board
Division of Water Quality
c/o DMR Processing Center
1001 I Street, 15th Floor
Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

1. The Discharger shall report the results of any special monitoring, TREs, or other data or information that results from the Special Provisions, Section VI.C, of the Order. The Discharger shall submit such reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.
2. Notifications. The regulations for the Monterey Bay National Marine Sanctuary at 15 CFR Part 922.132 prohibit discharges from within the boundaries of the MBNMS. Discharges occurring outside the MBNMS that subsequently enter and injure Sanctuary resources or qualities are similarly prohibited. In order to protect the health of the MBNMS, the permittee must immediately notify the MBNMS office at 888-902-2778 for any spills that are likely to enter ocean waters. In addition to facilitating potential enforcement investigations, the MBNMS seeks to track this information in order to evaluate existing and direct the implementation of new management measures. The Discharger shall send annual reports to MBNMS staff and notify MBNMS staff prior to changes in Facility Design Flow, specifically, before going to Permit Phase 2 and Permit Phase 3. . All correspondence shall be sent to the individual listed below:

**Permit Coordinator
Monterey Bay National Marine Sanctuary
299 Foam Street Monterey, CA 93940**

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B.** The facility is a green cement plant, which is operated at the location of the former National Refractories and Minerals Corporation cement plant and discharges calcium and magnesium depleted seawater to Monterey Bay within the Monterey Bay National Marine Sanctuary (waters of the United States).
- C.** The Discharger filed a Report of Waste Discharge and submitted an application to renew the facility’s Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on May 9, 2008. A site visit to assist with development of this Order was conducted on September 25, 2008.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Treatment or Controls

Seawater is pumped from Moss Landing Harbor by up to nine 100-horsepower pumps through two intake lines to the facility. Seawater, which contains calcium chloride and magnesium chloride (CaCl_2 and MgCl_2), is combined with dolime, lime, brucite (magnesium hydroxide tailings from historical operations of the National Refractories and Minerals Corporation), sodium hydroxide, sodium carbonate, fly ash, and/or calcium and magnesium-bearing silicate materials such as olivine and serpentine. The Discharger’s precipitation process also utilizes carbon dioxide (CO_2), sparged from flue gases of the neighboring Moss Landing Power Plant. Following precipitating reactions, the seawater mixture will be directed to as many as seven 3-million gallon (capacity) tanks where settling of precipitated solids will occur. Settled material will be dried to be sold to the construction industry as green cement or as a cement supplement. Calcium and magnesium depleted seawater, decanted from the thickening tanks, will be discharged back to Monterey Bay through Discharge Point 001.

If necessary, chlorine can be added at the seawater intake to prevent microbiological fouling. No scale inhibitors, chelants, or other cleaning compounds will be used. In the event of plant shut down, intake pumps can be shut off and flow within the plant will be held in one or more of the on-site ponds. Well water may be used for washing production equipment.

Initially, the Discharger plans to operate a pilot-scale operation with a daily average discharge of 0.04 mgd and a daily maximum discharge of 0.05 mgd. This Phase 1 operation will be followed by a prototype operation with a daily maximum discharge of 25 mgd, and ultimately, by a full-scale operation with discharge of up to 60 mgd. Modifications to operational procedures and equipment will likely be required after Phase 1 and/or Phase 2 based on the experience of the earlier phases of operation.

This facility and its discharge will be similar to that of the National Refractories and Minerals Corporation which has occupied the same location. Both operations extract minerals from seawater for the manufacture of cement, with a difference being the use of carbon dioxide from an external source by the Moss Landing Cement Company.

Only the discharge of calcium and magnesium depleted seawater will occur under this permit. The previous permit also authorized the discharge of domestic wastewater and industrial storm water. Neither of the two latter sources is addressed in this permit. Domestic wastewater generated at the Moss Landing Commercial Park will be treated in a septic system and leach field. Discharge of storm water must be authorized by State Water Resources Control Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001 (*Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*).

Water Board staff evaluated the potential effects of entrainment and impingement using a volumetric approach that compared the Moss Landing Cement Plant project to previous 316(b) studies at the adjacent Moss Landing Power Plant (MLPP). The proposed discharge in Phase 1 (maximum flow 0.05 mgd or 35 gpm) would have a flow about 24,500 times lower than the combined maximum intake volume of the MLPP cooling water system (approximately 1226 MGD). For comparison to the maximum Phase 1 flow of 35 gpm, the circulating pump on a standard small V8 GM-based sterndrive engine uses approximately 50 gpm of Moss Landing Harbor seawater for cooling. The proposed maximum discharge flows in Phase 2 (maximum flow 25 mgd) and Phase 3 (maximum flow 60 mgd) would have flows about 49 and 20 times lower, respectively, than the combined maximum intake volume of the MLPP cooling water system. Based on review of entrainment modeling studies (Fecundity Hind casting, Adult Equivalent Losses, and Empirical Transport Model) at MLPP, the relatively low flows of Moss Landing Harbor water through the Moss Landing Cement Plant would have negligible potential impingement and entrainment impacts.

B. Discharge Points and Receiving Waters

Wastewater is discharged from Discharge Point 001 to the Monterey Bay near Moss Landing Harbor, waters of the United States, through a 620-foot (189 m), 51-inch (inside diameter) outfall/diffuser system. The last 130 feet of pipe consists of a diffuser section, which has 32 nozzles placed to gradually diffuse the discharge to the ocean environs.

The Discharger's diffuser sustained damages during the 1989 Loma Prieta earthquake. Studies conducted by the Moss Landing Marine Laboratories at that time determined there is low potential for significant environmental impact because of the damage. The outfall/diffuser system is visually inspected on an annual basis during normal operations. The Discharger continues to use the existing outfall/diffuser system without repair. The minimum initial dilution factor was determined to be 33:1 (seawater: effluent). The Discharger currently allows the Moss Landing Marine Laboratories and Monterey Bay Aquarium Research Institute to use its outfall. These dischargers are not subject to or authorized to discharge pursuant to this Order. Similarly, this Order does not authorize discharges to Monterey Bay, via Discharge Point 001, by any tenant of the Moss Landing Commercial Park other than the Moss Landing Cement Company, LLC. The Discharger has established and will maintain an effluent compliance monitoring location that is prior to any other sources entering the outfall line.

The receiving water for this discharge is part of the Monterey Bay National Marine Sanctuary, designated as such on September 15, 1992. The purpose of the National

Marine Sanctuaries Program is to protect areas of the marine environment which possess conservation, recreational, ecological, historical, research, educational, or aesthetic qualities of special national significance. The first priority of the Program is the long-term protection of resources within designated sanctuaries. The Monterey Bay Sanctuary has been recognized for its unique and diverse biological and physical characteristics.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limits contained in the previous Order for Discharge Point 001 are presented in the following tables.

Table F-2. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Daily Maximum
TSS	mg/L	60	--	90
	lb/day	30,000		45,000
Oil & Grease	mg/L	25	40	75
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
Acute Toxicity	TUa	1.5	2.0	2.5
pH	pH Units	6.0 – 9.0		

Table F-3. Effluent Limitations for Toxic Pollutants for the Protection of Marine Aquatic Life

Pollutant	Unit	6-Month Median	Daily Maximum	Instantaneous Maximum
Arsenic	mg/L	0.2	0.99	2.6
Cadmium	mg/L	0.03	0.2	0.34
Chromium (+6)	mg/L	0.07	0.3	0.68
Copper	mg/L	0.04	0.34	0.95
Lead	mg/L	0.07	0.3	0.68
Mercury	mg/L	1.0	5.4	13.0
Nickel	mg/L	0.2	0.68	1.7
Selenium	mg/L	0.51	2.0	5.1
Silver	mg/L	0.02	0.09	0.23
Zinc	mg/L	0.4	2.5	6.5
Cyanide	mg/L	0.17	0.68	1.7
Total Residual Chlorine	mg/L	0.07	0.3	2.0
Ammonia (as N)	mg/L	20.4	81.6	204.0
Chronic Toxicity	TUc	---	34.0	---
Phenolic Compounds (non-chlorinated)	mg/L	1.0	4.08	10.2
Chlorinated Phenolics	mg/L	0.03	0.14	0.34
Endosulfan	µg/L	0.3	0.61	0.92
Endrin	µg/L	0.07	0.14	0.20
HCH	µg/L	0.14	0.27	0.41

Pollutant	Unit	6-Month Median	Daily Maximum	Instantaneous Maximum
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			

Table F-4. Effluent Limitations for Toxic Pollutants for the Protection of Human Health (Non-Carcinogens)

Pollutant	Unit	30-day Average
Acrolein	mg/L	7.5
Antimony	mg/L	41.0
Bis(2-Chloroethoxy)Methane	mg/L	0.15
Bis(2-Chloroisopropyl)Ether	mg/L	41.0
Chlorobenzene	mg/L	19.0
Chromium (III)	g/L	6.5
Di-n-Butyl Phthalate	g/L	0.12
Dichlorobenzenes ⁽¹⁾	g/L	0.18
1,1-Dichloroethylene	g/L	0.24
Diethyl Phthalate	g/L	1.1
Dimethyl Phthalate	g/L	28.0
4,6-Dinitro-2-methylphenol	mg/L	7.5
2,4-Dinitrophenol	mg/L	0.14
Ethylbenzene	g/L	0.14
Fluoranthene	mg/L	0.51
Hexachlorocyclopentadiene	mg/L	2.0
Isophorone	µg/L	5.1
Nitrobenzene	mg/L	0.17
Thallium	mg/L	0.48
Toluene	µg/L	2.9
1,1,2,2-Tetrachloroethane	µg/L	0.041
Tributyltin	µg/L	0.048
1,1,1-Trichloroethane	µg/L	18.0
1,1,2-Trichloroethane	µg/L	1.5

Table F-5. Effluent Limitations for Toxic pollutants for the Protection of Human Health (Carcinogens)

Pollutant	Unit	30-day Average
Acrylonitrile	µg/L	3.4
Aldrin	ng/L	0.75
Benzene	mg/L	0.20
Benzidine	ng/L	2.3
Beryllium	µg/L	1.1
Bis(2-chloroethyl) ether	µg/L	1.5
Bis(2-ethylhexyl) phthalate	mg/L	0.12

Pollutant	Unit	30-day Average
Carbon Tetrachloride	mg/L	0.031
Chlordane	ng/L	0.78
Chloroform	mg/L	4.4
DDT	ng/L	5.8
1,4-Dichlorobenzene	mg/L	0.61
3,3-Dichlorobenzidine	µg/L	0.28
1,2-Dichloroethane	mg/L	4.4
Dichloromethane	mg/L	15.0
1,3-Dichloropropene	mg/L	0.30
Dieldrin	µg/L	1.4
2,4-Dinitrotoluene	mg/L	0.088
1,2-Diphenylhydrazine	µg/L	5.4
Halomethanes	mg/L	4.4
Heptachlor	µg/L	0.024
Hexachlorobenzene	ng/L	7.1
Hexachlorobutadiene	mg/L	0.48
Hexachloroethane	mg/L	0.085
N-nitrosodimethylamine	mg/L	0.25
N-nitrosodiphenylamine	mg/L	0.085
PAHs	µg/L	0.30
PCBs	ng/L	0.65
TCDD Equivalents	ng/L	0.13
Tetrachloroethylene	mg/L	3.4
Toxaphene	ng/L	7.1
Trichloroethylene	mg/L	0.92
2,4,6-Trichlorophenol	µg/L	9.9
Vinyl Chloride	mg/L	1.2

D. Compliance Summary

There has been no discharge from this facility since 2001.

E. Planned Changes

The Discharger intends to resume operations at this facility in three phases of operation, with Phase 3, the intended long-term mode of operation, to be accomplished during the anticipated five-year term of this Order. Phase 1 of operations will be a pilot scale operation and will result in a daily average discharge rate of 0.04 mgd and a daily maximum discharge rate of 0.05 mgd. Phase 2 will result in daily average and daily maximum discharge rates of 24 and 25 mgd; and Phase 3 will result in a daily average and daily maximum discharge rates of 56 and 60 mgd, respectively. There is no set schedule for initiation of Phases 2 and 3; however, the Discharger expects to be in Phase 3 of operations during the five-year term of this Order.

Section VI. C. 6. b of this Order establishes a requirement for the Discharger to perform a Discharge Characterization Study during Phase 1 of operations. The Regional Water Board must review results of this study and provide written confirmation to the Discharger that characteristics of the discharge are as contemplated by this Order before the Discharger will become authorized to discharge in its Phase 2 of operations.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to the federal Clean Water Act (CWA) section 402 and implementing regulations adopted by the USEPA, and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as WDRs pursuant to CWC Article 4, Chapter 4, Division 7.

B. California Environmental Quality Act (CEQA)

Pursuant to California Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

C. State and Federal Regulations, Policies, and Plans

- 1. Water Quality Control Plans.** The Regional Water Board has adopted a *Water Quality Control Plan for the Central Coast Region* (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters within the Region. To address ocean waters, the Basin Plan incorporates by reference the *Water Quality Control Plan for Ocean Waters of California* (the Ocean Plan), which was adopted in 1972 and amended in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The most recent amendment to the Ocean Plan was adopted by the State Water Resources Control Board (the State Water Board) on April 21, 2005, and became effective on February 14, 2006.

The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of very high levels of total dissolved solids (TDS) in marine waters, the receiving waters for discharges from the Moss Landing Cement Company facility meet an exception to Resolution No. 88-63, which precludes waters with TDS levels greater than 3,000 mg/L from the MUN designation. Beneficial uses established by the Basin Plan and the Ocean Plan for the coastal waters between Soquel Point and the Salinas River, including Monterey Bay, are described in section II. H of the Order.

Requirements of this Order implement the Basin Plan and Ocean Plan.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains the following temperature objective for existing discharges to enclosed bays and coastal waters of California.

Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.

The Ocean Plan defines elevated temperature wastes as:

Liquid, solid, or gaseous material discharged at a temperature higher than the natural temperature of receiving water.

3. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the Pacific Ocean.
4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes. [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21] Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000 must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
5. **Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that the existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the Clean Water Act (CWA) and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

D. Impaired Water Bodies on CWA 303 (d) List

CWA section 303 (d) requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303 (d) listed water bodies and pollutants, the Regional Water Board must develop and implement TMDLs (Total Maximum Daily Loads) that will specify WLAs (Waste Load Allocations) for point sources and Load Allocations for non-point sources.

The State's 2006 303(d) list of impaired water bodies, which was approved by USEPA in June 2007, does not identify Monterey Bay in the vicinity of the discharge as impaired.

E. Other Plans Policies and Regulations

- 1. Discharges of Storm Water.** For the control of storm water discharged from the site of the facility, the Order requires, if applicable, the Discharger to seek authorization to discharge under and meet the requirements of the State Water Resources Control Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001 (*Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*).

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. NPDES regulations establish two principal bases for effluent limitations. At 40 CFR 122.44 (a) permits are required to include applicable technology-based limitations and standards; and at 40 CFR 122.44 (d) permits are required to include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. When numeric water quality objectives have not been established, but a discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, WQBELs may be established using one or more of three methods described at 40 CFR 122.44 (d) - (1) WQBELs may be established using a calculated water quality criterion derived from a proposed State criterion or an explicit State policy or regulation interpreting its narrative criterion; 2) WQBELs may be established on a case-by-case basis using USEPA criteria guidance published under CWA Section 304 (a); or 3) WQBELs may be established using an indicator parameter for the pollutant of concern.

A. Discharge Prohibitions

- 1. Discharge Prohibition III. A** (No discharge to Monterey Bay at a location other than as described by the Order). The Order authorizes a single, specific point of discharge to Monterey Bay; and this prohibition reflects CWA section 402's prohibition against discharges of pollutants except in compliance with the Act's permit requirements, effluent limitations, and other enumerated provisions. This prohibition is also retained from the previous permit.

2. Discharge Prohibition III. B (Discharges in a manner, except as described by the Order, are prohibited). Because limitations and conditions of the Order have been prepared based on specific information provided by the Discharger and specific wastes described by the Discharger, the limitations and conditions of the Order do not adequately address waste streams not contemplated during drafting of the Order. To prevent the discharge of such waste streams that may be inadequately regulated, the Order prohibits the discharge of any waste that was not described to and contemplated by the Regional Water Board during the process of permit reissuance.
3. Discharge Prohibition III. C. (Discharges to Monterey Bay shall not exceed defined maximum discharge rates). As limitations and conditions of the Order have been prepared based on specific information provided by the Discharger and specific wastes described by the Discharger, the limitations and conditions of the Order may not adequately address waste streams that were not contemplated during drafting of the Order. In particular, section VI. C. 6. b of the Order requires the Discharger to more fully characterize its discharge; and through review of that characterization data, the Regional Water Board will need to confirm its understanding of the character of the discharge before it will authorize a discharge at the higher Phase 2 rate.
4. Discharge Prohibition III. D. (Discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste is prohibited). This prohibition restates a discharge prohibition established in section III. H. of the Ocean Plan.
5. Discharge Prohibition III. E. (Discharge of sludge or sludge digester supernatant to the Ocean is prohibited). This prohibition restates a discharge prohibition established in section III. H. of the Ocean Plan.
6. Discharge Prohibition III. F (Overflows and bypasses prohibited). The discharge of untreated or partially treated wastewater from the Discharger's collection, treatment, or disposal facilities represents an unauthorized bypass pursuant to 40 CFR 122.41 (m), or an unauthorized discharge, which poses a threat to human health and/or aquatic life, and therefore, is explicitly prohibited by the Order.
7. Discharge Prohibition III.G. (Discharge of domestic wastewater is prohibited). Based on information provided by the Discharger, the Regional Water Board understands that there will be no component of domestic wastewater in discharges from this facility. This prohibition acknowledges that understanding and provides protection of the receiving water, as the Regional Water Board has not included other common limitations and conditions in the Order for the control of domestic wastewater.
8. Discharge Prohibition III.H. (Discharge of storm water is prohibited). Based on information provided by the Discharger, the Regional Water Board understands that there will be no storm water component in discharges from this facility. This prohibition acknowledges that understanding and provides protection for the receiving water, as the Regional Water Board has not included other common limitations and conditions in the Order for the control of storm water.

9. Discharge Prohibition III.I. (Discharge of chemical additives is prohibited). Based on information provided by the Discharger, the Regional Water Board understands that no chemicals will be added to the discharge, except for dolomite, lime, and other similar inorganic materials. The Regional Water Board also understands that no organic (carbon containing) materials, except carbon dioxide and carbonate ion, will be added to the discharge. This prohibition acknowledges the Regional Water Board's understanding that a very limited number of similar inorganic materials can be introduced to the facility's discharge and provides protection for the receiving water, as the Regional Water Board has not included limitations and conditions in the Order for the control of such chemical additives.
10. Discharge Prohibition III.J. (Discharge of wastewater containing added coloration is prohibited). Based on information provided by the Discharger, the Regional Water Board understands that the discharge will be of the same color as incoming seawater. Because the facility's process of removing calcium and magnesium from seawater relies on precipitation reactions, this prohibition is meant to prohibit carryover of precipitated solids in the discharge, as well as post-precipitation reactions that could cause coloration of the receiving water in the vicinity of the outfall.
11. Discharge Prohibition III. K. (Discharge of wastewater to receiving water at a temperature that adversely affects beneficial uses is prohibited.) Based on information provided by the Discharger, the Regional Water Board understands that the temperature of seawater will not be significantly raised as it moves from the intake location to the facility's outfall in Monterey Bay within the Monterey Bay National Marine Sanctuary. The Thermal Plan requires that such discharges do not cause natural water temperature to increase to assure protection of the beneficial uses. Based on the Discharger's description of its process, and based generally on the objectives of the Thermal Plan, the Regional Water Board has established this prohibition to prevent thermal impacts to the receiving water.

B. Technology-Based Effluent Limitations

1. Scope and Authority

NPDES regulations at 40 CFR 122.44 (a) require that permits include applicable technology-based limitations and standards. Where the USEPA has not yet developed technology based standards for a particular industry or a particular pollutant, CWA Section 402 (a) (1) and USEPA regulations at 40 CFR 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis. When BPJ is used, the permit writer must consider specific factors outlined at 40 CFR 125.3.

The State Water Board, in Table A of the Ocean Plan, has also established technology based requirements for conventional pollutants (suspended and settleable matter, oil and grease, turbidity, and pH), which are applicable to this facility as an industrial discharger for which Effluent Limitations Guidelines have not been established.

2. Applicable Technology-Based Effluent Limitations

Technology-based effluent limitations applicable to Discharge Point 001 during Phases 1, 2, and 3 and established by the Order are summarized as follows.

Table F-6. Summary of Technology-Based Effluent Limitations

Parameter	Units	Monthly 30-Day Average	Weekly 7-Day Average	Instantaneous Maximum
Oil and Grease	mg/L	25	40	75
Settleable Solids	ml/L	1.0	1.5	3.0
TSS	mg/L	60 ^[1]	--	--
Turbidity	NTU	75	100	225
pH	s.u.	Within 6.0 to 9.0 at all times		

^[1] Discharger shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

NPDES regulations at 40 CFR 122.44 (d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards, including numeric and narrative objectives within a standard.

The process for determining “reasonable potential” for discharges to cause or contribute to an exceedance of a water quality standard and for calculating WQBELs, when necessary, is intended to protect the designated uses of receiving waters as specified in the Basin and Ocean Plans, and achieve applicable water quality objectives and criteria that are contained in the Basin Plan and in other applicable State and federal rules, plans, and policies, including applicable water quality criteria from the Ocean Plan.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established in accordance with the requirements of 40 CFR 122.44 (d) (1) (vi), using (1) USEPA criteria guidance under CWA section 304 (a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state’s narrative criterion, supplemented with other relevant information.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

Beneficial uses for ocean waters of the Central Coast Region are established by the Basin Plan and the Ocean Plan and are described by Section II. (Findings) H of the Order.

Water quality criteria applicable to ocean waters of the Region are established by the Ocean Plan, which includes water quality objectives for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. The water quality objectives from the Ocean Plan are incorporated as receiving water limitations into this Order. In addition, Table B of the Ocean Plan contains numeric water quality objectives for 83 toxic pollutants for the protection of marine aquatic life and human health.

3. Determining the Need for WQBELs

Procedures for performing a Reasonable Potential Analysis (RPA) for ocean dischargers are described in Section III. C. and Appendix VI. of the Ocean Plan. The typical procedure is a statistical method that projects an effluent data set that accounts for long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of an existing effluent data set, and compares the 95th percentile concentration, at a 95 percent confidence level, with the applicable water quality criterion from Table B of the Ocean Plan. A finding of reasonable potential results when the 95th percentile concentration exceeds the applicable criterion.

When effluent data are not available, as in the circumstances of this facility, the Regional Water Board may decide that WQBELs are necessary after a review of such information as the facility or discharge type, solids loading, lack of dilution, potential toxic effects, fish tissue data, 303 (d) status of the receiving water, or the presence of threatened or endangered species or their critical habitat, or other information.

Without recent effluent data, the Regional Water Board has determined that effluent limitations from the previous permit for all Ocean Plan Table B toxic pollutants will be retained but will be updated in this Order to reflect changes in water quality criteria established by the current (2005) Ocean Plan. The importance given to certain of the Table B pollutants (e.g., chlorine, whole effluent chronic toxicity, and the metals As, Cd, Cr⁺⁶, Cu, Pb, Hg, Ni, Se, Ag, and Zn) by the Regional Water Board is reflected in the compliance monitoring frequencies established in the Monitoring and Reporting Program.

4. WQBEL Calculations

As described by Section III. C of the Ocean Plan, effluent limits for Table B pollutants are calculated according to the following equation.

$$C_e = C_o + D_m (C_o - C_s)$$

where:

C_e = the effluent limitation ($\mu\text{g/L}$)

Co = the water quality objective to be met at the completion of initial dilution
($\mu\text{g/L}$)

Cs = background seawater concentration

Dm = minimum probable initial dilution expressed as parts seawater per part
wastewater

For this facility, Dm is unchanged from Order No. 01-030 (Dm = 33). Initial dilution is the process that results in the rapid and irreversible mixing of the discharge with ocean water at the outfall.

As site-specific water quality data are not available for the ambient water, in accordance with Table B implementing procedures, Cs equals zero for all pollutants, except the following:

Table F-7. Background Seawater Concentrations

Pollutant	Background Seawater Concentration ($\mu\text{g/L}$)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8

Implementing provisions at Section III. C of the Ocean Plan requires that, in addition to concentration-based limits, effluent limitations for Table B pollutants be expressed in terms of mass. The Order therefore includes mass-based effluent limitations, which are based on flows of: 0.05, 25, and 60 mgd for Phases 1, 2, and 3 of operation, respectively.

Effluent limitations for the Table B pollutants are tabulated in Section IV. A. 1 of this Order.

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

Implementing provisions of section III. C. of the Ocean Plan express a preference for chronic toxicity limitations when the minimum initial dilution of a discharge is less than 100:1, and therefore, the Regional Water Board is establishing effluent limitations for chronic, not acute, whole effluent toxicity for the facility.

D. Final Effluent Limitations

Final, technology-based and water quality-based effluent limitations established by the Order are discussed in sections IV.B. and IV.C. of this fact sheet.

1. Satisfaction of Anti-Backsliding Requirements

The Order retains both technology and water quality based effluent limitations established by the previous permit, and therefore, applicable anti-backsliding provisions of the Clean Water Act and of NPDES regulations are satisfied.

2. Satisfaction of Antidegradation Policy

The Order does not authorize increases in the concentration or mass of pollutants discharged from the facility, and therefore, is consistent with applicable anti-degradation policy expressed by NPDES regulations at 40 CFR 131.12 and by State Water Board Resolution No. 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on TSS, settleable solids, turbidity; oil and grease, and pH. Restrictions on these pollutants are discussed in section IV. B of the Fact Sheet. In addition, this Order contains effluent limitations more stringent than the minimum, technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Final, technology and water quality-based effluent limitations are summarized in sections IV. A of the Order.

E. Interim Effluent Limitations

The Order does not establish interim effluent limitations and schedules for compliance with final limitations. Interim limitations are authorized only in certain circumstances, when immediate compliance with newly established final WQBELs is not feasible. Interim effluent limitations are not authorized for WQBELs, which are based on water quality criteria of the Ocean Plan.

F. Land Discharge Specifications

This section of the standardized permit is not applicable.

G. Reclamation Specifications

This section of the standardized permit is not applicable.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water quality is a result of many factors, some unrelated to the discharge. This Order considers these factors and is designed to minimize the influence of the discharge on the receiving water. Receiving water limitations within the proposed Order generally include the receiving water limitations of the previous Order; however, these limitations have been supplemented and modified to reflect all applicable, general water quality objectives of the Ocean Plan (2005).

B. Groundwater

Groundwater limitations established by the Order include general objectives for groundwater established by the Basin Plan for the Central Coast Region.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

NPDES regulations at 40 CFR 122.48 require all NPDES permits to specify recording and reporting of monitoring results. CWC sections 13267 and 13383 authorize the Water Boards to require technical and monitoring reports. The MRP, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. Following is the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Intake seawater monitoring is established by the Order for pH, temperature, turbidity, specific conductivity, settleable solids, TDS, and Ocean Plan Table B metals to allow comparison with effluent concentrations and thereby determine whether significant amounts of pollutants are being added to seawater that is discharged from the facility.

B. Effluent Monitoring

Effluent monitoring is required for all pollutants and pollutant parameters which have effluent limitations established in section IV.A. of the Order. In addition some effluent monitoring is required to provide further characterization of discharges from this facility.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. Section III. C. 3. c. (4) of the Ocean Plan requires dischargers to conduct chronic toxicity testing if the minimum initial dilution of the effluent is below 100:1. This Order includes routine monitoring requirements for chronic toxicity in the MRP (Attachment E) as specified in the Ocean Plan.

Chronic toxicity is to be calculated using the following formula:

$$TU_c = \text{—————}$$

Where: No Observed Effect Level (NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test as listed in Appendix II of the Ocean Plan.

D. Receiving Water Monitoring

1. Surface Water

The Order requires the Discharger to participate in a receiving water monitoring program. The Discharger has indicated a willingness to participate in a regional monitoring program in the Monterey Bay, such as CCLEAN. The receiving water monitoring program may be revised based on program development.

2. Groundwater

This section of the standardized permit template is not applicable.

E. Other Monitoring Requirements

1. Video Tape Survey of Diffuser and Diffuser Area

The requirements of this provision are retained from the previous permit. A video tape reconnaissance survey of the diffuser and diffuser area shall be conducted annually. Surveys shall occur during periods of safe diving conditions and water clarity conducive to good video taping. The surveys shall include the diffuser and bottom area within at least 20 feet on each side of the diffuser. The videotape shall be submitted to the Regional Water Board and shall be accompanied by a diver narrative describing bottom conditions, any fish or macroinvertebrates, and any apparent effects of the outfall.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D to the Order.

NPDES regulations at 40 CFR 122.41 (a) (1) and (b - n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25 (a) (12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority

specified in 40 CFR 122.41 (j) (5) and (k) (2), because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387 (e).

B. Special Provisions

1. Reopener Provisions

The Order may be modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include appropriate conditions or limits based on newly available information, or to implement any new State water quality objectives that are approved by the USEPA. As effluent is further characterized through additional monitoring, and if a need for additional effluent limitations becomes apparent after additional effluent characterization, the Order will be reopened to incorporate such limitations.

2. Special Studies and Additional Monitoring Requirements

The Order requires the facility to maintain a Toxicity Reduction Work Plan. When toxicity monitoring measures chronic toxicity above the effluent limitation established by the Order, the Discharger is required to resample and retest. When all monitoring results are available, the Executive Officer can determine whether to initiate enforcement action, whether to require the Discharger to implement toxicity reduction evaluation (TRE) requirements, or whether other measures are warranted.

3. Best Management Practices and Pollution Prevention

Pollution minimization requirements are based on section III. C. 9 of the Ocean Plan. The Discharger is required to develop a Pollutant Minimization Program only if required to do so in writing by the Executive Officer.

4. Construction, Operation, and Maintenance Specifications

This section of the standardized permit template is not applicable.

5. Special Provisions for Municipal Facilities (POTWs Only)

This section of the standardized permit template is not applicable.

6. Other Special Provisions

a. Discharges of Storm Water

The Order does not address discharges of storm water from the facility, except to require coverage by and compliance with applicable provisions of General Permit No. CAS000001 - *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities*.

b. Phase 1 Discharge Characterization Study.

During Phase 1 of operations, the Discharger is required to more completely characterize its discharge. Although the Regional Water board understands the discharge to be simply calcium and magnesium depleted seawater, this additional characterization work is designed to provide more data regarding the Ocean Plan Table B pollutants, and to look for pollutants attributable to stack gases from the Moss Landing Power Plant and/or to residuals of the precipitation process which will remove calcium and magnesium from seawater.

Effluent monitoring during Phase 1 will include analysis for such pollutants as 1,3-butadiene, acetaldehyde, formaldehyde, naphthalene, propylene oxide, xylenes, and total organic carbon (TOC) – pollutants not included in Table B of the Ocean Plan but sometimes present in air emissions from natural gas-fired power plants. (USEPA, *AP-42, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Tables 3.1 - 2a and 3.1 – 3, (Fifth Edition, 1995).

Although the Regional Water Board does not anticipate these pollutants to be present within the discharge, this analysis is required to ensure protection of the receiving water. Certain other pollutants (acrolein, benzene, ethylbenzene, PAHs, toluene, and lead) may also be present in air emissions of gas fired power plants; however, these pollutants are listed in Table B of the Ocean Plan.

7. Compliance Schedules

The Order does not establish interim effluent limitations and schedules of compliance with final limitations.

VIII. PUBLIC PARTICIPATION

The Central Coast Regional Water Quality Control Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided by publication in the Monterey Herald on December 26, 2008. Additionally, the draft waste discharge requirements were mailed to interested parties on December 19, 2008.

B. Written Comments

Regional Water Board staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be

submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To receive a full response from the Regional Water Board staff and to be considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on January 26, 2009.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **March 20, 2009**
Time: **8:30 a.m.**
Location: **Salinas City Council Rotunda Chambers**
200 Lincoln Avenue
Salinas, CA 93901

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/centralcoast/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any person aggrieved by this action of the Central Coast Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of the order, except that if the thirtieth day following the date of the order falls on a Saturday, Sunday, or state holiday, the petition must be received by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the internet at http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

E. Information and Copying

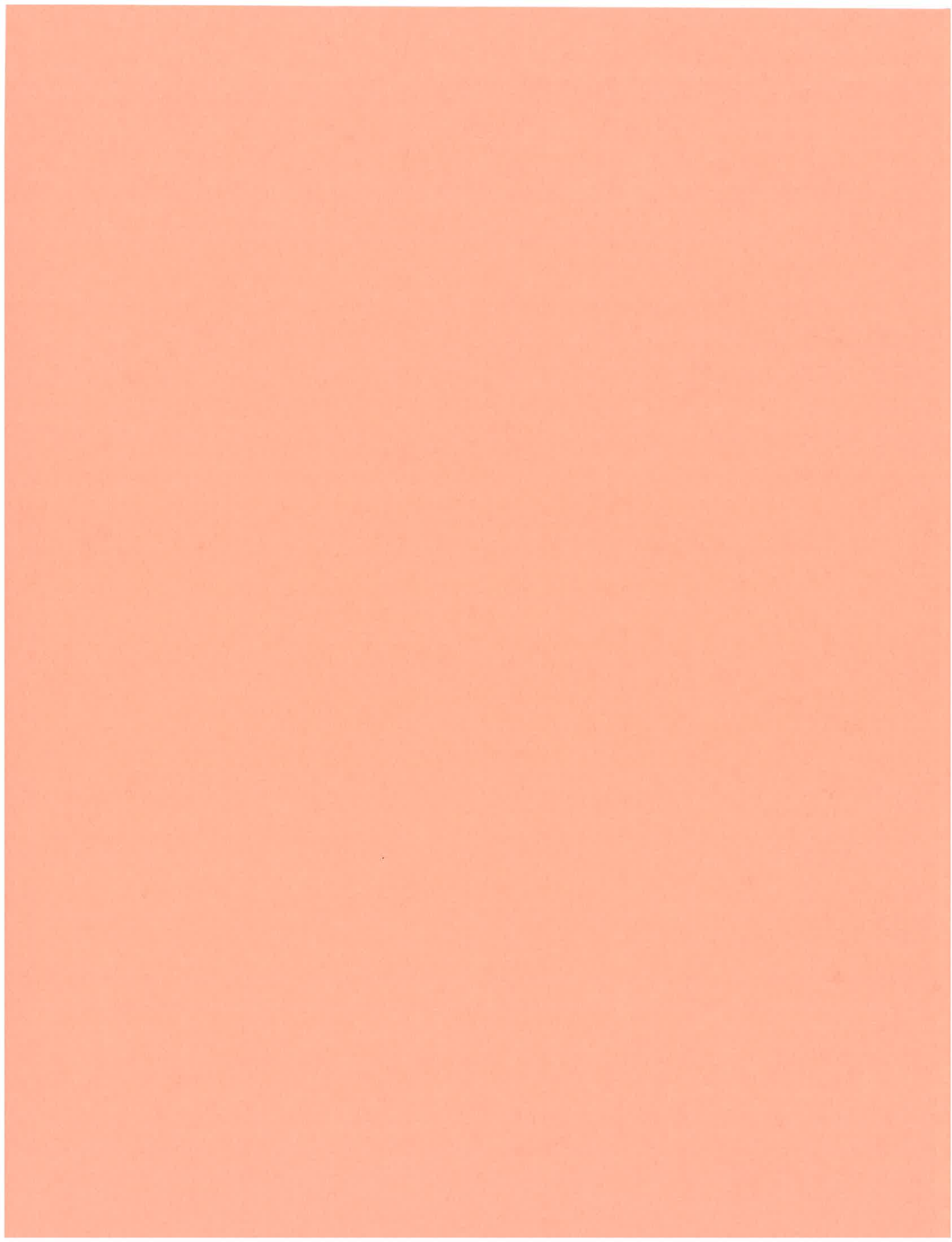
The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (805) 549-3147.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Peter von Langen at (805) 549-3688 or PvonLangen@waterboards.ca.gov.



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STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
81 Higuera Street, Suite 200
San Luis Obispo, CA 93401-5427

WASTE DISCHARGE REQUIREMENTS ORDER NO. 01-030
NPDES NO. CA0007005

Waste Discharger Identification No. 3272006001
FOR
NATIONAL REFRACTORIES AND MINERALS CORPORATION,
MOSS LANDING, MONTEREY COUNTY

The California Regional Water Quality Control Board, Central Coast Region, (hereafter Board), finds that:

SITE OWNER AND LOCATION

1. The National Refractories and Minerals Corporation (hereafter, Discharger) operates a seawater magnesia (magnesium hydroxide, $Mg(OH)_2$) plant at Moss Landing. The plant is located adjacent to Highway 1, east of Moss Landing Harbor at latitude $36^{\circ}48'$ and Longitude $121^{\circ}47'$. The facility location is shown on attachment "A".

PURPOSE OF ORDER

2. An application for authorization to discharge wastes under the National Pollutant Discharge Elimination System (NPDES) was submitted on September 27, 1999. The report was filed for authorization to continue discharge of magnesium depleted and calcium enriched seawater to the Pacific Ocean. The Board last issued NPDES Permit No. CA0007005 on April 14, 1995 (Order No. 95-38).

FACILITY AND PROCESS DESCRIPTION

Outfall Design Capacity

3. Calcium enriched and magnesium depleted seawater, domestic wastewater and industrial storm water can be discharged to the Pacific Ocean through a 620-foot (189 m), 51 inch (inside diameter) outfall/diffuser system. The last 130 feet of pipe consists of a diffuser section, which has 32 nozzles placed to gradually diffuse the calcium-enriched

seawater to the ocean environs. The facility design capacity is currently 60 MGD.

4. The Discharger's outfall diffuser sustained damaged during the 1989 Loma Prieta earthquake. Studies conducted by the Moss Landing Marine Laboratory determined there is low potential for significant environmental impact because of the damage. The outfall/diffuser system is visually inspected at least annually. The Discharger continues to use the existing outfall/diffuser system without repair. The minimum initial dilution factor was re-calculated and determined to be 33:1 (seawater:effluent).

Adjacent Properties and Land Use

5. Moss Landing Harbor lies to the west of the plant and is used primarily for recreational marine sports and commercial fisheries. California Highway 1 runs north to south between the facility and the harbor. Duke Energy's Moss Landing Power Plant lies to the North of the plant. Pacific Gas & Electric operates a power switchyard north of the plant. Land use in the area is mainly agricultural, industrial and commercial.

Process Description

6. During operation, seawater containing Magnesium Chloride $MgCl_2$ is pumped from Moss Landing Harbor and combined with Dolomite $[CaMg(CO_3)_2]$ to form Magnesium hydroxide $[Mg(OH)_2]$ which is sold as an environmental pH control product or burned

BASIN PLAN

16. The Water Quality Control Plan, Central Coastal Basin, (Basin Plan) was adopted by the Board on November 17, 1989, and approved by the State Water Resources Control Board on August 10, 1990. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of State waters including the Pacific Ocean. It specifies numeric and narrative water quality objectives to protect designated and existing beneficial uses.

17. The present and potential beneficial uses of Moss Landing Harbor are:

- a. Water contact recreation;
- b. Non-contact water recreation, including aesthetic enjoyment;
- c. Industrial water supply;
- d. Navigation;
- e. Marine habitat;
- f. Shell fish harvesting;
- g. Ocean commercial and sport fishing;
- h. Preservation of rare and endangered species;
- i. Wildlife habitat;
- j. Migration of aquatic organisms; and
- k. Spawning, reproduction and early development of some aquatic organisms.

18. The beneficial uses of Elkhorn Slough are:

- a. Water contact recreation;
- b. Non-contact water recreation;
- c. Warm fresh water habitat;
- d. Cold fresh water habitat;
- e. Migration of aquatic organisms;
- f. Shellfish harvesting;
- g. Spawning, reproduction and/or early development
- h. Preservation of biological habitat of special significance;
- i. Rare, threatened, or endangered species;
- j. Wildlife habitat;
- k. Marine habitat;
- l. Estuarine habitat; Commercial and sport fishing;
- m. Aquaculture

19. Beneficial uses of Monterey Bay are:

- a. Water contact recreation;
- b. Non-contact water recreation, including aesthetic enjoyment;
- c. Industrial water supply;
- d. Navigation;
- e. Marine habitat;
- f. Shellfish harvesting;
- g. Ocean commercial and sport fishing;
- h. Preservation of rare, threatened and endangered species;
- i. Wildlife habitat; and
- j. Spawning, reproduction and early development of some aquatic organisms

20. The beneficial uses of Moro Cojo Slough are:

- a. Water contact recreation;
- b. Non-contact water recreation;
- c. Warm fresh water habitat;
- d. Cold fresh water habitat;
- e. Ground water recharge;
- f. Shellfish harvesting;
- g. Spawning, reproduction and/or early development;
- h. Preservation of biological habitat of special significance;
- i. Rare, threatened, or endangered species;
- j. Estuarine habitat;
- k. Commercial and sport fishing;
- l. Wildlife habitat; and
- m. Migration of aquatic organisms

21. The shellfish harvesting beneficial use (Findings 20.f., 21.f., 22.f., and 23.f.) exists wherever mussels, clams, or oysters may be harvested for human consumption. To the knowledge of the Board, mussels, clams, and oysters are all present within Moss Landing Harbor, Elkhorn Slough, and Monterey Bay. The State Health Department currently enforces a prohibition on shellfish harvesting in Elkhorn Slough due to excessive bacteria concentrations.

22. At least three species are documented to exist in the area that are listed as "Threatened" or "Endangered" pursuant to

recommendations, and scheduled a public hearing.

30. In a public hearing on **May 18, 2001**, the Board heard and considered all comments pertaining to the discharge and found this Order consistent with the above findings.

IT IS HEREBY ORDERED, pursuant to authority in Section 13377 of the California Water Code, that National Refractories and Minerals Corporation, its agents, successors, and assigns, may discharge waste from its facility providing it complies with the following:

(Note: other prohibitions and conditions, definitions, and the method of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated January 1985. Applicable paragraphs are referenced in paragraph C.4. of this Order.)

Requirements specified in the proposed Order are based on staff's professional judgement and the following document.

A = Basin Plan

B = Ocean Plan

Throughout the proposed Permit and Monitoring and Reporting Program, footnotes are included to indicate the source of specified requirements. Requirements not referenced are based on professional judgement or carried over from the previous Order.

A. PROHIBITIONS

1. Discharge of spent seawater, treated domestic wastewater and industrial storm water at a location other than Latitude 36° 48'08" North, and Longitude 121°47'29" West, is prohibited.
2. Discharge of water, materials, or wastes other than spent seawater, sanitary wastewater generated by employees of the Discharger, and industrial storm water which are not otherwise authorized by this NPDES permit, to the outfall or waters of the state or State are prohibited.
3. Storm water discharge causing pollution, contamination, or nuisance is prohibited.
4. "Overflow" or "Bypass" of the treatment facility and discharge of untreated or partially treated waste directly to the ocean outfall is prohibited.

B. SPECIFICATIONS

Effluent Limits

1. Effluent shall not exceed the Table 1 limits:*

TABLE 1

Constituent	Units	30-Day Average	7-Day Average	Maximum at Any Time
Grease and Oil ^B	mg/l	25	40	75
Suspended Solids	mg/l	60	--	90
	lbs/day	30,000		45,000**
Settleable Solids ^B	ml/l	1.0	1.5	3.0
Turbidity*** ^B	NTU	75	100	225
Acute Toxicity ^B	Tua	1.5	2.0	2.5
pH		Within limits of 6.0 and 9.0 at all times		

* For flows less than 60 MGD, mass emission rates shall not exceed the "Maximum Allowable Mass

b. PROTECTION OF HUMAN HEALTH—NON-CARCINOGENS – TABLE 3

Constituent	Units	30-Day Average
Acrolein	mg/l	7.5
Antimony	mg/l	41.0
Bis(2-chloroethoxy) Methane	mg/l	0.15
Bis(2-chloroisopropyl) Ether	mg/l	41.0
Chlorobenzene	mg/l	19.0
Chromium (III)	g/l	6.5
Di-n-butyl Phthalate	g/l	0.12
Dichlorobenzenes ⁵	g/l	0.18
1,1-dichloroethylene	g/l	0.24
Diethyl Phthalate	g/l	1.1
Dimethyl Phthalate	g/l	28.0
4,6-dinitro-2-methylphenol	mg/l	7.5
2,4-dinitrophenol	mg/l	0.14
Ethylbenzene	g/l	0.14
Fluoranthene	mg/l	0.51
Hexachlorocyclopentadiene	mg/l	2.0
Isophorone	µg/l	5.1
Nitrobenzene	mg/l	0.17
Thallium	mg/l	0.48
Toluene	µg/l	2.9
1,1,2,2-tetrachloroethane	µg/l	0.041
Tributyltin	µg/l	0.048
1,1,1-trichloroethane	µg/l	18.0
1,1,2-trichloroethane	µg/l	1.5

c. PROTECTION OF HUMAN HEALTH—CARCINOGENS – TABLE 4

Constituent	Units	30-Day Average
Acrylonitrile	µg/l	3.4
Aldrin†	ng/l	0.75
Benzene	mg/l	0.20
Benzidine	ng/l	2.3
Beryllium	µg/l	1.1
Bis(2-chloroethyl) Ether	µg/l	1.5
Bis(2-ethylhexyl) Phthalate	mg/l	0.12
Carbon tetrachloride	mg/l	0.031
Chlordane ⁶ †	ng/l	0.78
Chloroform	mg/l	4.4
DDT ⁷ †	ng/l	5.8
1,4-dichlorobenzene	mg/l	0.61
3,3-dichlorobenzidine	µg/l	0.28
1,2-dichloroethane	mg/l	4.4
dichloromethane	mg/l	15.0
1,3-dichloropropene	mg/l	0.30
dieldrin	µg/l	1.4

benthic communities or other aquatic life.

- c. accumulate to toxic levels in marine waters, sediments or biota.
- d. significantly decrease the natural light to benthic communities and other marine life.
- e. result in aesthetically undesirable discoloration of the ocean surface.

Receiving Water Limits

(Receiving water quality is a result of many factors, some un-related to the discharge. This permit considers these factors and is designed to minimize the influence of the discharge in the receiving water.)

The discharge shall not cause:

1. The following bacteriological limits to be exceeded in the water column (a) within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline, or the 30-foot depth contour, whichever is further from the shoreline; and (b) any areas outside this zone used for water contact recreation as determined by the Board, but including all kelp beds:^B

Parameter Applicable	Total Coliform Organisms (MPN / 100ml)	Fecal Coliform Organisms (MPN / 100ml)
Geometric Mean (30-Day Period)	--	200
90 % of Samples (60-Day Period)	--	400
80 % of Samples (30-Day Period)	1,000	--
Maximum*	10,000	--

* Verified by a repeat sample taken within 48 hours.

2. The following bacteriological limits to be exceeded in the water column in areas where shellfish are harvested for human consumption:^B

Parameter	Total Coliform
Median	70 MPN/ 100 ml
Not more than 10 % of Samples	230 MPN/ 100 ml

3. Floating particulates and grease and oil to be visible on the ocean surface.^B
4. Aesthetically undesirable discoloration of the ocean surface.^B
5. Significant reduction of transmittance of natural light in ocean waters outside the "zone of initial dilution."^B

6. Change in the rate of deposition of inert solids and the characteristics of inert solids in ocean sediments such that benthic communities are degraded.^B

7. The dissolved oxygen concentration outside the "zone of initial dilution" to fall below 5.0 mg/l or to be depressed more than 10 percent from that which occurs naturally.^{A,B}

8. The pH outside the "zone of initial dilution" to be depressed below 7.0, raised above 8.5, or changed more than 0.2 units from that which occurs naturally.^{A,B}

9. Dissolved sulfide concentrations of waters in and near sediments to significantly increase above that present under natural conditions.^B

where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.

- b. A site map showing:
 - i. Storm water conveyance, drainage, and discharge structures;
 - ii. An outline of the storm water drainage areas for each storm water discharge point;
 - iii. Paved areas and buildings;
 - iv. Areas of pollutant contact with storm water or release to storm water, actual or potential, including but not limited to outdoor storage, and process areas, material loading, unloading, and access areas, and waste treatment, storage, and disposal areas;
 - v. Location of existing storm water structural control measures (i.e., berms, coverings, etc.);
 - vi. Surface water locations, including springs and wetlands;
 - vii. Vehicle service areas;
- c. A narrative description of the following:
 - i. Plant operations/activity areas.
 - ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharge;
 - iii. Material storage, loading, unloading, and access areas;
 - iv. Existing structural and non-structural control measures (if any)

to reduce pollutants in storm water discharge;

- v. Methods of onsite storage and disposal of significant materials;

- d. A list of pollutants that have a reasonable potential to be present in storm water discharge in significant quantities.

3. Storm Water Management Controls

The SWPP plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP plan shall reflect identified potential sources of pollutants. The description of storm water management controls shall include, as appropriate:

- a. Storm Water Pollution Prevention Personnel Identify specific individuals (and job titles) who are responsible for developing, implementing, and revising the SWPP plan.
- b. Good Housekeeping Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.
- c. Spill Prevention and Response Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, clean up equipment and procedures should be identified, as appropriate. The necessary equipment to implement a clean-up shall be available and personnel trained in proper response, containment and

4. The Discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements for National Pollutant Discharge Elimination System Permits," dated January 1985, (also referred to as "Standard Provisions"), except Item Nos. A.24, C.9, C.17, and D.1.
5. Discharge of any wastes not described in this permit, or of a character different than described in the permit application, shall be reported to the Executive Officer within five (5) days.
6. Plant operations shall at all times include the recommendations and procedures of the Best Management Practices Plan, as approved by the Executive Officer.
7. This Order expires **May 18, 2006**, and the Discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9, of the California Code of Regulations, not later than **November 1, 2005**, if it wishes to continue the discharge.
8. The Discharge shall implement a SWPP plan in accordance with the attached "Standard Storm Water Provisions." The SWPP plan shall be reviewed and updated as appropriate by October 1, every year. Full compliance with the "Standard Storm Water Provisions" shall be an enforceable requirement of this permit.

I, Roger W. Briggs, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on May 18, 2001.



Executive Officer

Total Coliform Organisms ²	MPN/100ml	Grab	"	"
---------------------------------------	-----------	------	---	---

Methods of sampling and analysis shall conform to the requirements of federal regulations specified in 40 CFR Part 136. Testing of parameters for which methods are not available in 40 CFR Part 136, other suitable analytical methods may be specified by the Board.^B

December monitoring is not required if three (3) month average of maximum daily flow do not exceed 10 MGD for 12 consecutive months prior to December, each year. When discharge exceeds 10 MGD, Discharger shall all effluent parameters at least semi-annually.

¹ Compliance with acute toxicity objective (TUa) shall be determined using as established protocol, e.g., American Society for Testing Materials (ASTM), US EPA, American Public Health Association, or in accordance with State Board Guidelines for Performing Static Acute Toxicity Bioassays issued by the State Water Resources Control Board and the Department of Fish and Game. Tests shall be conducted on the effluent as discharged to the receiving waters. The test species is the Speckled Sand Dab (*Citharichthys Stigmaeus*). The test should be conducted on juveniles or sub-adults of the same age class. Alternate species may be nominated by the discharger-contractor and must be approved by Regional Board staff prior to use. In either case, the organism must be common to the discharge area in Monterey Bay.

² For all bacterial analysis, sample dilutions should be performed so the range of values extends from 2 to 16,000. The detection methods used for analysis shall be reported with the results of the analysis. Detection methods used for coliform organisms (total and fecal) shall be those presented in the most recent edition of Standard Methods for the Examination of Water and Wastewater or any improved method determined by the Board and approved by the US EPA, to be appropriate.

† Compliance with Chronic Toxicity Objectives:

The Regional Board requires the use of critical life stage toxicity tests to measure TUc. A minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. If possible the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period, monitoring can be reduced to the most sensitive species. Dilution and control water should be obtained from an unaffected area of the receiving water. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

The following tests shall be used to measure TUc.

Species	Effect	Test Duration	Bioassay Reference
abalone, <u>Haliotis rufescens</u>	abnormal shell development	48 hours	see* below
giant kelp, <u>Macrosystis pyrifera</u>	percent germination; germ tube length	48 hours	see *below
siversides, <u>Menidia beryllina</u>	larval growth rate; percent survival	7 days	see **below

Bioassay Reference

*Hunt, J.W., B.S. Anderson, S.L. Turpin, A.R. Conlon, M. Martin, F.. Palmer, and J.J. Janik. 1989. Experimental Evaluation of Effluent Toxicity Testing Protocols with Giant Kelp, Mysids, Red Abalone, and Topsmelt. Marine Bioassay Project. Fourth Report. California State Water Resources Control Board, Sacramento.

**Weber, C.I., W.B. Horning, II, D.J. Klemm, T.W. Neiheisel, P.A. Lewis, E.L. Robinson, J. Menkedick, and F. Kessler (eds.). 1988. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA-600/4-87/028. National Technical Information

documented in the monitoring program that storm water discharges from different locations are substantially identical.

5. Records of all storm water monitoring information and copies of all reports required by this Permit shall be retained for a period of at least three years from the date of sample, observation, or report. Storm water monitoring results shall be reported in the quarterly Self-Monitoring Reports, see Reporting below.

REPORTING

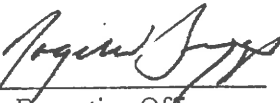
In reporting monitoring data, the discharger shall submit all data in the form prescribed by the Board unless no discharge occurs during a reporting period. In those cases, a statement to that effect shall be sent. Monitoring reports shall be submitted by the dates in the following schedule:

Monitoring Frequency	Report Due
Daily, Weekly, Monthly, Quarterly	Last Day of January, April, July and October
Annually and Semi-Annually	Last Day of July

Effluent sampling for all constituents listed in WDR Order No. 01-030 Section B Specifications Table 1 - 4 is required at least once every five years or when the Discharger files for a Request for Waste Discharge (ROWD) for the permit renewal. Sampling results shall be submitted as part of the ROWD report to the Regional Board.

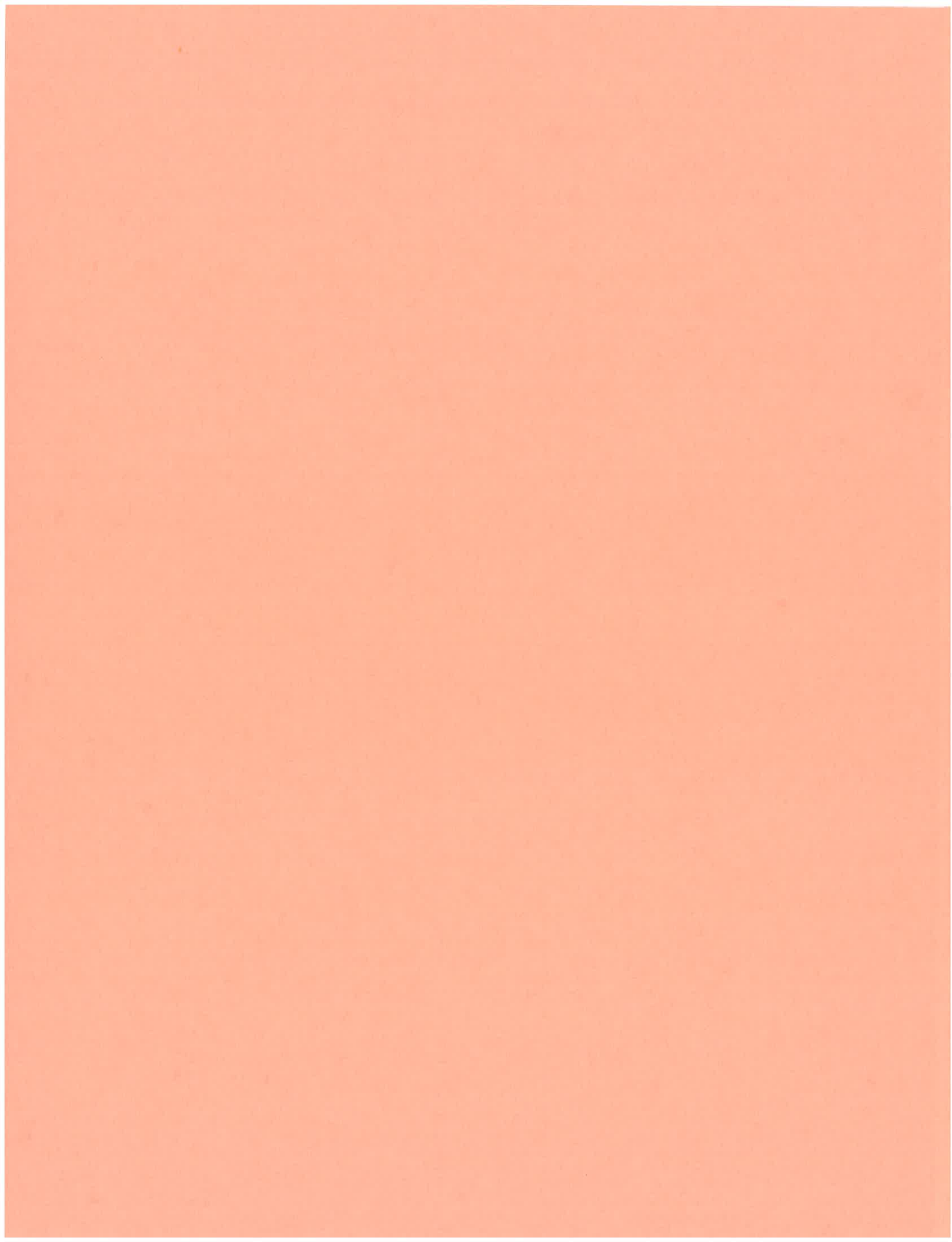
Routine sampling will not be required for those Ocean Plan Table B substances not listed in Effluent Monitoring but included in Effluent Limitations B. 2(a)(b)(c) of Order 01-030, provided the Discharger submits annual certification that such substances are not added to the waste stream, and that no change has occurred in activities that could cause such substances to be present in the waste stream. Such election does not relieve the Discharge from the requirement to meet the effluent limitations of Table B of Ocean Plan. Annual certification must be in the quarterly report submitted in July.

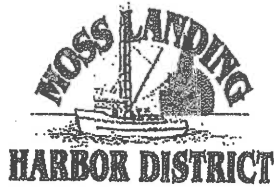
ORDERED BY


Executive Officer

May 18, 2001

Date





BOARD OF COMMISSIONERS

Russell Jeffries
Yohn Gideon
Vincent Ferrante
Frank Gomes, Jr.
Tony Leonardini

7881 SANDHOLDT ROAD
MOSS LANDING, CA 95039

TELEPHONE - 831.633.5417
FACSIMILE - 831.633.4537

**GENERAL MANAGER
HARBORMASTER**

Linda G. McIntyre, Esq.

December 28, 2012

Nader Agha
Moss Landing Business Park
449 Alvarado Street
Monterey, CA 93940

Re: Amended and Restated Agreement (Outfall Line)

Dear Mr. Agha:

National Refractories and the Moss Landing Harbor District entered into the above agreement on December 1, 1996 for the purpose of extending the term of a similar agreement for a period of 20 years until July 31, 2017.

With regard to the extension or renegotiation of that agreement upon its expiration in 2017, the parties agreed pursuant to Paragraph 2 as follows:

"...The term of this Agreement may be extended by mutual agreement between the parties hereto, and upon such terms and conditions as the parties may mutually agree."

I hope that provides adequate clarification. Please feel free to contact me should you need further information.

Sincerely,
Moss Landing Harbor District

Linda G. McIntyre, Esq.
General Manager

LGM/mdm

@MossLandingHarbor.DIST.CA.US

SERVING COMMERCIAL FISHING AND RECREATIONAL BOATING SINCE 1947

AMENDED AND RESTATED AGREEMENT

(OUTFALL LINE)

This Agreement is made this first day of December 1996, by and between National Refractories & Minerals Corporation, a California corporation ("NRMC") and Moss Landing Harbor District, a political subdivision of the State of California, ("District").

Whereas District and Kaiser Aluminum & Chemical Corporation ("KACC") entered into an Agreement dated August 1, 1972 (the "Agreement") which provided for an easement for an outfall line which deposits effluent into Monterey Bay from KACC's Moss Landing Plant;

And Whereas, NRMC has purchased KACC's Moss Landing Plant and succeeded to the various rights, duties and obligations with respect to the Moss Landing Plant;

And Whereas the term of the Agreement ends as of July 31, 1997 and NRMC and District desire to extend the terms of the Agreement for 20 years until July 31, 2017;

And Whereas NRMC and District desire to amend the Agreement to incorporate certain changes, and restate the existing Agreement herein in its entirety for convenience of reference.

Now, therefore, it is agreed by and between the parties hereto as follows:

1. District hereby grants NRMC an easement and right of way for the purpose of maintaining, repairing, and finally removing a subterranean Outfall Line in accordance with the attached drawings ("Schedule A"). The easement and right of way shall be over and across a strip of land shown on Schedule A.
2. The term of this Agreement and the grant of easement hereunder, shall continue until the 31st day of July 2017. The term of this Agreement may be extended only by mutual agreement between the parties hereto, and upon such terms and conditions as the parties may mutually agree.
3. NRMC hereby agrees to pay District, pursuant to this Agreement, the sum of Five Hundred Dollars (\$500.00) payable upon the execution and delivery of this Agreement.
4. In the event NRMC elects to remove its subterranean outfall line as provided for in this Agreement, then in any and all areas where it is to be removed, owned by or under the control of the District, as designated by the District, NRMC agrees, at its sole cost and expense, in the areas so designated by the District to properly fill the trench in a good and workmanlike manner, and properly compact the soil to grade.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first written above.

NATIONAL REFRACTORIES & MINERALS CORPORATION,
a California corporation

By 

Its PRESIDENT & CEO

MOSS LANDING HARBOR DISTRICT,
a public corporation

By 

Its President

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Monterey } SS.

On 6-29-01

Date

, before me, Mariana Mariscal

Name and Title of Officer (e.g., "Jane Doe, Notary Public")

Notary Public

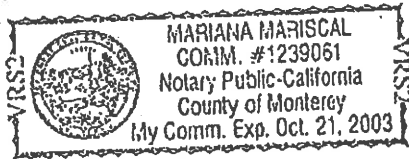
personally appeared Thomas T. Tenedin

Name(s) of Signer(s)

☐ personally known to me

☒ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



Place Notary Seal Above

WITNESS my hand and official seal.

Mariana Mariscal

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____

Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer

Signer's Name: _____

☐ Individual

☐ Corporate Officer — Title(s): _____

☐ Partner — ☐ Limited ☐ General

☐ Attorney in Fact

☐ Trustee

☐ Guardian or Conservator

☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER
Top of thumb here

When recorded return to:
Bruce E. Methven
National Refractories & Minerals Corporation
1852 Rutan Drive
Livermore, California 94550

GRANT OF EASEMENT
(OUTFALL LINE)

For good and valuable consideration the receipt whereof is hereby acknowledged, Moss Landing Harbor District, a political subdivision of the State of California, County of Monterey, State of California, hereby grants to National Refractories & Minerals Corporation, a California corporation, an Easement for the purpose of constructing, maintaining and finally removing a subterranean outfall line as indicated on the drawings attached hereto and by reference made a part hereof, over and across certain property owned by Moss Landing Harbor District all as indicated upon drawings attached to the Easement granted to Grantee's predecessor in interest, and recorded in the Official Records of Monterey County on August 17, 1972 at Reel 791, Page 843 et seq., Document No. G29566, to have and to hold for and during the period commencing on the first day of August, 1972, and ending the 31st of July, 2017, subject nevertheless to the proper performance by National Refractories & Minerals Corporation of each and every term and condition by it to be performed under that certain agreement entered into by and between Moss Landing Harbor District and National Refractories & Minerals Corporation as of the first day of December, 1996.

This easement is an extension and continuation of an easement recorded August 17, 1972 at Reel 791, Page 843, Document No. G29566.

MOSS LANDING HARBOR DISTRICT

By

Its

ACCEPTED AND AGREED TO:

NATIONAL REFRACTORIES & MINERALS CORPORATION

By

Its

PRESIDENT & CEO

34

MAGNESIA OPERATIONS

PACIFIC GAS AND ELECTRIC COMPANY

PG&E

355 E. ALisal STREET • P. O. BOX 1171 • SALINAS, CALIFORNIA 93901 • 408) 422-3322

F. C. MARKS
DIVISION MANAGER

April 2, 1980

Mr. Jack Elmer
Kaiser Refractories
P. O. Box 1938
Salinas, California 95039

Dear Mr. Elmer:

In accordance with your previous discussions with Mr. John Sherriff, Pacific Gas and Electric Company (PGandE), agrees to and does hereby abandon, grant and convey to Kaiser Refractories, a California Corporation, all of PGandE's right, title and interest in 705 ft. of the 12 KV power line, west of existing metering location (Facilities), as is, and now installed at Kaiser - Moss Landing Power Plant.

By your acceptance, as indicated below, you assume all liability with respect to the ownership, operation and maintenance of Facilities and do hereby indemnify and save harmless PGandE, its officers, agents and employees from any and all liability for damages to persons or property, including the employees and agents of PGandE and their property in any way connected with or arising out of ownership, operation and maintenance of the Facilities on and after the date of acceptance as set forth below.

The Facilities hereby abandoned by PGandE are no longer used or useful to it in the performance by it of its duties to the public.

If the foregoing meets with your approval, please indicate your acceptance in the space provided below and return the duplicate copy to this office. If you have any questions, please call Mr. Sherriff at 422-8822, Ext. 25.

Sincerely,

F. C. Marks
F. C. MARKS
DIVISION MANAGER

JRSherriff/an

ACCEPTED: KAISER REFRACTORIES

By: *Jack J. Elmer*

Title: Manager, Magnesia Operations

Dated: May 9, 1980

33

RECORD AT THE REQUEST OF:

13361

REEL 3210 PAGE 68

RECORDED AT REQUEST OF

R	6
M	1
RF	3
TC	2
T	12

MAR 17 3 42 PM '95

OFFICE OF RECORDER
COUNTY OF MONTEREY
SALINAS, CALIFORNIA

WHEN RECORDED RETURN TO:

Pacific Bell
340 Pajaro Street, Room 132
Salinas, California 93762-0001

Computed on full value of property conveyed

Documentary Transfer Tax Due

Pacific Bell Agent :

\$1.10

Doris L. Jance

NE1547S NE27 RW#3732
MNT3732.01

SEC. 18 T. 13S R. 02E

A.P.N. 133-173-002

GRANT OF EASEMENT

TRANSFER TAX PAID
MONTEREY COUNTY

NATIONAL REFRACTORIES & MINERALS CORPORATION, a California corporation hereinafter referred to as "Grantor(s)", hereby grant(s) to PACIFIC BELL, a Corporation, its successors and assigns, hereinafter referred to as "Grantees", the right from time to time to construct and install communication facilities (including ingress thereto and egress therefrom) over, across, upon and under the hereinafter described real property and to use, operate, inspect, repair, replace and remove said facilities, or any of them, together with an exclusive right of way and easement therefore. Said communication facilities shall consist of the following: Underground manholes, conduits, wires, cables, other electrical conductors and appurtenances for communication purposes; together with aboveground structures with electronic communication equipment, marker posts, associated paving, fencing and other appurtenances related thereto. Grantor(s) also grant(s) to the appropriate utility company serving the area the right to provide commercial power service to Grantees, together with the right to construct, install, operate, inspect, repair and replace said power service facilities upon and within said easement. Said real property is in the County of Monterey, State of California, and is described as follows:

PARCEL 1:

A portion of Rancho Bolsa Nueva Y Moro Cojo, in the County of Monterey, State of California, being a part of that certain 1.50 Acre tract of land conveyed by S. N. Laughlin, Et Ux, to John Gehring, by deed dated April 7, 1903, Recorded in Book 80 of Deeds, at Page 257, particularly described as follows:

Beginning at a point in the westerly boundary of said 1.50 Acre tract of land, from which the Southerly corner thereof bears south 30.0 feet distant, said point being also on the Northwesterly corner of that certain 0.04 Acre parcel of land conveyed by John Gehring to County of Monterey by Deed dated September 27, 1924, Recorded in Book 47 of Official Records, at Page 95; thence along boundary of said 0.04 Acre Parcel of land, following the arc of a circular curve to the left, the center of which bears North 29° 35' West, 155.0 feet distant, for a distance of 72.0 feet to a point in the Easterly boundary of said 1.50 Acre Tract; thence along last named boundary, North 1° 25' East, 90.1 Feet; thence leaving said boundary and running North 88° 30' West 54.5 Feet to a 1" diameter steel bar driven flush with the

ground, from which the Southwest corner of a Garage bears North 1°00' West 8.2 Feet distant, said bar being in the Westerly Boundary of said 1.50 Acre Tract of land; thence along last named boundary, South 140.0 feet to the place of Beginning.

The above described easement shall be located on the following portion(s) of said property:

Said facilities shall be placed as indicated, by heavy dashed line on EXHIBIT "A" attached hereto and made a part hereof.

This legal description was prepared pursuant to Section 8730c of the Business and Professions Code.

Grantees shall be responsible for damage caused intentionally or by any negligent act or omission of Grantees, its agents or employees while exercising the rights granted herein.

Executed this 16 day of March 19 95

NATIONAL REFRACTORIES & MINERALS CORPORATION,
a California corporation

By: [Signature] President
Title

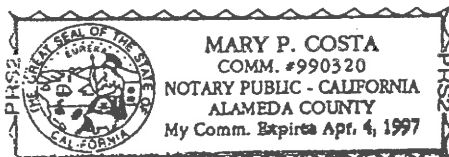
By: _____
Title

STATE OF CALIFORNIA

COUNTY OF Alameda

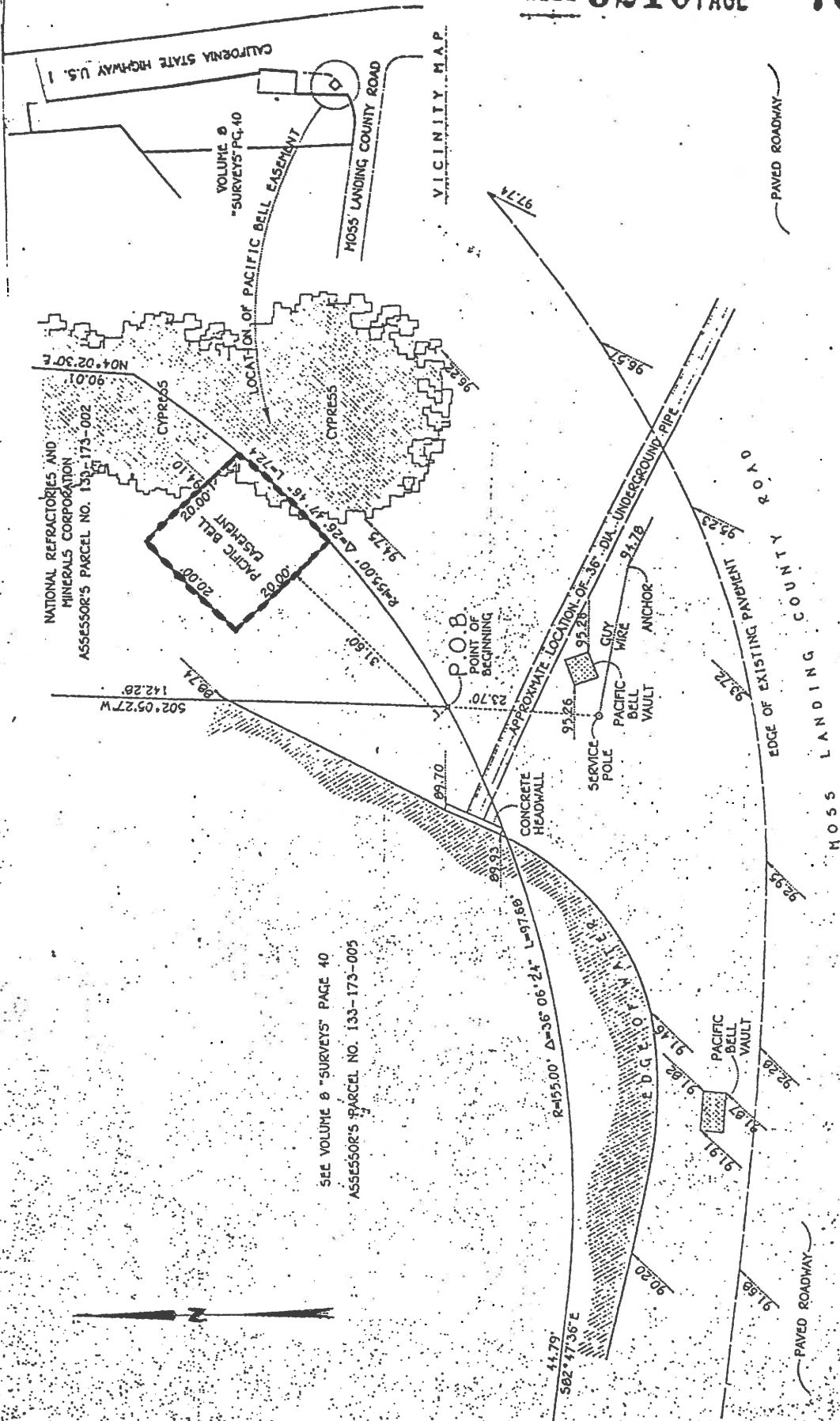
On March 16, 1995
before me, Mary P. Costa
personally appeared Charles C. Smith
President of National Refractories &
Minerals Corporation

_____, personally known to me (or proven to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

[Signature]
Signature



PURCHASE ORDER NO. 065, NE 15475, R/W # 3732

PACIFIC BELL
EASEMENT LOCATION
MOSS LANDING ROAD
MONTEREY COUNTY, CALIFORNIA

H. D. P. E. S. C. O.
ENGINEERING - SURVEYING - LAND PLANNING
CORPORATE OFFICE: 1000 OFFICE BLDG. 20 BUSINESS CAMPUS BLVD. 7TH FLOOR, PHIL. (CITY) 41-41-114

TO

END OF DOCUMENT

36

AFTER RECORDING, RETURN TO:

PACIFIC GAS AND ELECTRIC COMPANY
Land Rights Office
356 E. ALISAL ST.
SALINAS CA 93901

Location: City/Uninc _____

Recording Fee _____

Document Transfer Tax \$ _____

☐ This is a conveyance where the consideration and value is less than \$100.00 (R&T 11911).

☐ Computed on Full Value of Property Conveyed, or

☐ Computed on Full Value Less Liens & Encumbrances Remaining at Time of Sale.

Signature of declarant or agent determining tax _____

(SPACE ABOVE FOR RECORDER'S USE ONLY)

EASEMENT

NATIONAL REFRACTORIES & MINERALS CORPORATION, a California corporation,

hereinafter called first party, hereby grants to PACIFIC GAS AND ELECTRIC COMPANY, a California corporation, hereinafter called second party, the right from time to time to construct, reconstruct, install, inspect, maintain, replace, remove, and use facilities of the type hereinafter specified, together with a right of way therefor, within a strip or parcel of land or along a route as hereinafter set forth, and also ingress thereto and egress therefrom, over and across the lands of first party situate in the County of Monterey, State of California, described as follows:

(APN 133-173-005)

The parcel of land situate in the southeast quarter of the northeast quarter of Section 18, Township 13 North, Range 2 East, MDB&M described and designated PARCEL 2 in the deed from Kaiser Aluminum Properties, a Delaware corporation, to National Refractories & Minerals Corporation, a California corporation, dated March 29, 1985 and recorded on Reel 1837 of Official Records at page 54, Monterey County Records.

Said facilities shall consist of:

Such poles, aerial wires, cables, electrical conductors with associated crossarms, braces, transformers, anchors, guy wires and cables, fixtures, and appurtenances, as second party deems necessary for the distribution of electric energy and communication purposes located along the route staked on the ground by employees of second party and approved by first party. The approximate location of said facilities are shown upon second party's drawing Exhibit "A" attached hereto and made a part hereof.

Second party shall also have the right to trim and to cut down and clear away or otherwise control any trees or brush along said poles and wires whenever considered necessary for the complete enjoyment of the rights hereby granted.

First party shall not erect or construct any building or other structure or drill or operate any well (under or within 15 feet of the center line of the facilities installed hereunder by second.

First party further grants to second party the right to assign to another public utility as defined in Section 216 of the California Public Utilities Code the right to install, inspect, maintain, replace, remove and use communications facilities within said strip, or route (including ingress thereto and egress therefrom).

First party acknowledges that they have read the attached Exhibit "B", Grant of Easement Disclosure Statement, which by this reference, is made part of this Grant of Easement Deed.

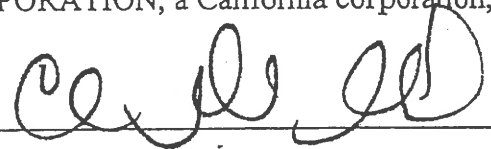
The legal description herein, or the map attached hereto, defining the location of this utility distribution easement, was prepared by Pacific Gas and Electric Company pursuant to Section 8730 (c) of the Business and Professions Code.

The provisions hereof shall inure to the benefit of and bind the successors and assigns of the respective parties hereto.

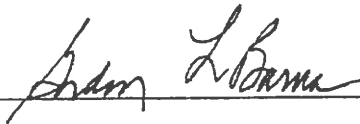
Dated DECEMBER 11, 2000.

NATIONAL REFRACTORIES & MINERALS
CORPORATION, a California corporation,

BY



BY



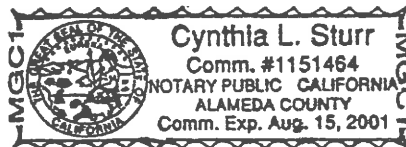
AREA 3
Central Coast Division
SO# 6057271
PM 30163568
PLAT E-6-2
DWG.NO. 13-2-235s
M.D.B. & M., T.13S., R.2E.,
SEC. 18, SE1/4 of NE1/4

State of CALIFORNIA
County of ALAMEDA

On Dec. 11, 2000 before me, the undersigned, a Notary Public for said State, personally appeared CHARLES C. SMITH AND GORDON L. BARNA (X) personally known to me OR () proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Cynthia L. Sturr
Notary's Signature



CAPACITY CLAIMED BY SIGNER:

- () Individual(s) signing for oneself/themselves
- (X) Corporate Officer(s) of the above named corporation
- () Guardian of the above named individual(s)
- () Partner(s) of the above named partnership(s)
- () Attorney(s)-in-Fact of the above named principal(s)
- () Trustee(s) of the above named trust(s)
- () Other _____

EXHIBIT "A"

62-338 Rev. 5/85
Right of Way Map

DUKE ENERGY
20-PM-64

DUKE ENERGY

E-6-2

NEW POLE

NEW ROUTE

EXISTING POLE LINE

CALIFORNIA STATE HIGHWAY 1

DOLAN ROAD

NATIONAL REFRACTORIES
& MINERALS CORPORATION,
PARCEL 2
R 1837 OR 54
(APN 133-173-005)

NATIONAL REFRACTORIES
& MINERALS CORPORATION,

5-R0S-10

SE1/4 OF NE1/4 OF SEC 18

CITY, RANCHO, SUBDIVISION, ETC.

RANCHO BOLSA NUEVA Y MORO COJO

SCALE
1"=60'

DATE
11-09-00

SECTION

TOWNSHIP

RANGE

MERIDIAN

18

13S

2E

MDB&M

COUNTY OF: MONTEREY

CHG DATE

DESCRIPTION

AUTH BY CH

F.B.:

DR. BY: TWM

CH. BY:

PM 30163568

PG&E

CEN COAST
DMSION

6057271
AUTHORIZ

13-2-235s
DRAWING NO.

CHG.

REFERENCES

EXHIBIT "B"

GRANT OF EASEMENT DISCLOSURE STATEMENT

This Disclosure Statement will assist you in understanding your rights as a property owner when granting an easement to PG&E to accommodate your neighbor's new utility service extension. **Please read this disclosure carefully before signing the Grant of Easement.**

- You are under no obligation or threat of condemnation by PG&E to grant this easement.
- The granting of this easement is an accommodation to PG&E's applicant requesting the extension of PG&E utility facilities to the applicant's property or project, pursuant to the Line Extension Rules 15 and 16, as authorized by the California Public Utilities Commission. As this is an accommodation to a single customer or group of customers and not PG&E, the California Public Utilities Commission has not authorized PG&E to purchase such easements.
- By granting this easement to PG&E, the facilities installed within the easement across your property may be used to serve additional customers in the area.
- Removal and/or pruning of trees or other vegetation on your property may be necessary for the installation of PG&E facilities. You have the option of having PG&E or its contractors perform this work on your property, or having the applicant or the applicant's contractor perform this work.
- The description of the location in which the PG&E utility facilities are to be installed upon, in, on, or across your property must be satisfactory to you.
- The California Public Utilities Commission has authorized that the installation of certain utility facilities for utility service may be performed by the applicant. In addition to granting this easement to PG&E, you will need to give your consent to the applicant, or applicant's contractor, working on your property. Upon completion of the applicant's installation, the utility facilities will be inspected by PG&E. When the facility installation is determined to be acceptable the facilities will be conveyed to PG&E.

By signing the Grant of Easement, you are acknowledging that you have read this disclosure and understand that you are granting the easement to PG&E of your own free will. Please return the signed and notarized Grant of Easement and this Disclosure Statement to PG&E. The duplicate copy of the Grant of Easement and this Disclosure Statement is for your records.



*Pacific Gas and
Electric Company™*

WE DELIVER ENERGY.™

Land Services

356 East Alisal Street
Salinas, CA 93901

November 16, 2000

Attn.: Rob Gonzales
National Refractories
P.O. Box 30
Moss Landing, CA 95039

RE: Easement Document for Duke Energy Highway Relocation
PM# 30163568

Dear Mr. Gonzales:

Duke Energy has applied to Pacific Gas and Electric Company to relocate some facilities off of Dolan Road and Highway 1. The proposed facilities are to be installed along the route approximately shown in red on the drawing attached to the document stamped "Grantor's Copy".

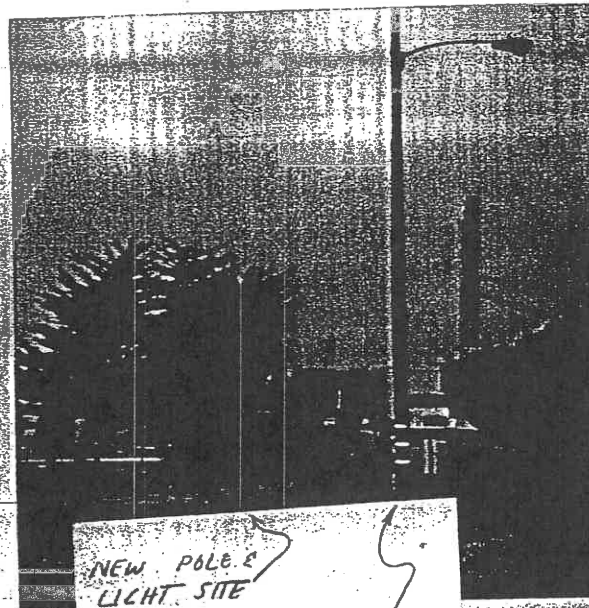
Please have the document stamped "P.G.&E. COPY" signed by those authorized before a Notary Public and return them in the enclosed postage paid envelope at your earliest convenience. The documents stamped "GRANTOR'S COPY" are to keep for your files.

If you have any questions regarding this matter, please call me at (831) 784-3501.

Sincerely,

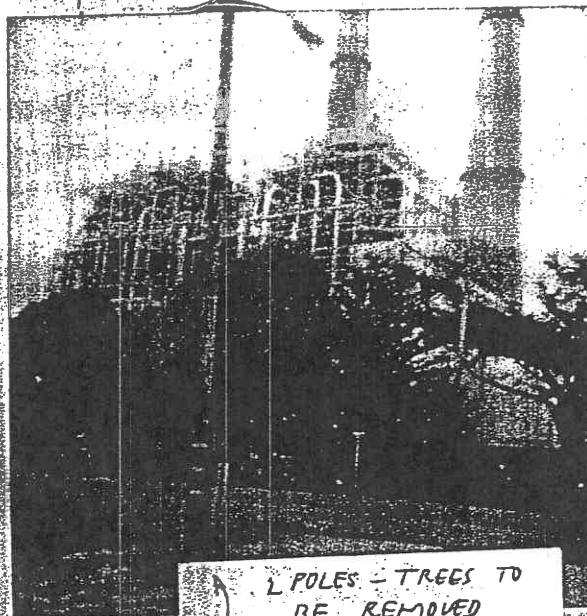
Tom McCullough
Sr. Land Technician

cc:JMattingly



NEW POLE &
LIGHT SITE
(STARRED)

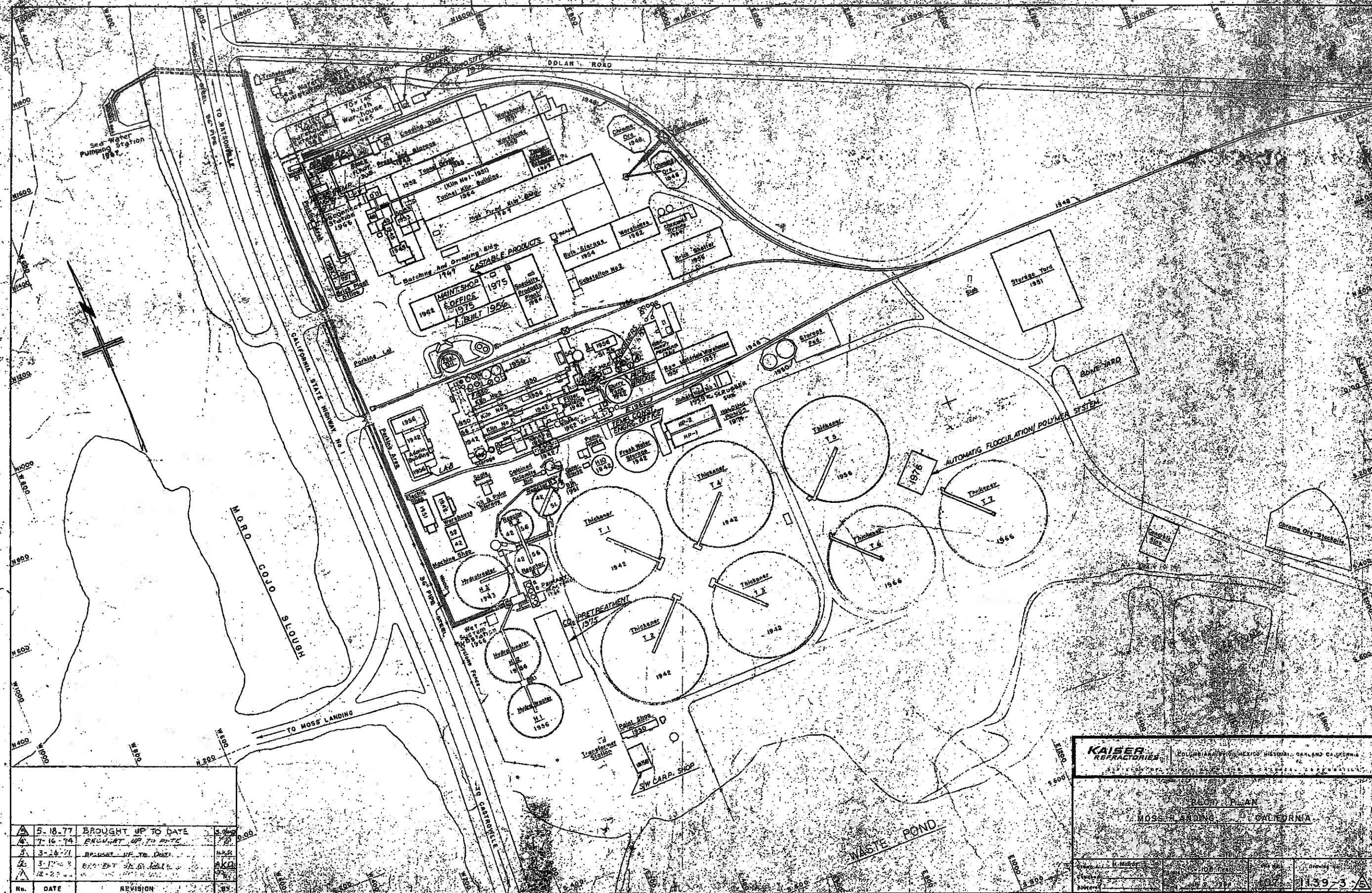
THIS POLE TO BE
REMOVED

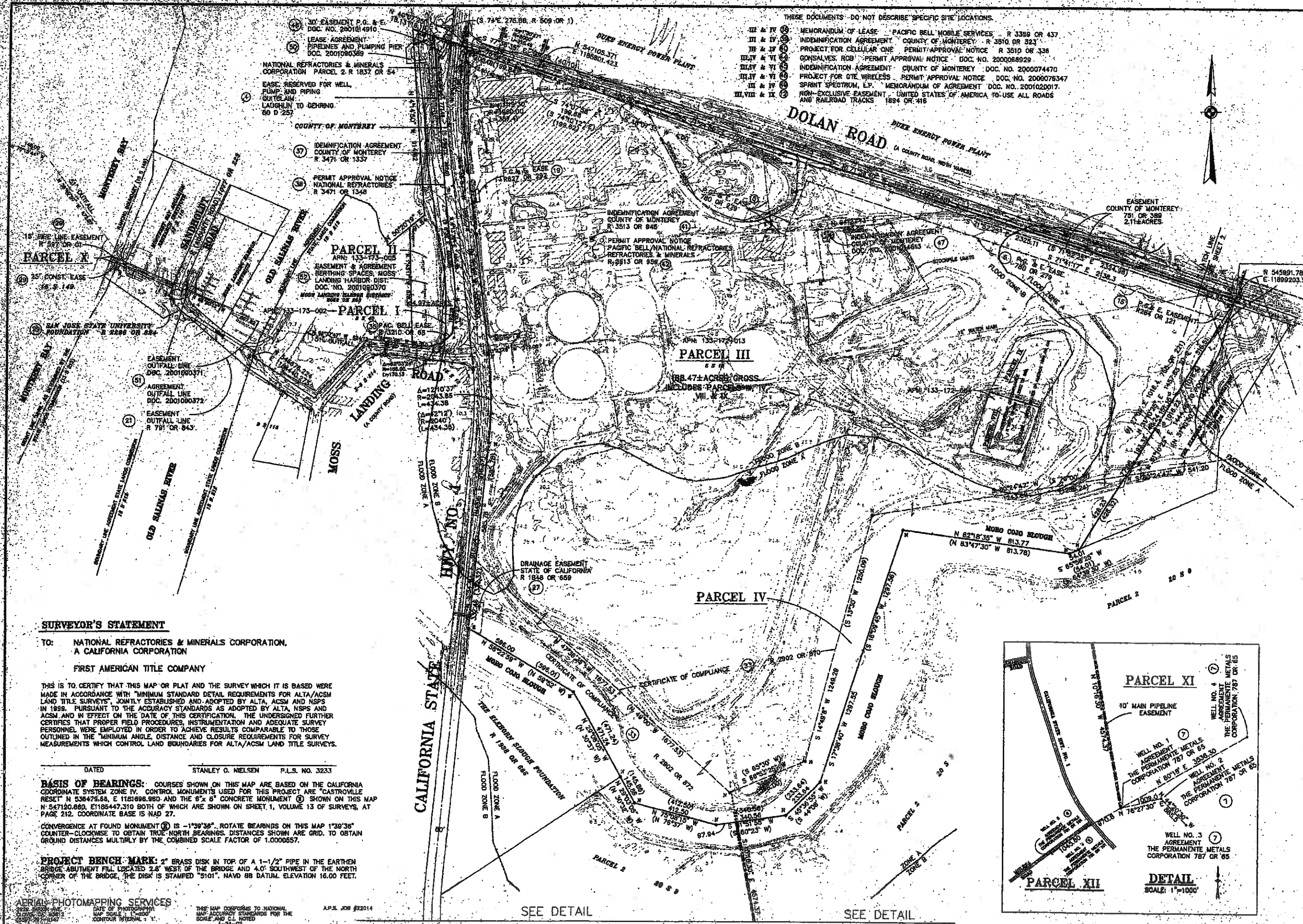


2 POLES - TREES TO
BE REMOVED
(DUKE BACKGROUND)

SAME POLE AS
OTHER PHOTO

**PLAN OF EXISTING
FACILITIES INCL.
INTAKE & OUTFALL**





- THESE DOCUMENTS DO NOT DESCRIBE SPECIFIC SITE LOCATIONS.
- III & IV: MEMORANDUM OF LEASE: PACIFIC BELL MOBILE SERVICES, R 3388 OR 437
 - III & IV: INDEMNIFICATION AGREEMENT: COUNTY OF MONTEREY, R 3510 OR 323
 - III & IV: PROJECT FOR CELLULAR ONE: PERMIT/APPROVAL NOTICE: R 3510 OR 336
 - III & IV: GONSALES, ROB: PERMIT APPROVAL NOTICE: DOC. NO. 2000088929
 - III & IV: INDEMNIFICATION AGREEMENT: COUNTY OF MONTEREY: DOC. NO. 2000074470
 - III & IV: PROJECT FOR GTE WIRELESS: PERMIT APPROVAL NOTICE: DOC. NO. 2006076347
 - III & IV: SPRINT SPECTRUM, L.P.: MEMORANDUM OF AGREEMENT: DOC. NO. 2001020017
 - III & IV: NON-EXCLUSIVE EASEMENT: UNITED STATES OF AMERICA TO-USE ALL ROADS AND RAILROAD TRACKS: 1894 OR 416

SURVEYOR'S STATEMENT

TO: NATIONAL REFRACTORIES & MINERALS CORPORATION,
A CALIFORNIA CORPORATION

FIRST AMERICAN TITLE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS" JOINTLY ESTABLISHED AND ADOPTED BY ALTA, ACSM AND NSPS IN 1999. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA, NSPS AND ACSM AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, THE UNDERSIGNED FURTHER CERTIFIES THAT PROPER FIELD PROCEDURES, INSTRUMENTATION AND ADEQUATE SURVEY PERSONNEL WERE EMPLOYED IN ORDER TO ACHIEVE RESULTS COMPARABLE TO THOSE OBTAINED IN THE "MINIMUM ANGLE, DISTANCE AND CLOSURE REQUIREMENTS FOR SURVEY MEASUREMENTS WHICH CONTROL LAND BOUNDARIES FOR ALTA/ACSM LAND TITLE SURVEYS."

DATED: STANLEY Q. NIELSEN P.L.S. NO. 3233

BASIS OF BEARINGS: COURSES SHOWN ON THIS MAP ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM ZONE IV. CONTROL MONUMENTS USED FOR THIS PROJECT ARE "CASTROVILLE RESET" N 538479.68, E 1181696.980 AND THE 6"x 8" CONCRETE MONUMENT (1) SHOWN ON THIS MAP N 547120.880, E 1185447.310 BOTH OF WHICH ARE SHOWN ON SHEET 1, VOLUME 13 OF SURVEYS, AT PAGE 212. COORDINATE BASE IS NAD 27.

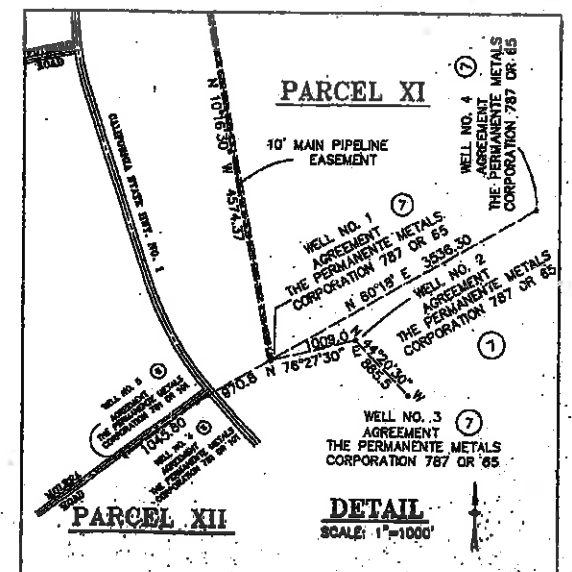
CONVERGENCE AT FOUND MONUMENT (1) IS -1°39'38". ROTATE BEARINGS ON THIS MAP 1°39'38" COUNTER-CLOCKWISE TO OBTAIN TRUE-NORTH BEARINGS. DISTANCES SHOWN ARE GRID. TO OBTAIN GROUND DISTANCES MULTIPLY BY THE COMBINED SCALE FACTOR OF 1.000657.

PROJECT BENCH MARK: 2" BRASS DISK IN TOP OF A 1-1/2" PIPE IN THE EARTHEN BRIDGE ABUTMENT FULL LOCATED 2.8' WEST OF THE BRIDGE AND 4.0' SOUTHWEST OF THE NORTH CORNER OF THE BRIDGE. THE DISK IS STAMPED "5101", NAVD 88 DATUM. ELEVATION 16.00 FEET.

AERIAL PHOTOMAPPING SERVICES
DATE OF PHOTOGRAPHY: 1-22-02
MAP SCALE: 1"=200'
CONTOUR INTERVAL: 1'

THIS MAP CONFORMS TO NATIONAL MAP-ACCURACY STANDARDS FOR THE SCALE AND CL NOTED
1-25-02

APLS JOB #22014

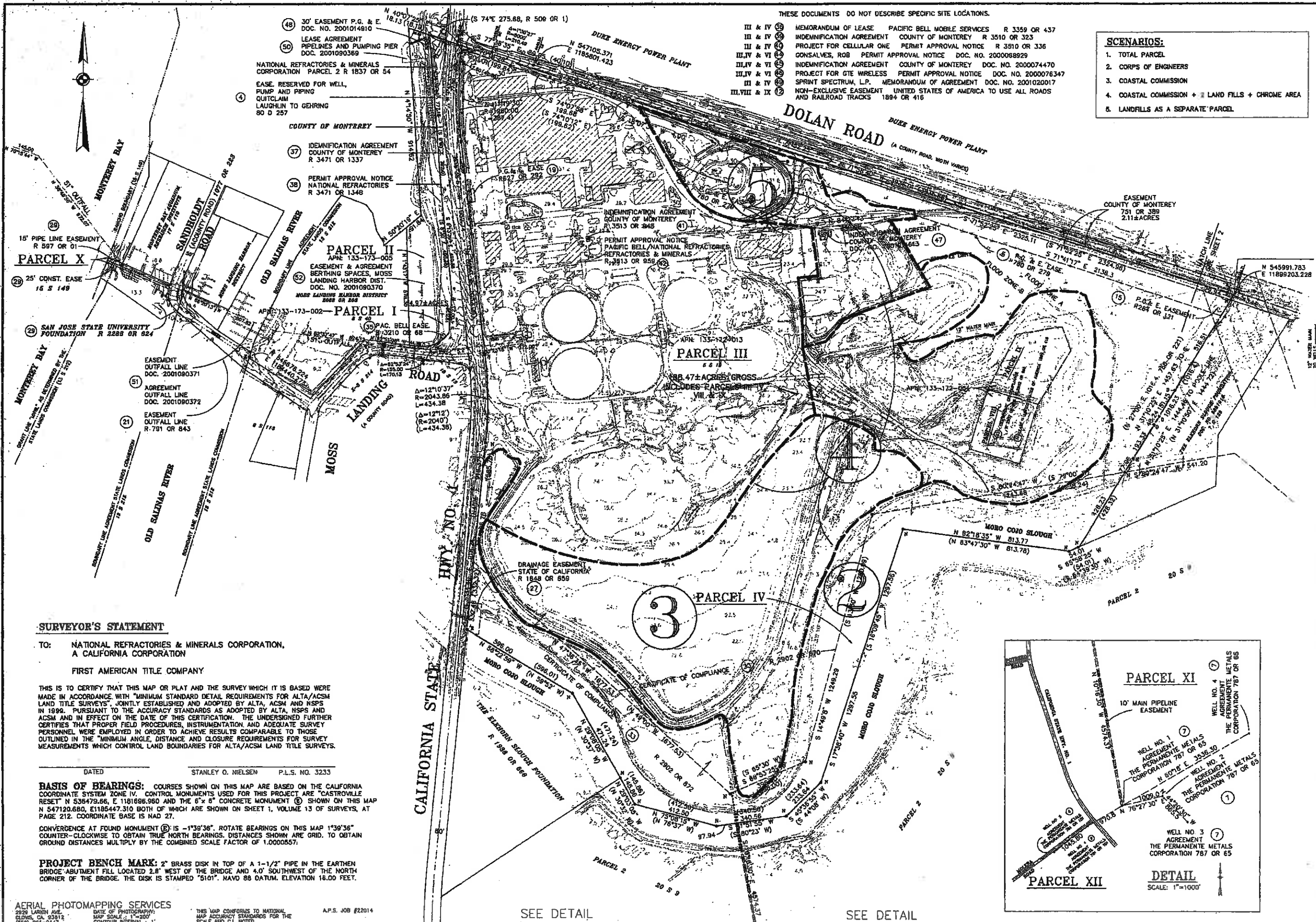


MID COAST ENGINEERS
CIVIL ENGINEERS AND LAND SURVEYORS
709 PENNY LANE, SUITE A, WATSONVILLE, CA 95076 - (831) 794-8860



ALTA/ACSM LAND TITLE SURVEY FOR
NATIONAL REFRACTORIES
CALIFORNIA
MONTEREY COUNTY
APN: 133-172-004.013, 133-173-002.905
APN: 133-154-008

SCALE: 1"=200'
SURVEYED BY: SON/JN
DRAWN BY: SON
DATE: MAR. 19, 2002
REVISED:
JOB NO.: 012525H1
SHEET
1
OF 4 SHEETS



SURVEYOR'S STATEMENT

TO: NATIONAL REFRACTORIES & MINERALS CORPORATION,
A CALIFORNIA CORPORATION

FIRST AMERICAN TITLE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAN AND THE SURVEY WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA, ACSM AND NSPS IN 1999. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA, NSPS AND ACSM AND IN EFFECT ON THE DATE OF THIS CERTIFICATION. THE UNDERSIGNED FURTHER CERTIFIES THAT PROPER FIELD PROCEDURES, INSTRUMENTATION, AND ADEQUATE SURVEY PERSONNEL WERE EMPLOYED IN ORDER TO ACHIEVE RESULTS COMPARABLE TO THOSE OUTLINED IN THE "MINIMUM ANGLE, DISTANCE AND CLOSURE REQUIREMENTS FOR SURVEY MEASUREMENTS WHICH CONTROL LAND BOUNDARIES FOR ALTA/ACSM LAND TITLE SURVEYS."

DATED: _____ STANLEY O. NIELSEN P.L.S. NO. 3233

BASIS OF BEARINGS: COURSES SHOWN ON THIS MAP ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM ZONE IV. CONTROL MONUMENTS USED FOR THIS PROJECT ARE "CASTROVILLE RESET" N 536479.66, E 1181696.960 AND THE 6" x 6" CONCRETE MONUMENT ① SHOWN ON THIS MAP N 547120.680, E 1185447.310 BOTH OF WHICH ARE SHOWN ON SHEET 1, VOLUME 13 OF SURVEYS, AT PAGE 212. COORDINATE BASE IS MAD 27.

CONVERGENCE AT FOUND MONUMENT ① IS -1°39'36". ROTATE BEARINGS ON THIS MAP 1°39'36" COUNTER-CLOCKWISE TO OBTAIN TRUE NORTH BEARINGS. DISTANCES SHOWN ARE GRID. TO OBTAIN GROUND DISTANCES MULTIPLY BY THE COMBINED SCALE FACTOR OF 1.0000557.

PROJECT BENCH MARK: 2" BRASS DISK IN TOP OF A 1-1/2" PIPE IN THE EARTHEN BRIDGE ABUTMENT FILL LOCATED 2.8' WEST OF THE BRIDGE AND 4.0' SOUTHWEST OF THE NORTH CORNER OF THE BRIDGE. THE DISK IS STAMPED "5101". NAVD 88 DATUM. ELEVATION 16.00 FEET.

AERIAL PHOTOMAPPING SERVICES
2525 LARSEN AVE.
CLARK, CA 95012
(959) 261-0147

THIS MAP CONFORMS TO NATIONAL MAP ACCURACY STANDARDS FOR THE SCALE AND CL. NOTED
1-24-02

A.P.S. JOB #22014

THESE DOCUMENTS DO NOT DESCRIBE SPECIFIC SITE LOCATIONS.

III & IV ⑤ MEMORANDUM OF LEASE PACIFIC BELL MOBILE SERVICES R 3359 OR 437
III & IV ⑥ INDEMNIFICATION AGREEMENT COUNTY OF MONTEREY R 3510 OR 323
III & IV ⑦ PROJECT FOR CELLULAR ONE PERMIT APPROVAL NOTICE R 3510 OR 336
III & IV ⑧ CONSALVES, RO8 PERMIT APPROVAL NOTICE DOC. NO. 2000088929
III & IV ⑨ INDEMNIFICATION AGREEMENT COUNTY OF MONTEREY DOC. NO. 2000074470
III & IV ⑩ PROJECT FOR GTE WIRELESS PERMIT APPROVAL NOTICE DOC. NO. 2000076347
III & IV ⑪ SPRINT SPECTRUM, L.P. MEMORANDUM OF AGREEMENT DOC. NO. 2001020017
III & IV ⑫ NON-EXCLUSIVE EASEMENT UNITED STATES OF AMERICA TO USE ALL ROADS AND RAILROAD TRACKS 1894 OR 416

- SCENARIOS:**
1. TOTAL PARCEL
 2. CORPS OF ENGINEERS
 3. COASTAL COMMISSION
 4. COASTAL COMMISSION + LAND FILLS + CHROME AREA
 5. LANDFILLS AS A SEPARATE PARCEL



MID COAST ENGINEERS
CIVIL ENGINEERS AND LAND SURVEYORS
70 PENNY LANE, SUITE A WATSONVILLE, CA 95076 - (831) 724-2580

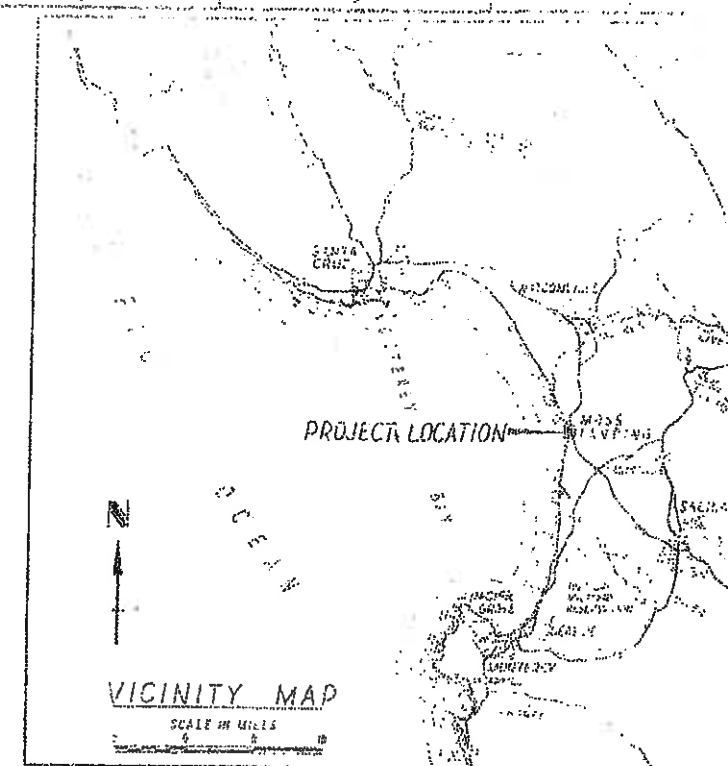


ALTA/ACSM LAND TITLE SURVEY FOR
NATIONAL REFRACTORIES
CALIFORNIA
MONTEREY COUNTY
APN: 133-172-004,013 133-173-002,005
APN: 133-154-008

SCALE: 1"=200'
SURVEYED BY: SON/JN
DRAWN BY: SON
DATE: MAR. 19, 2002
REVISED: MAY 23, 2002
JOB NO.: 01252SHS
SHEET
5
SHEETS

SEAWATER OUTFALL

FOR
KAISER ALUMINUM & CHEMICAL CORPORATION
MOSS LANDING, CALIFORNIA



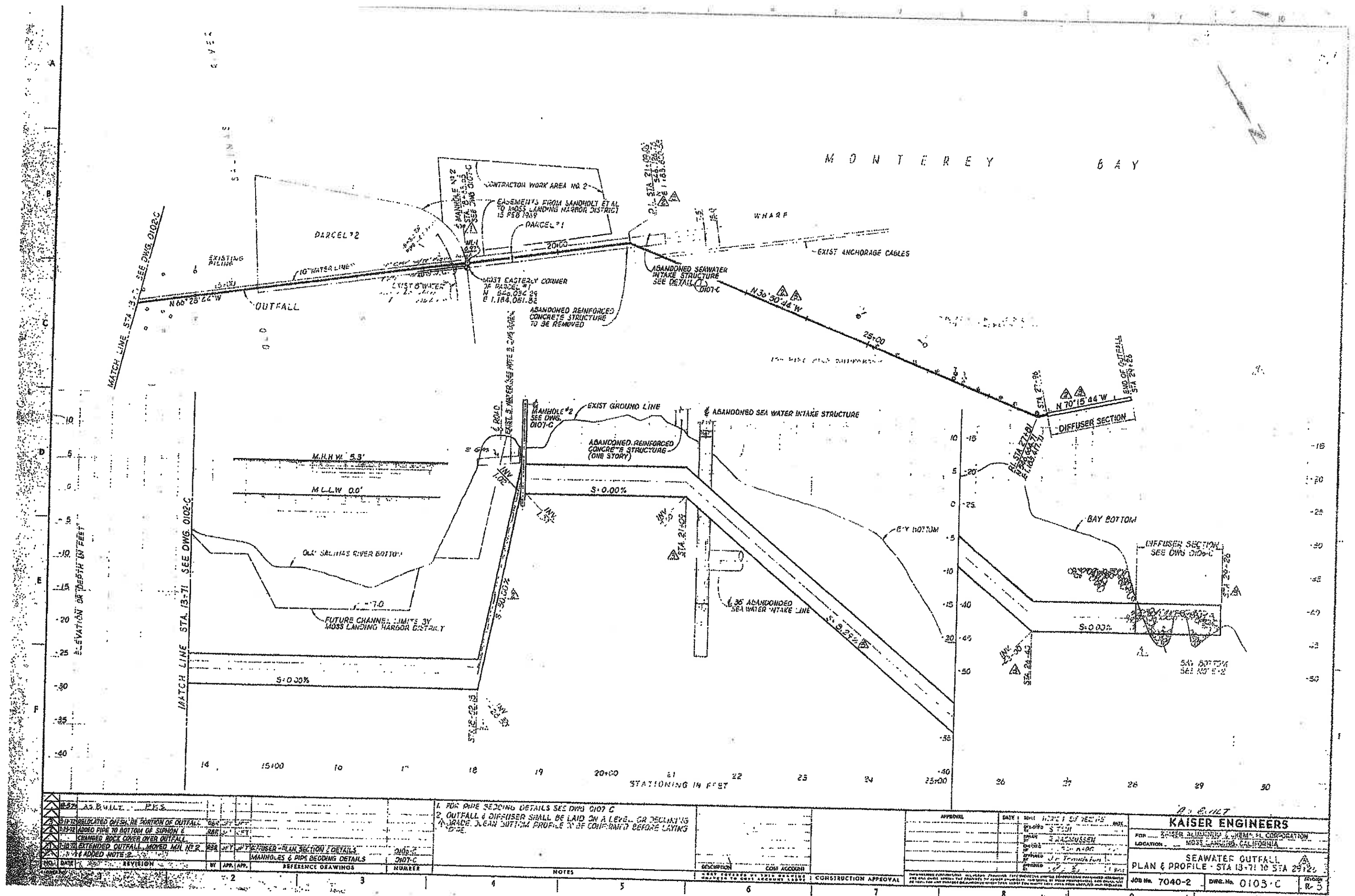
DRAWING INDEX

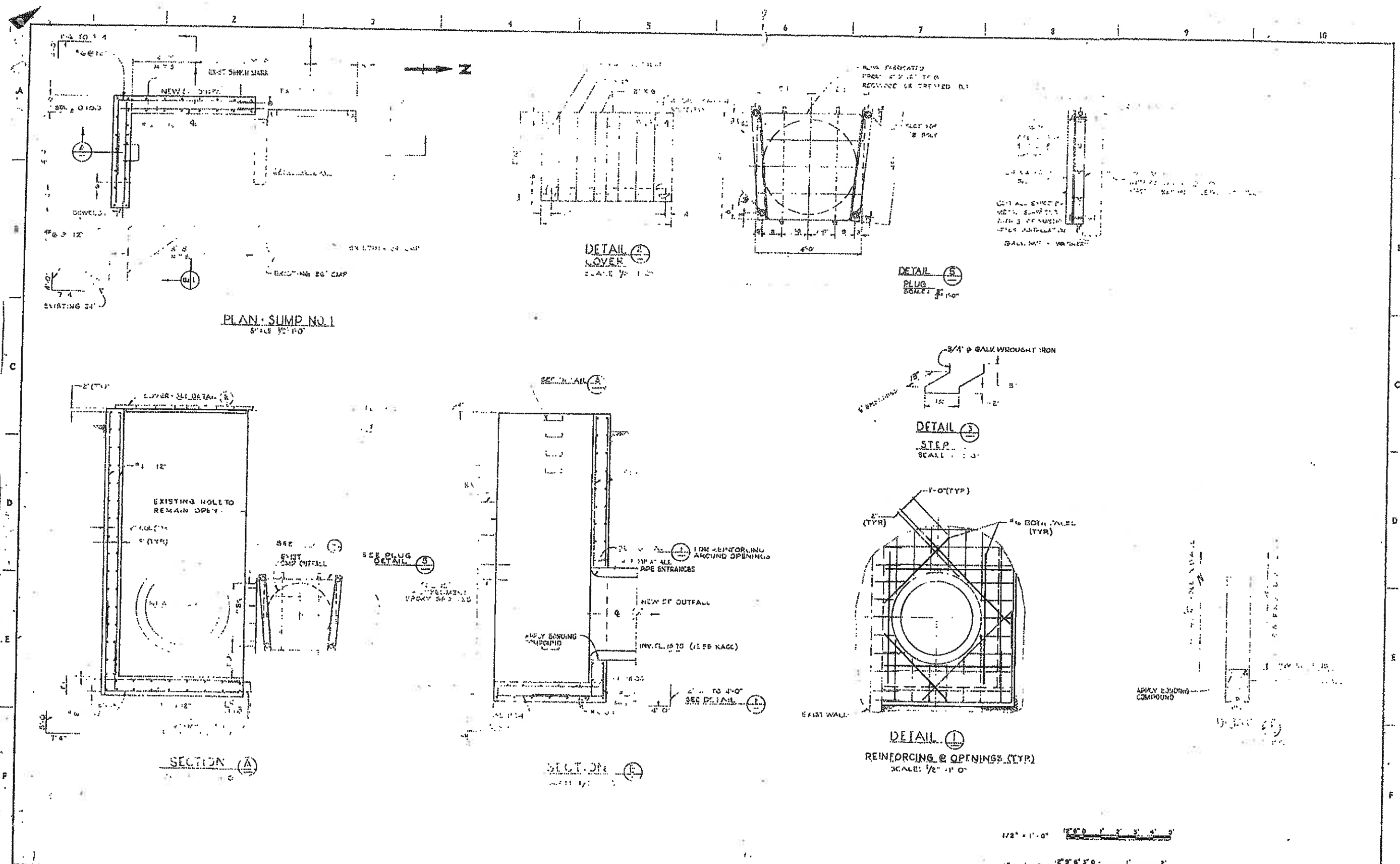
- 0101-C SITE PLAN & VICINITY MAP
- 0102-C PLAN & PROFILE - STA 0+00 TO 74+12.71
- 0103-C PLAN & PROFILE - STA 13+71 TO 3+429+26.2
- 0104-C SUMP NO. 1 - PLAN, SECTIONS & DETAILS
- 0105-C SUMP NO. 2 - PLAN & SECTIONS
- 0106-C DIFFUSER - PLAN, SECTIONS & DETAILS
- 0107-C MANHOLES & PIPE BEDDING DETAILS

DIFFUSER T

1. RELOCATED OFFSHORE POSITION OF OUTFALL 6" 1" 43A. 147.
2. EXTENDED OUTFALL 7-18-76 PER J-7

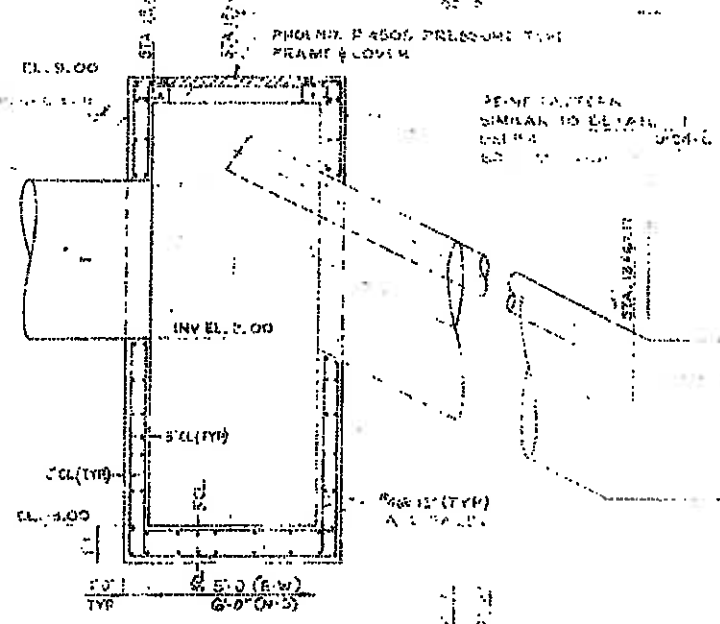
APPROVAL	DATE	SCALE	1" = 100'	DATE
DESIGNED		BY	RE-DESIGNED	
CHECKED		BY	CHECKED	
IN CHARGE		BY	IN CHARGE	
PROJECT ENGINEER		BY	PROJECT ENGINEER	
MANAGER		BY	MANAGER	
KAISER ENGINEERS				
FOR KAISER ALUMINUM & CHEMICAL CORPORATION				
LOCATION MOSS LANDING, CALIF.				
SEAWATER OUTFALL				
SITE PLAN & VICINITY MAP				
JOB NO. 7040-2	DATE	NO. 0101-C	R-2	



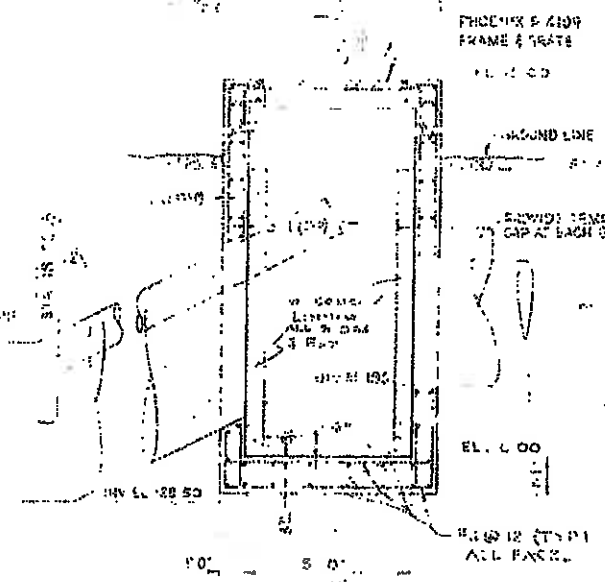


<div> <div> <div>NO.</div> <div>DATE</div> </div> <div> <div>REVISION</div> <div>BY</div> <div>DATE</div> </div> </div>				<div> <div> <div>DESCRIPTION</div> <div>DATE</div> </div> <div> <div>BY</div> <div>DATE</div> </div> </div>				<div> <div> <div>APPROVAL</div> <div>DATE</div> </div> <div> <div>BY</div> <div>DATE</div> </div> </div>				<div> <div> <div>AS NOTED</div> <div>DATE</div> </div> <div> <div>BY</div> <div>DATE</div> </div> </div>				<div> <div> <div>KAISER ENGINEERS</div> <div>FOR: [blank]</div> <div>LOCATION: [blank]</div> </div> <div> <div>SEAWATER OUTFALL</div> <div>SUMP NO. 1 - PLAN, SECTION, & DETAILS</div> </div> <div> <div>1040-2</div> <div>DWG. No. 0101</div> </div> </div>			
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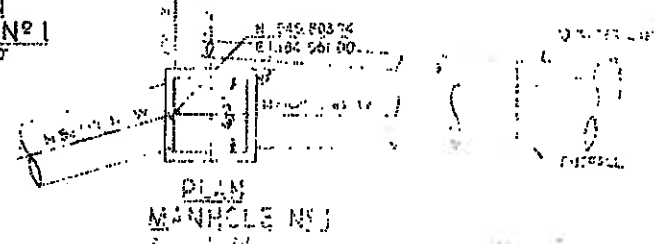
A
B
C
D
E
F



SECTION
MANHOLE No 1
SCALE 1/2"=1'-0"



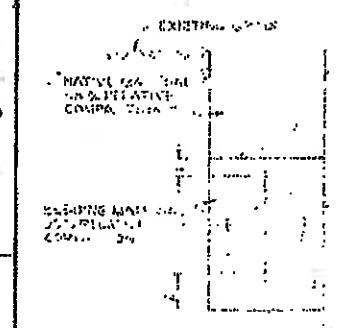
SECTION
MANHOLE No 2
SCALE 1/2"=1'-0"



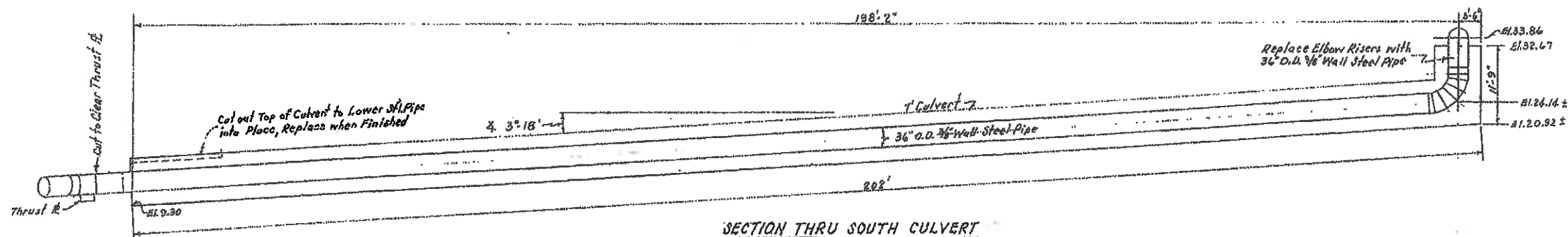
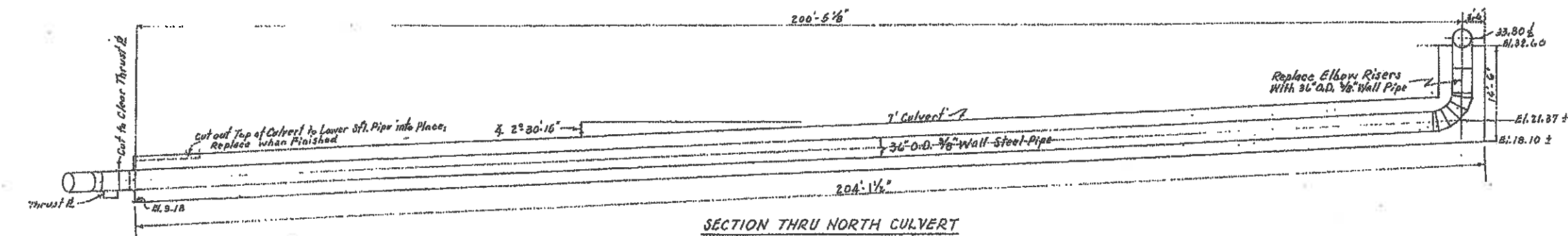
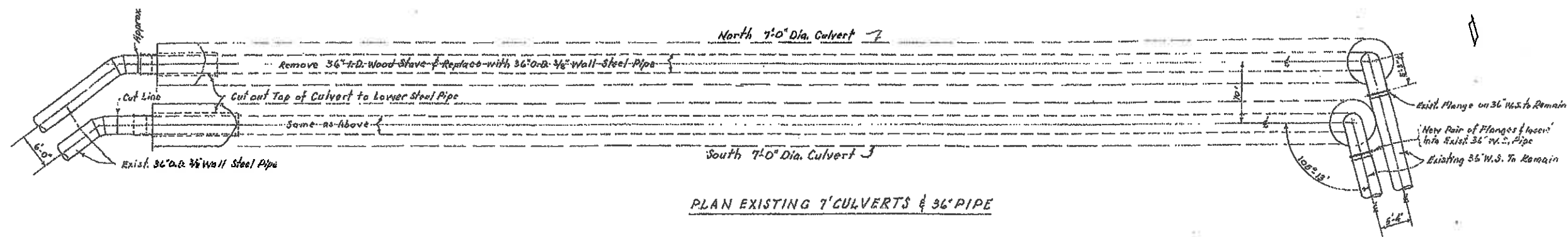
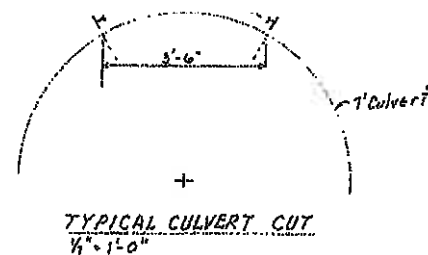
PLAN
MANHOLE No 1



PLAN
MANHOLE No 2



NO.	DATE	REVISION	BY	APP'D.	DESCRIPTION
1					
2					
3					
4					
5					
6					



Acct. No. 060 458 260.501

KAISER
REFRATORIES

COLUMBIANA OHIO, MEXICO MISSOURI, OAKLAND CALIFORNIA

DIVISION OF KAISER ALUMINUM & CHEMICAL CORPORATION

MOSS LANDING MAGNESIA PLANT
SEA WATER LINES & RISERS REPLACED THRU 7' CULVERTS
PLAN & PROFILES

Elevations are Plant Elevations Taken 2-29-77

Drawn E.S.T.

Scale 1" = 10' & shown

File No.

Drawing No.

Checked

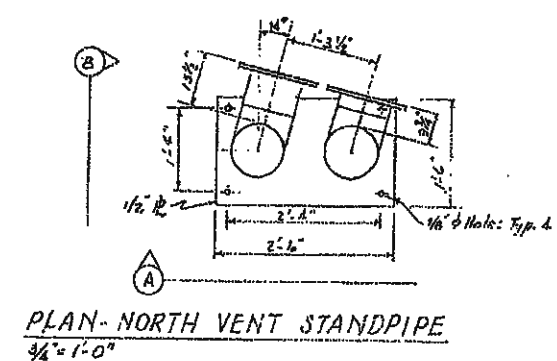
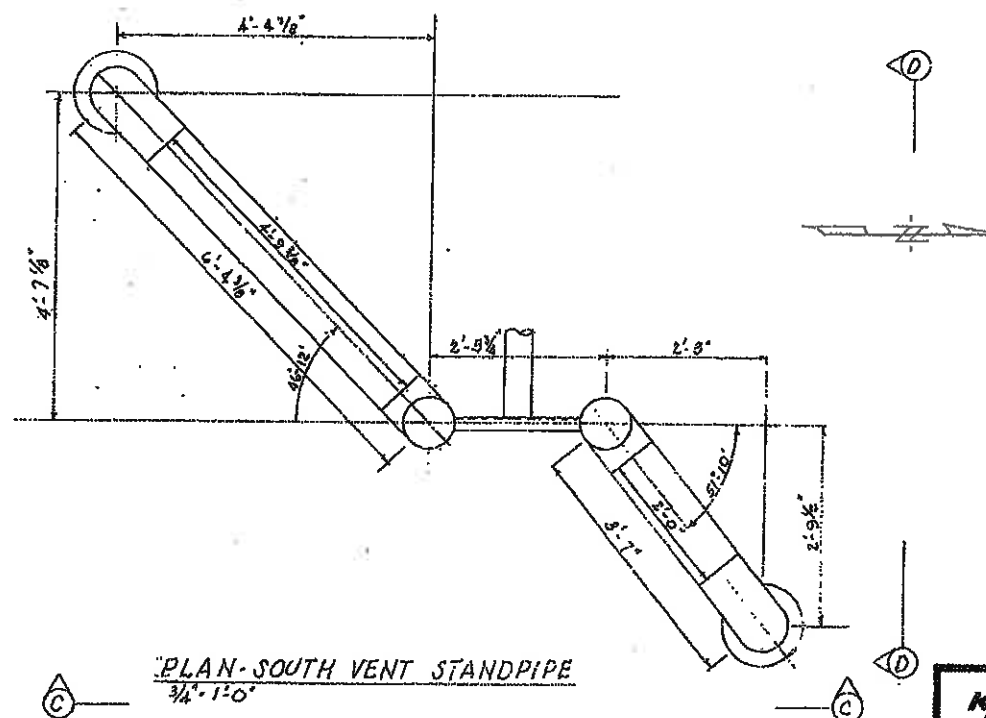
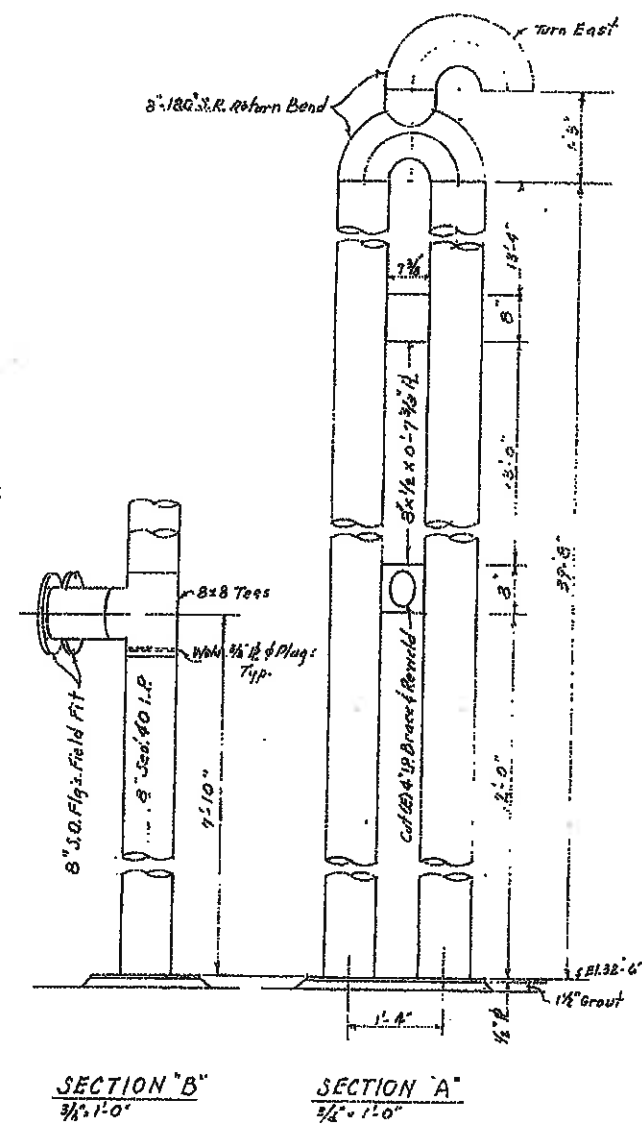
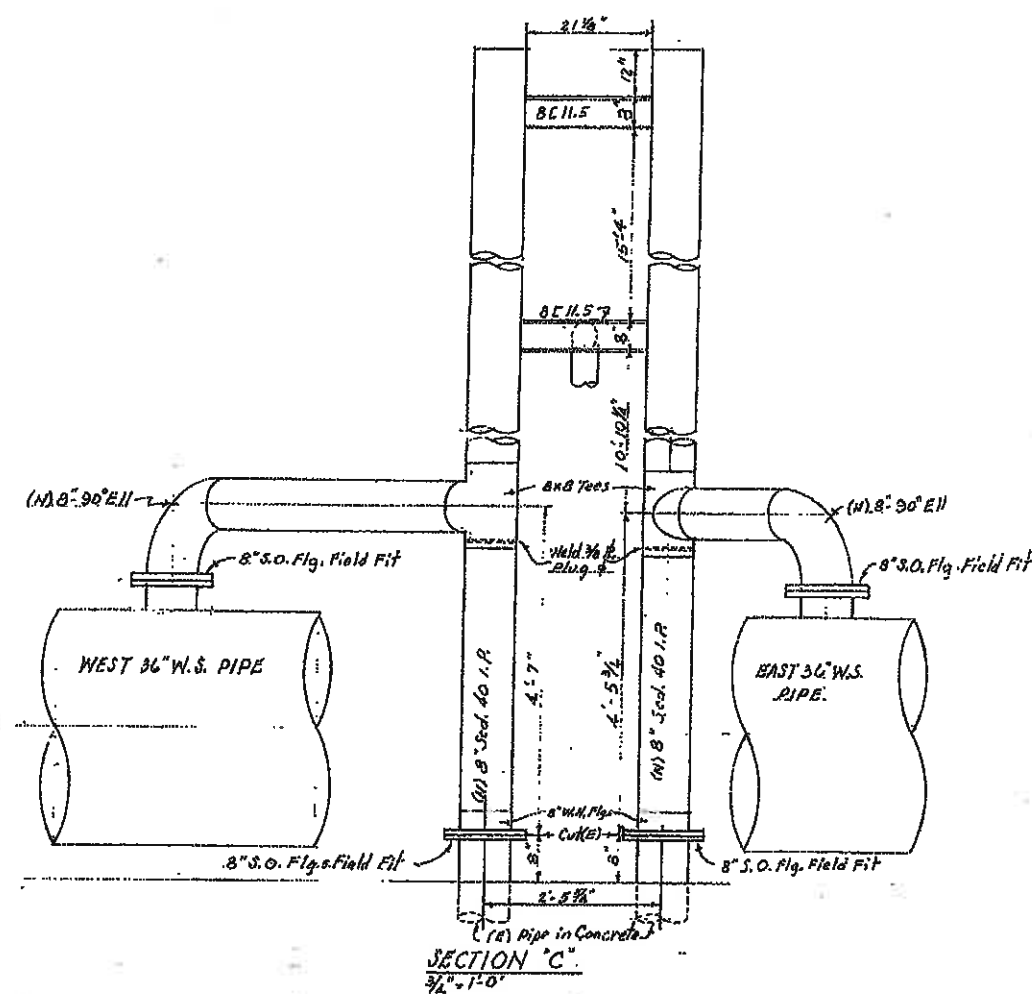
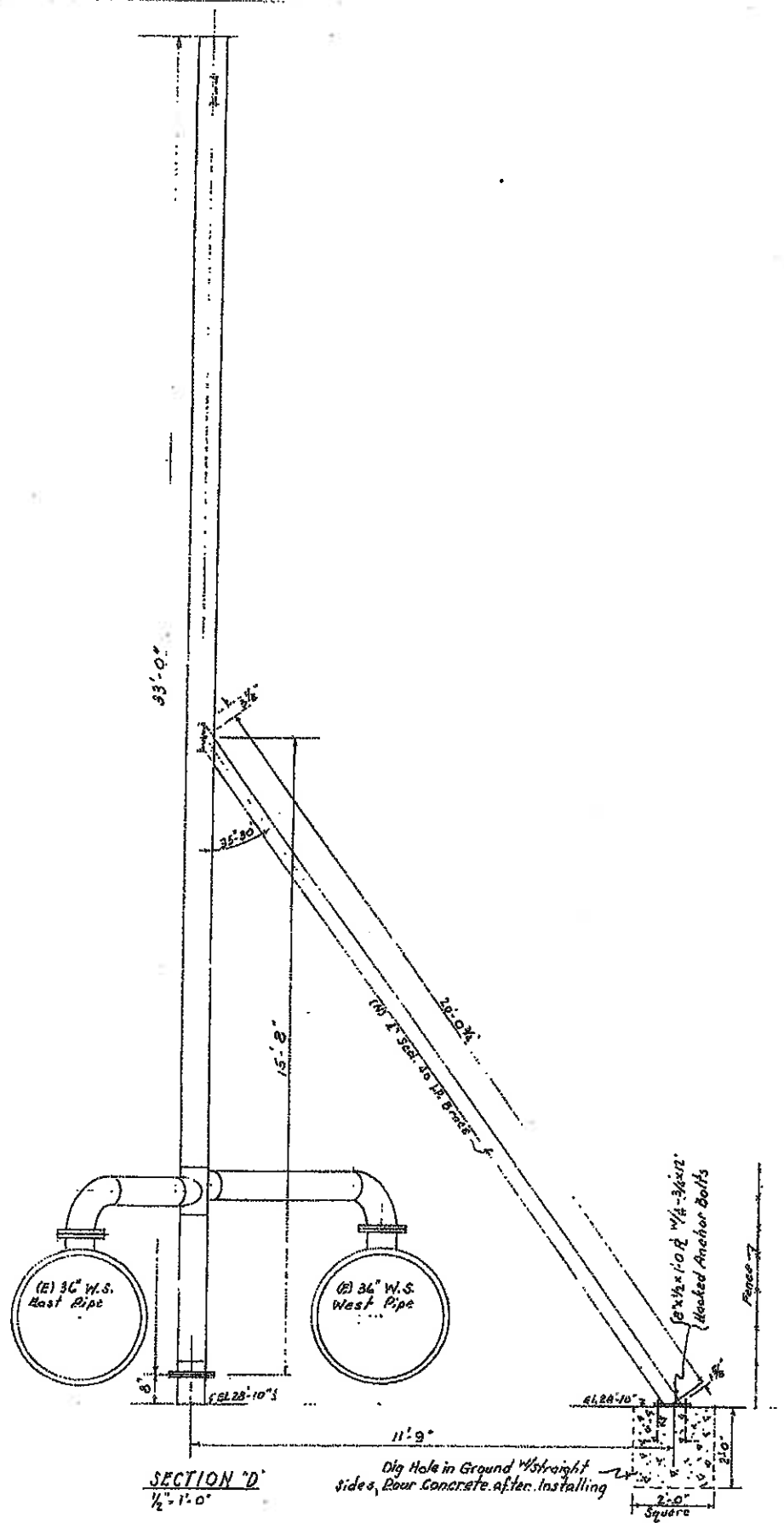
Date 3-4-77

107

1443-2

REFERENCES

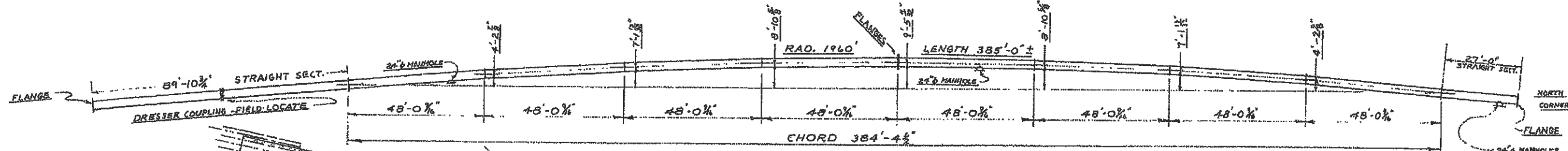
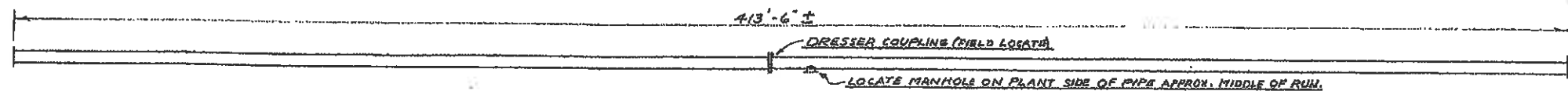
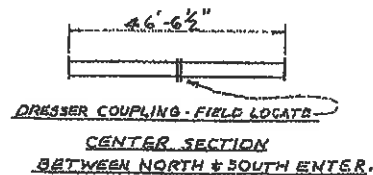
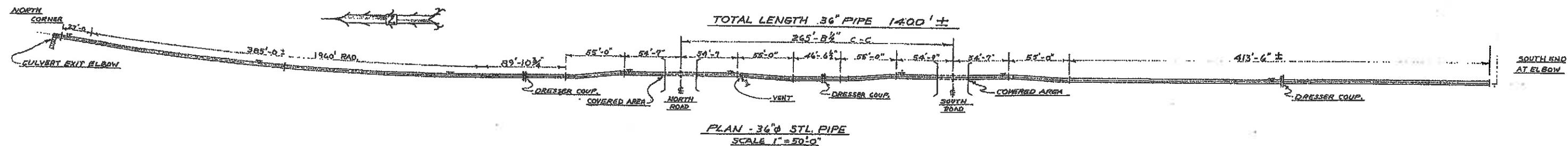
NO.	DATE	REVISION	BY	CHK'D.	APP'D.



PAINTING
 Preparation: SSPC-SP-6-63 Commercial Blast.
 Primer: Red Epoxy UC 46837/UC 45834, 2.0 MILS Dry Film Thick.
 Finish Coat: Rustoleum 5783, Silver Gray, 3.0 MILS Dry Film Thick

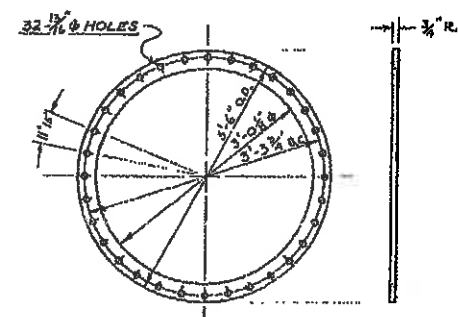
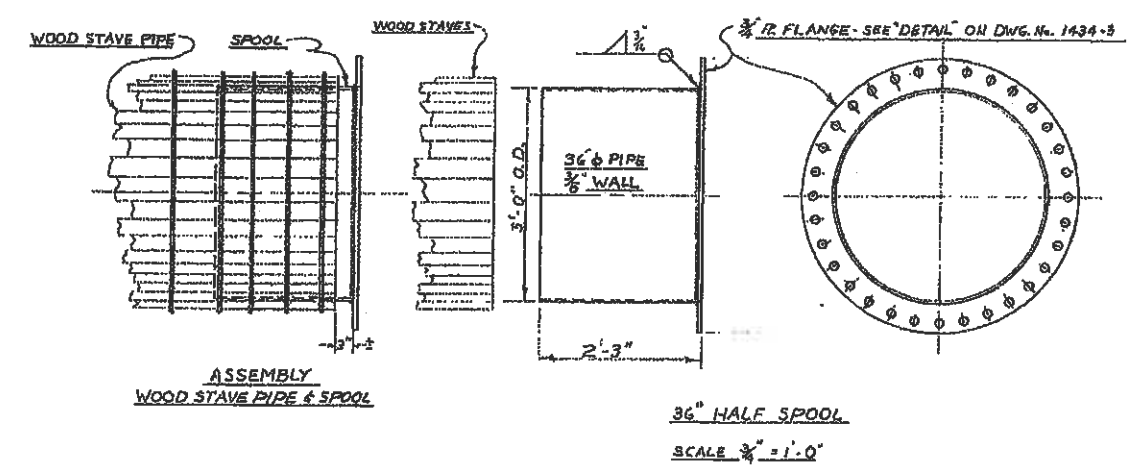
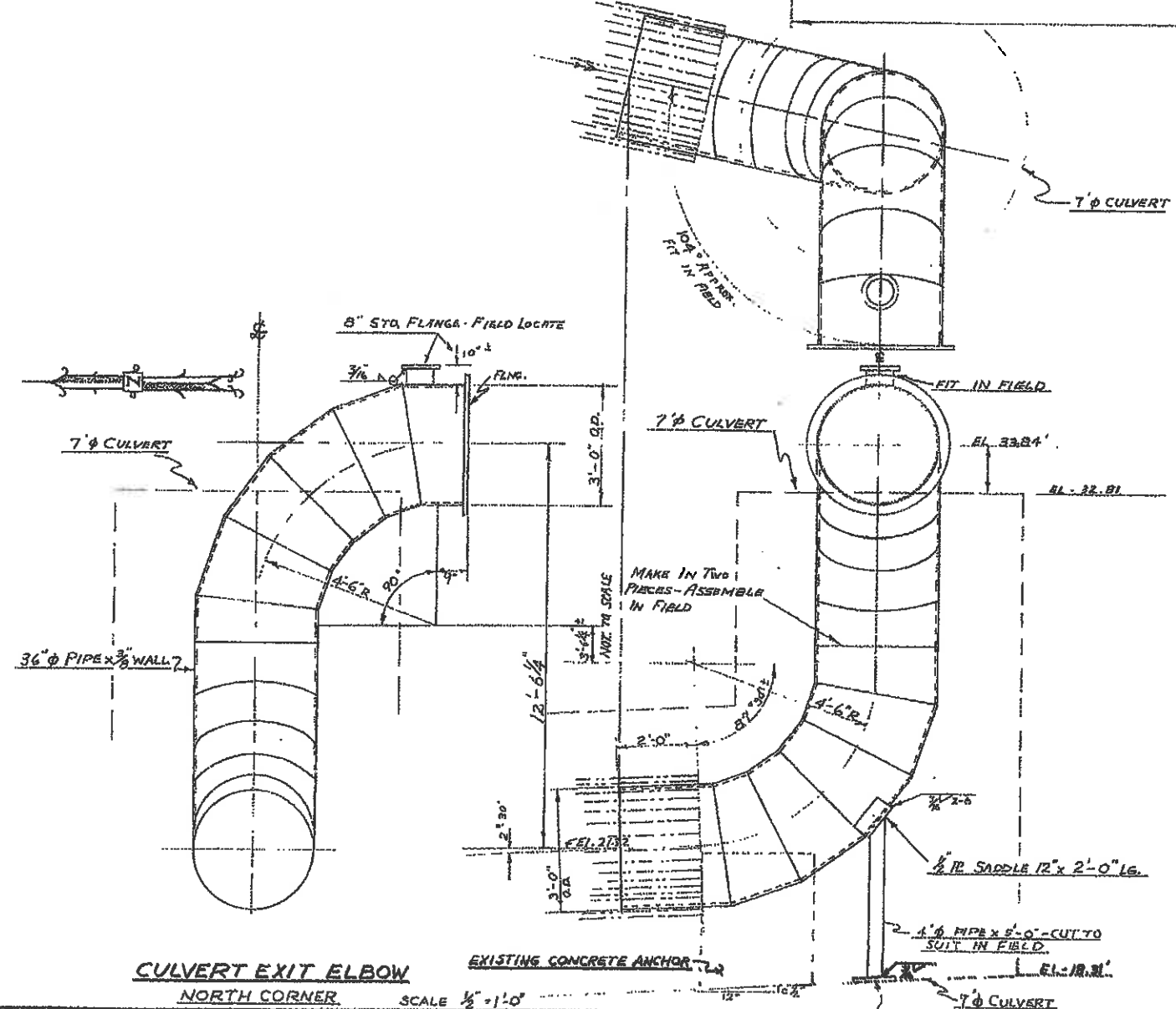
KAISER REFRACTORIES		COLUMBIANA OHIO, MEXICO, MISSOURI, OAKLAND, CALIFORNIA	
DIVISION OF KAISER ALUMINUM & CHEMICAL CORPORATION			
MOSS LANDING MAGNESIA PLANT			
36" SEAWATER INFLUENT LINES			
REPLACE NORTH & SOUTH VENT STANDPIPES			
Drawn <i>E.S.T.</i>	Scale <i>As Shown</i>	File No. <i>107</i>	Drawing No. <i>1434-7</i>
Checked	Date <i>3-20-78</i>		
Approved			

NO.	DATE	REVISION	BY	CHK'D	APP'D.



FLANGES PER "DETAIL" ON DWG. No. 1434-3
MANHOLES PER "DETAIL" ON DWG. No. 1434-3

NOTE - MANHOLES (3) IN APPROX. LOCATION SHOWN (185' ± APART).
LOCATE ON EAST SIDE (INSIDE RAD.) OF PIPE LINE.



"DETAIL" NON-STANDARD FLANGE
NOTE - USE THIS FLANGE ONLY IF NECESSARY TO
CONNECT TO EXISTING FLANGE AT NORTH
CULVERT EXIT ELBOW OR AT SOUTH
CORNER ELBOW.

KAISER REFRACTORIES <small>DIVISION OF KAISER ALUMINUM & CHEMICAL CORPORATION</small>		<small>COLUMBIANA OHIO, MEXICO MISSOURI OAKLAND CALIFORNIA</small>	
MOSS LANDING MAGNESIA PLANT 36" SEAWATER PIPELINE			
Drawn <i>McKee</i> Checked _____ Approved _____	Scale NOTED Date _____	File No. 107	Drawing No. 1434-4

NO.	DATE	REVISION	BY	CHK'D	APP'D.

SYD. FLANGES & MANHOLES	1434-3
ORIGINAL WOOD STAVE (1956 EXPANSION)	1434-1
REFERENCES	

KAISER REFRACTORIES

MOSS LANDING MAGNESIA PLANT

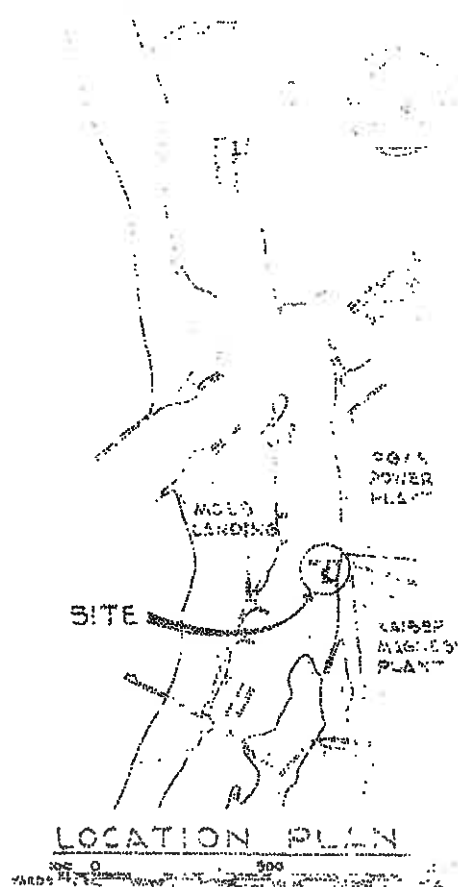
RELOCATION OF SEA WATER INTAKE

DRAWING LIST

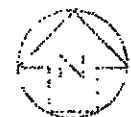
<u>DRAWING NO.</u>	<u>TITLE</u>
4401-2	SITE PLAN
4401-3	CONSTRUCTION SEQUENCE
4401-4	GENERAL ARRANGEMENT PLAN
4401-5	PILE PLAN
4401-6	DECK FRAMING PLAN
4401-7	SEA WATER LINES PLAN & DETAILS
4401-8	BEAM & SLAB SCHEDULES
4401-9	CRANE & STANDPIPE FRAMING
4401-10	CRANE FRAME DETAILS
4401-11	STANDPIPE DETAILS
4401-12	CONTROL HOUSE
4401-13	CONTROL HOUSE DETAILS
4401-14	PUMP SHELTER
4401-15	PUMP SHELTER DETAILS
4401-16	MANIFOLD PIPING DETAILS
4401-17	PIPE FLANGES
4401-18	WALKWAY DETAILS
4401-19	ELECTRICAL & PIPING LAYOUT
4401-20	ELECTRICAL DETAILS
4401-21	ELECTRICAL WIRING DIAGRAMS
4401-22	PUMP SERVICE PLATFORM

REFERENCE DRAWINGS

4401-1	DREDGING PLAN
1403-10	GENERAL PLOT PLAN
1445-1	SEA WATER LINE HIGHWAY CROSSING
1443-2	PILE DEPTHS DIAGRAM FOR PUMP PIER



LOCATION PLAN



VICINITY MAP

KAISER
REFRACTORIES

DIVISION OF KATYAK ALUMINUM & CHEMICALS
CORPORATION OF KATYAK ALUMINUM & CHEMICALS
CORPORATION OF KATYAK ALUMINUM & CHEMICALS

MOSS LANDING MAGNESIA
RELOCATION

1

set also in # 11/12

SECTION A-1

Scale 1" = 10'

SECTION B-1

Scale 1" = 10'

NOTES

1. All soundings and elevations are based on Mean Lower Low Water Datum (MLLW).
2. Spot soundings and bearings are based on magnetic declination 12° 30' East (1955) and corrected to true.
3. Soundings were made Oct 27, 1955 by John A. Smith and George Engstrom.

NOTE

Dredging work shown on this sheet was performed by another contractor. This sheet is included for information only.

KAISER
REFRACTORIES

COLUMBIANA OHIO, MEXICO MISSOURI, OAKLAND CALIFORNIA

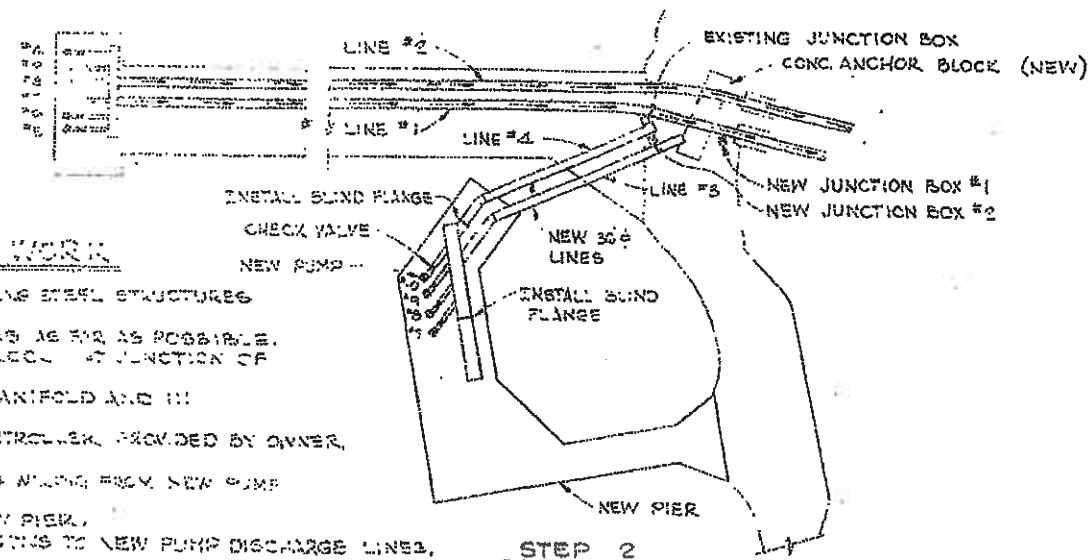
DIVISION OF KAISER ALUMINUM & CHEMICAL CORPORATION

MOSS LANDING MAGNESIA PLANT

RELOCATION OF SEA WATER

DREDGING PLAN

PLAN

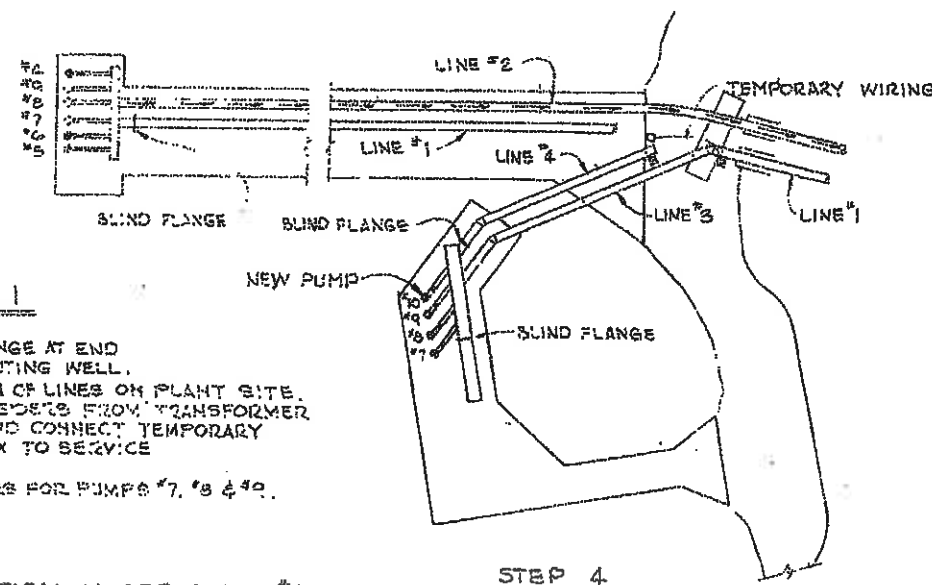


STEP 1 - PREPARATORY WORK

1. CONSTRUCT AND CONCRETE ANCHORING STEEL STRUCTURES & STAKEPOLE.
2. INSTALL NEW 30\"/>

STEP 2 - REDUCED OPERATION UNDER BOTH LINES

1. REMOVE EXIST. PUMPS & MOTORS #1, #8 & #9.
2. RE-INSTALL PUMPS AND MOTORS #7, #8 & #9 IN NEW PIER.



STEP 3 - SHUTDOWN No. 1

1. STOP ALL PUMPS.
2. DRAIN LINE #1 AND INSTALL BLIND FLANGE AT END NEAR MANIFOLD @ END NEAR DISTRIBUTING WELL.
3. EXTEND BOTH VENTS @ PORTION OF LINES ON PLANT SITE.
4. OWNER WILL CONNECT EXISTING FEEDERS FROM TRANSFORMER STATION TO NEW JUNCTION BOX #1 AND CONNECT TEMPORARY WIRING TO EXISTING JUNCTION BOX TO SERVICE 3 PUMPS ON TIMBER PIER.
5. OWNER WILL DISCONNECT CONTROLLERS FOR PUMPS #7, #8 & #9.

STEP 4 - REDUCED OPERATION UNDER LINE #2

1. OWNER WILL RESTART PUMPS ON LINE #2.
2. CUT EXISTING LINE #1 AND CONNECT TO NEW LINE #2.
3. OWNER TO CLEAN PORTION OF LINE #1 WHICH IS TO REMAIN IN USE.
4. ADD EXTRA BANDS TO END OF LINE #1 THRU 7\"/>

STEP 5 - SHUT DOWN NO. 2

1. STOP PUMPS ON LINE #2 ON TIMBER PIER.
2. DRAIN LINE #2 AND INSTALL BLIND FLANGE AT UPPER END NEAR DISTRIBUTING WELL.
3. REMOVE BLIND FLANGE FROM LINE #1 NEAR DISTRIBUTING WELL.
4. OWNER WILL DISCONNECT TEMPORARY WIRING FOR PUMPS #4, #5 & #6 BETWEEN NEW JUNCTION BOX #1 & EXISTING JUNCTION BOX.

STEP 6 - REDUCED OPERATION UNDER LINE #1

1. OWNER WILL START 4 PUMPS AT THE NEW PIER.
2. REMOVE EXIST. PUMPS, MOTORS, CONTROLLERS & CHECK VALVES #4, #5 & #6 (OWNER TO CLEAN & OVERHAUL CHECK VALVES) AND RE-INSTALL ON NEW PIER, (EXCEPT FOR FINAL CONNECTION TO HOT WIRING BUS IN NEW CONTROL HOUSE).
3. CUT EXISTING LINE #2 AND CONNECT TO NEW LINE #4.
4. OWNER TO CLEAN PORTION OF LINE #2 TO REMAIN IN USE.
5. ADD EXTRA BANDS TO LINE #4 THRU 7\"/>

STEP 7 - 3RD SHUTDOWN

1. STOP ALL PUMPS.
2. REMOVE BLIND FLANGES FROM END OF LINE #2 NEAR DISTRIBUTING WELL, FROM LINE #4, AND FROM NEW MANIFOLD.
3. OWNER WILL COMPLETE ELECTRICAL CONNECTION OF PUMPS #4, #5 & #6 TO BUS IN NEW CONTROL HOUSE.

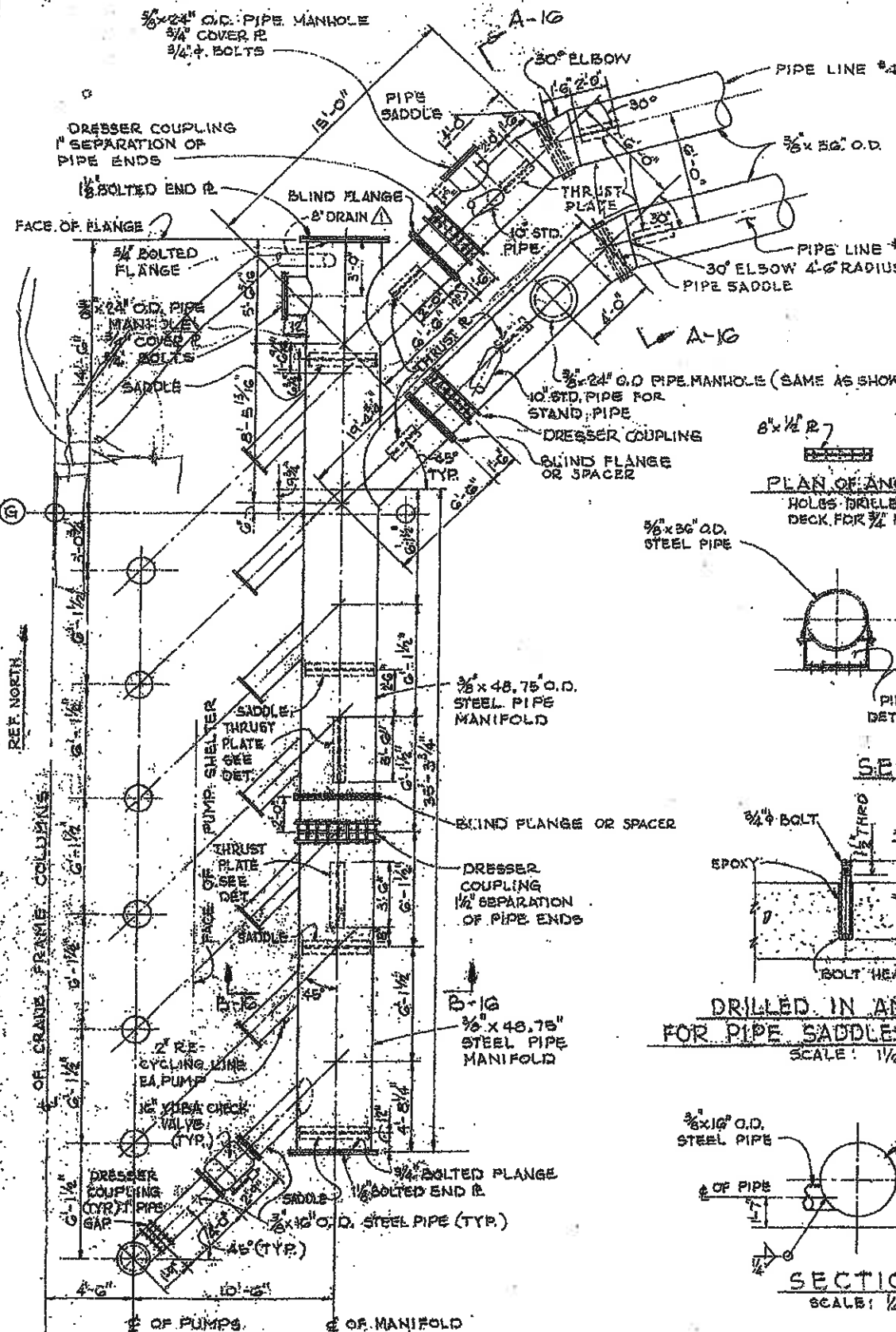
STEP 8 - FULL OPERATION

1. OWNER WILL START UP ALL PUMPS ON NEW PIER.
2. COMPLETE INSTALLATION OF RECYCLING LINE TO NEW PIER.
3. DEMOLISH TIMBER PIER.

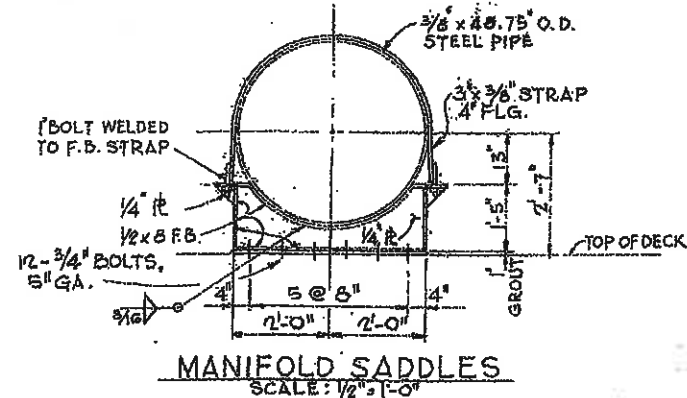
KAISER REFRACTORIES		COLUMBIANA OHIO, MEXICO, MISSOURI, OAKLAND, CALIFORNIA	
DIVISION OF KAISER ALUMINUM & CHEMICAL CORPORATION			
MOSS LANDING MAGNESIA PLANT			
RELOCATION OF SEA WATER INTAKE			
CONSTRUCTION SEQUENCE			
Drawn	2/18/68	Scale	AS SHOWN
Checked	2/18/68	Date	2/18/68
Approved	2/18/68	Project No.	612
REFERENCES			

NO.	DATE	REVISION	BY	CHKD.	APPR.
1	12/68	AS BUILT			

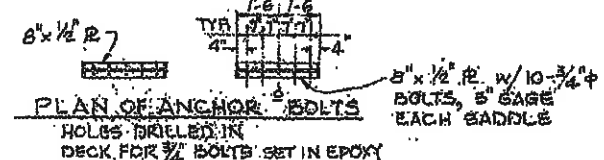
JOHN A. BLUME AND ASSOCIATES, ENGINEERS
612 HOWARD STREET
SAN FRANCISCO



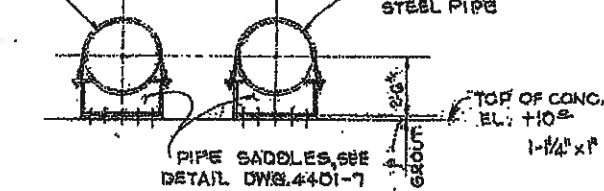
PLAN OF PUMPS & MANIFOLD PIPING
SCALE: 1/4" = 1'-0"



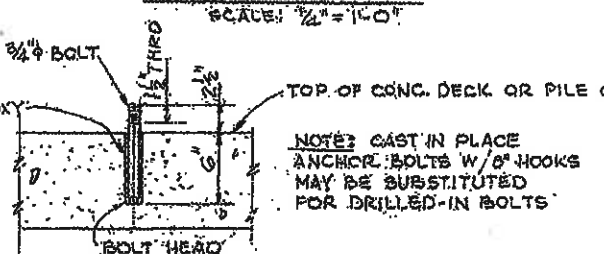
MANIFOLD SADDLES
SCALE: 1/2" = 1'-0"



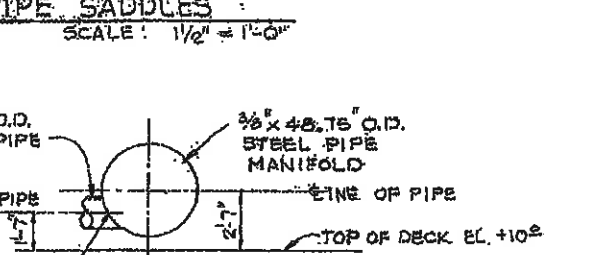
PLAN OF ANCHOR BOLTS
SCALE: 1/2" = 1'-0"



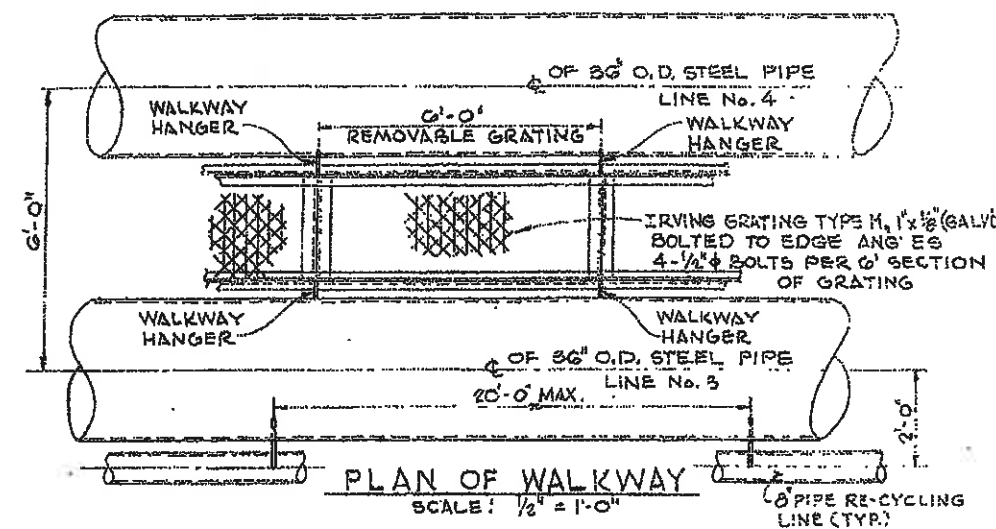
SECTION A-16
SCALE: 1/2" = 1'-0"



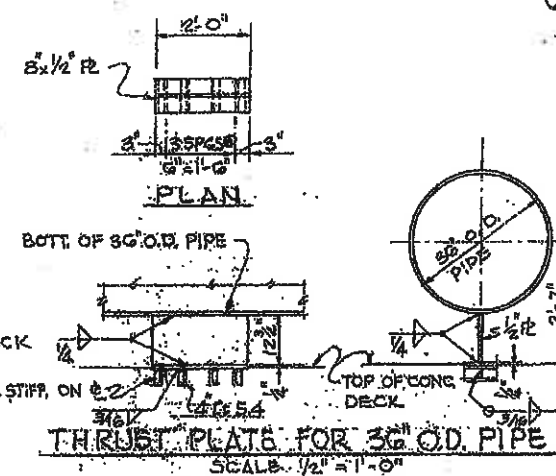
DRILLED IN ANCHOR BOLTS FOR PIPE SADDLES
SCALE: 1/2" = 1'-0"



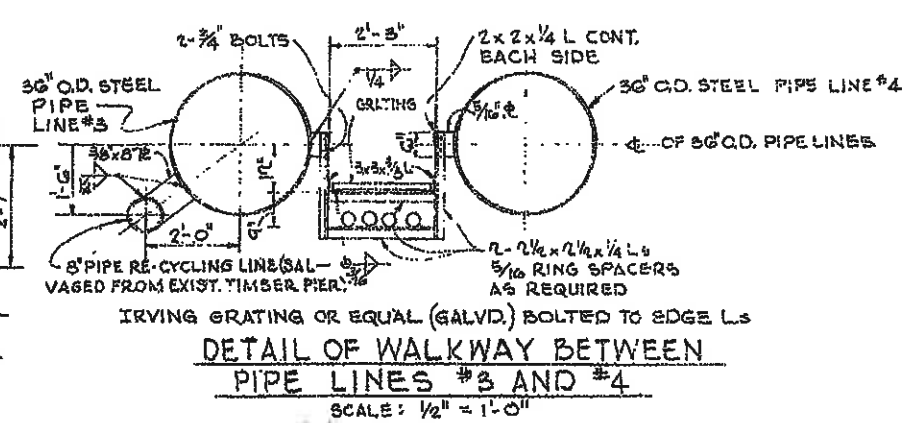
SECTION B-16
SCALE: 1/2" = 1'-0"



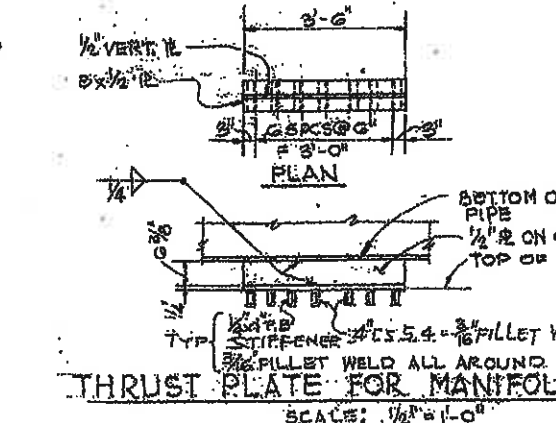
PLAN OF WALKWAY
SCALE: 1/2" = 1'-0"



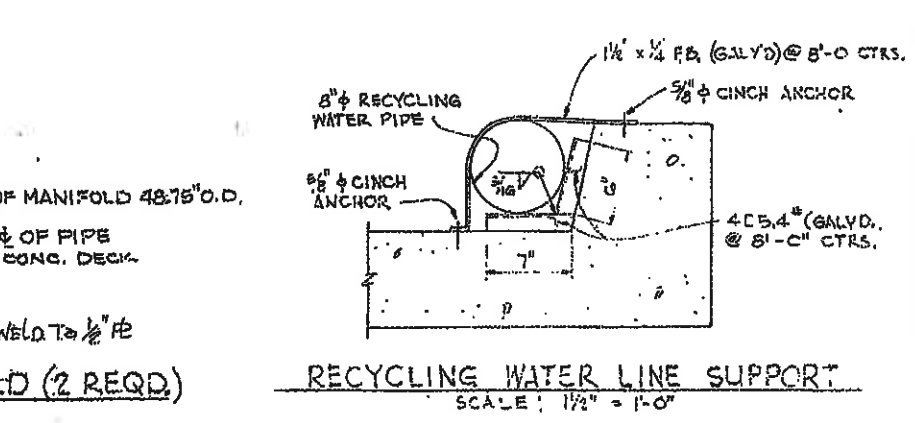
THRUST PLATE FOR 36 O.D. PIPE
SCALE: 1/2" = 1'-0"



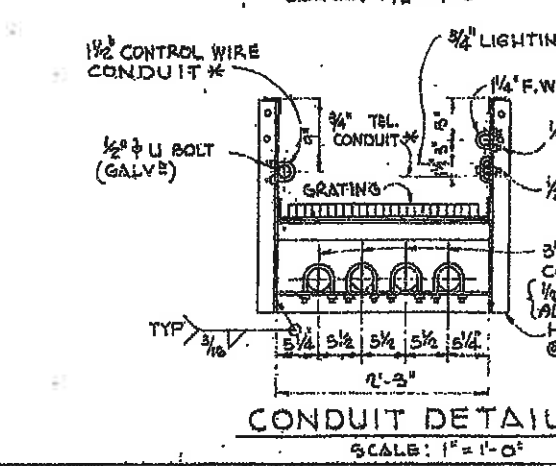
DETAIL OF WALKWAY BETWEEN PIPE LINES #3 AND #4
SCALE: 1/2" = 1'-0"



THRUST PLATE FOR MANIFOLD (2 REQD)
SCALE: 1/2" = 1'-0"



RECYCLING WATER LINE SUPPORT
SCALE: 1/2" = 1'-0"



CONDUIT DETAILS
SCALE: 1" = 1'-0"

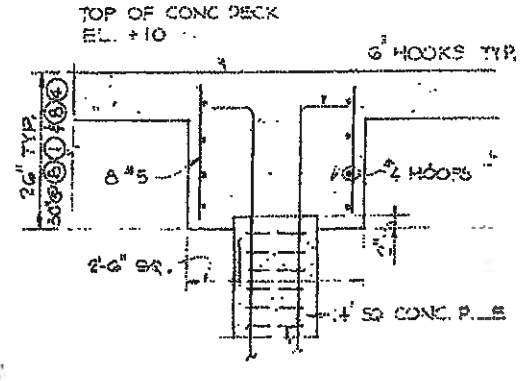
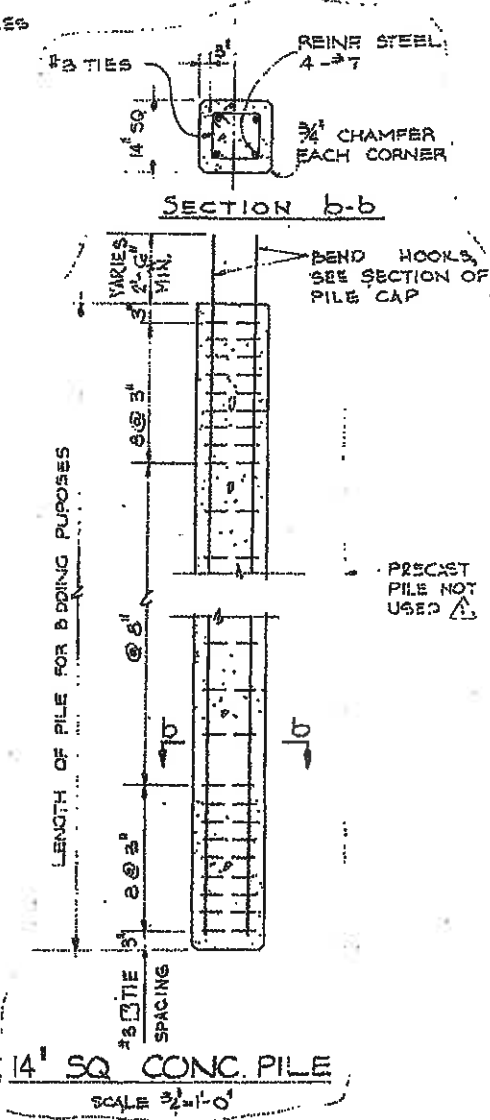
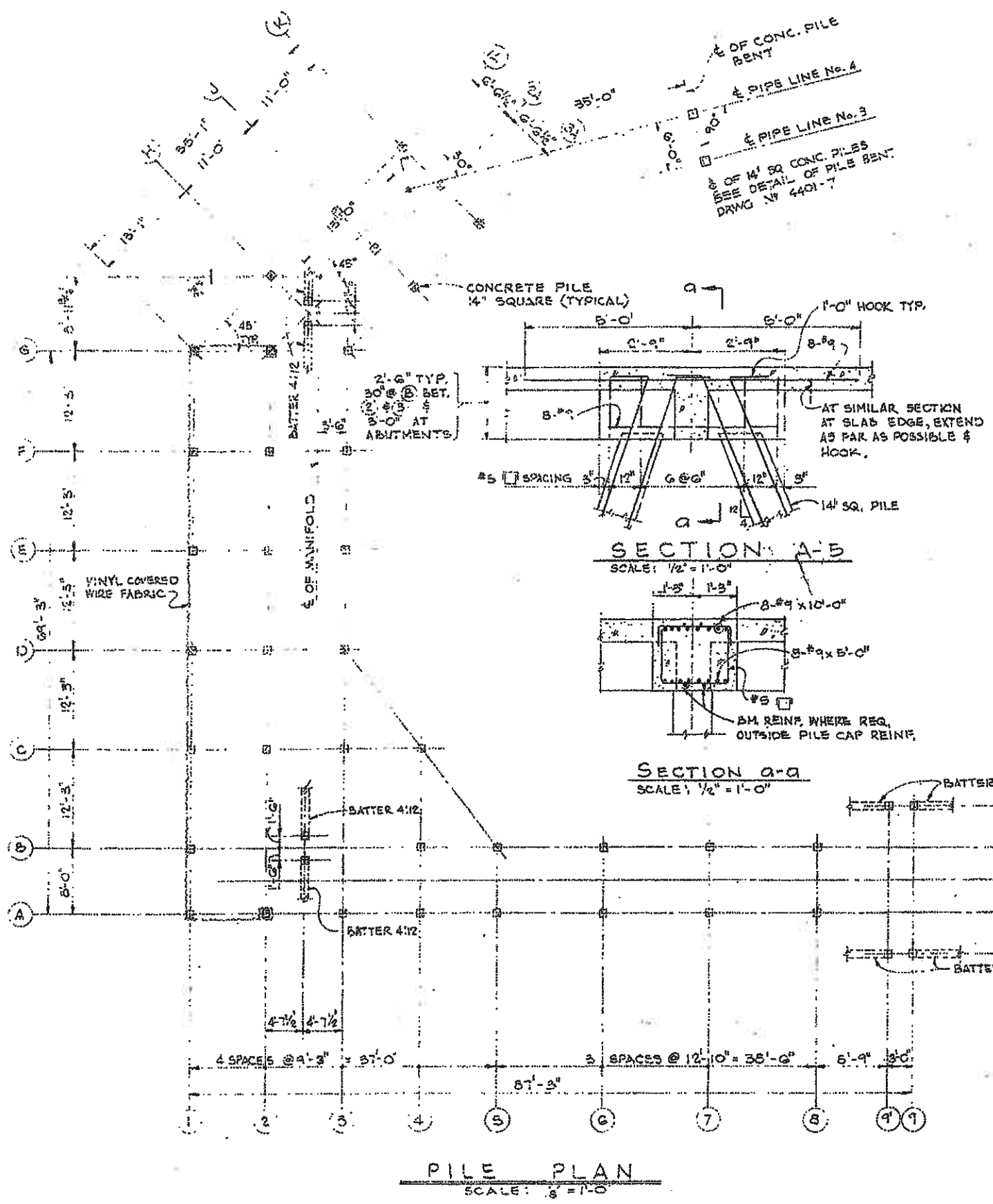
NOTE: ITEMS MARKED THUS * WILL BE FURNISHED AND INSTALLED BY OWNER.

KAISER REFRACTORIES COLUMBIANA OHIO, MEXICO MISSOURI, OAKLAND CALIFORNIA
DIVISION OF KAISER ALUMINUM & CHEMICAL CORPORATION

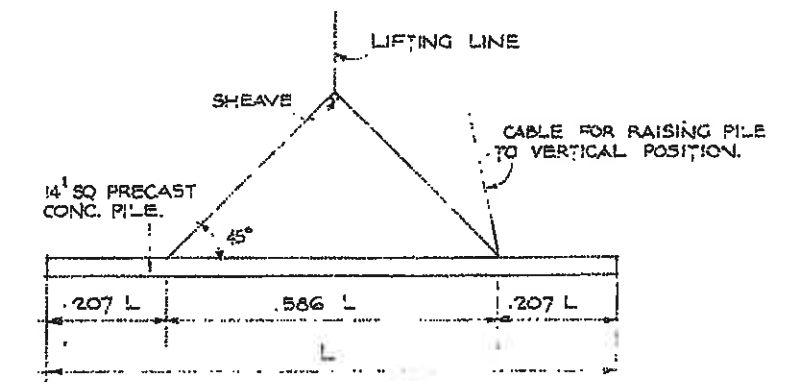
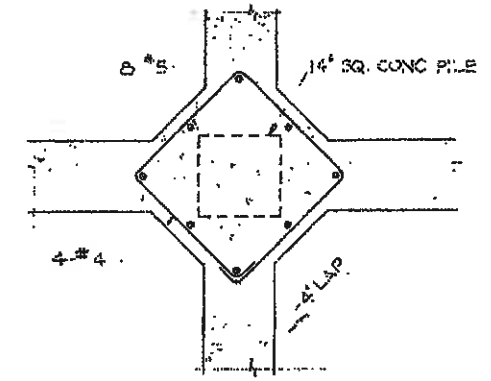
MOSS LANDING MAGNESIA PLANT
RELOCATION OF SEA WATER INTAKE
MANIFOLD PIPING & DETAILS

1/2/68	AS BUILT	RVB	JOHN A. BLUME AND ASSOCIATES, ENGINEERS 812 BOWARD STREET SAN FRANCISCO	REFERENCES	Drawn: J.E. Checked: H.H.G. Approved: [Signature]	Scale: AS NOTED	File No.	Drawing No.
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NOTE: FOR 10x42 STEEL BATTER PILES AT CONC. BLOCK SEE DWG. 4401-7



SECTION OF PILE CAP
SCALE: 3/4" = 1'-0"



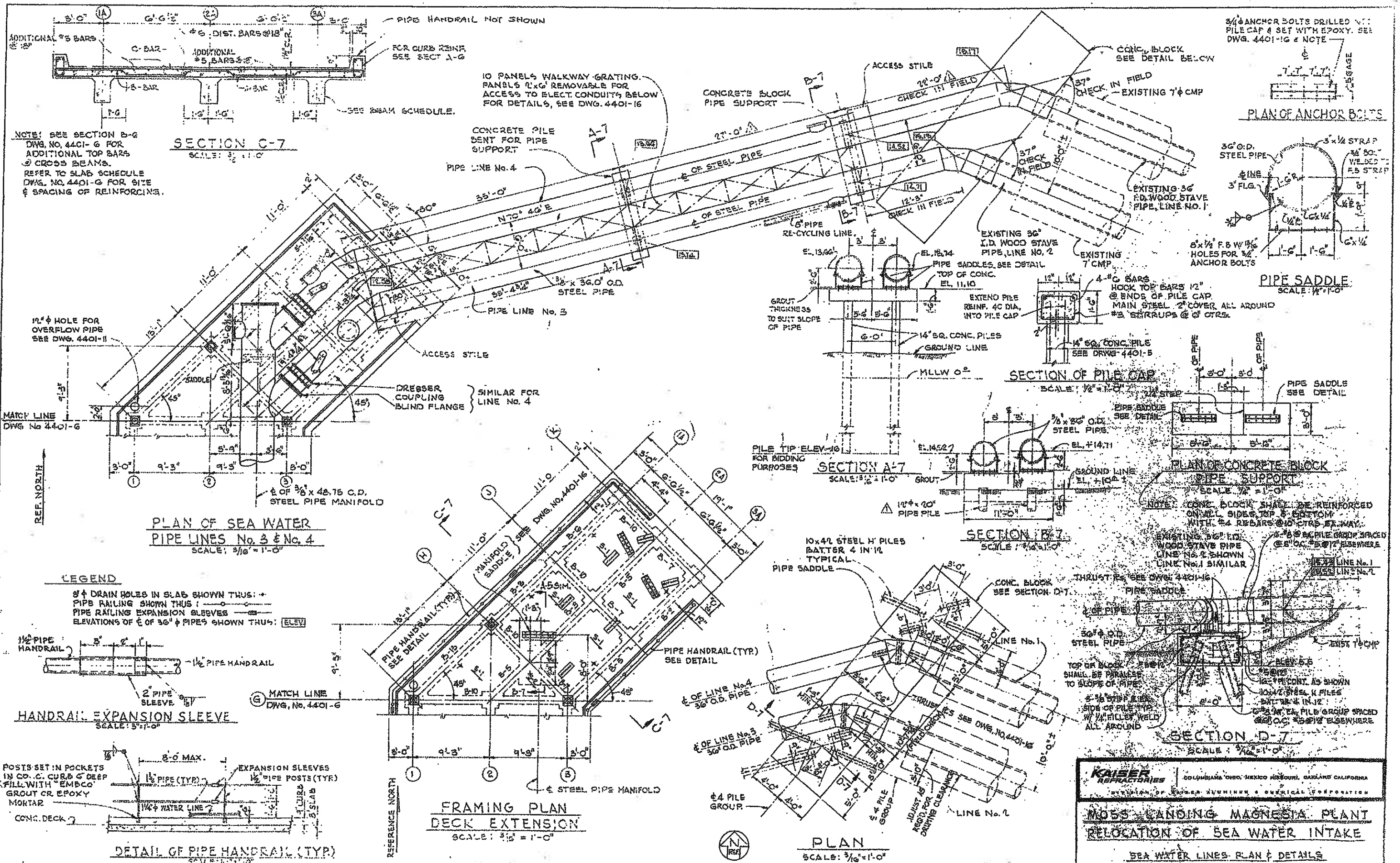
NOTES:
1. SEE DWG. 4401-7 FOR GENERAL ARRANGEMENT PLAN FOR FIELD LOCATION OF PIER.
2. PILES ON LINES 10 & 11 SHALL HAVE A TIP ELEVATION OF -82 FOR SIDDING PURPOSES. ALSO THE TIP ELEVATION OF PILES ON THE FOLLOWING LINES SHALL BE AS SHOWN BELOW FOR SIDDING PURPOSES.

LINE	ELEV.
5	-85
6	-84
7	-83
8	-82
9	-81

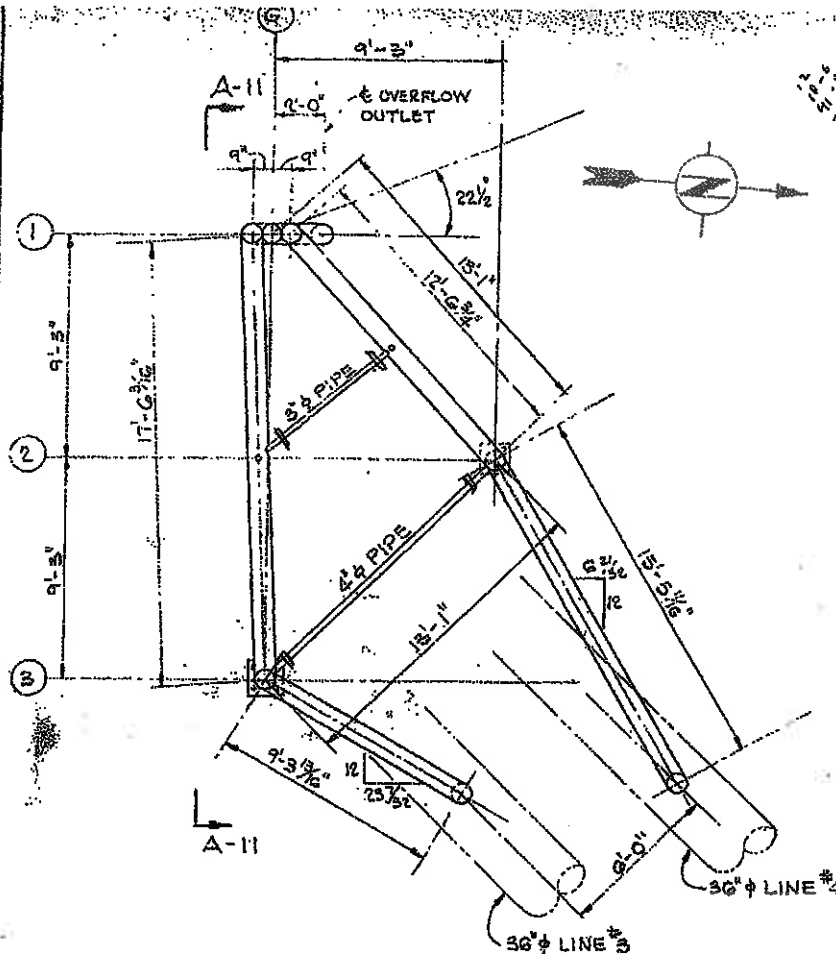
3. FOR TIP ELEVATION OF PILES IN 2 PILE BENT SEE DWG. NO. 4401-7

INITIAL TENSION = 42,150 LBS
EPR PRESTRESS = 750 PSI
12" SQ. PRESTRESSED PILE A
NO SCALE

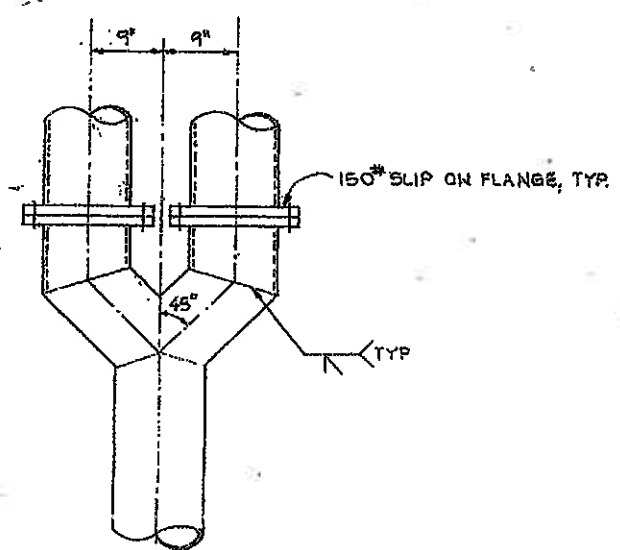
KAISER REFRACTORIES COLUMBIA OHIO, MEXICO MISSOURI, OAKLAND CALIFORNIA DIVISION OF KAISER ALUMINUM & CHEMICAL CORP. - PITTSBURGH	
MOSS LANDING MAGNESIA PLANT RELOCATION OF SEA WATER INTAKE	
PILE PLAN	
Drawn: R.D.E. Checked: J.H.G. Approved: [Signature]	Scale: AS NOTED Date: 1-1-68 File No.: 107 Drawing No.: 107-1



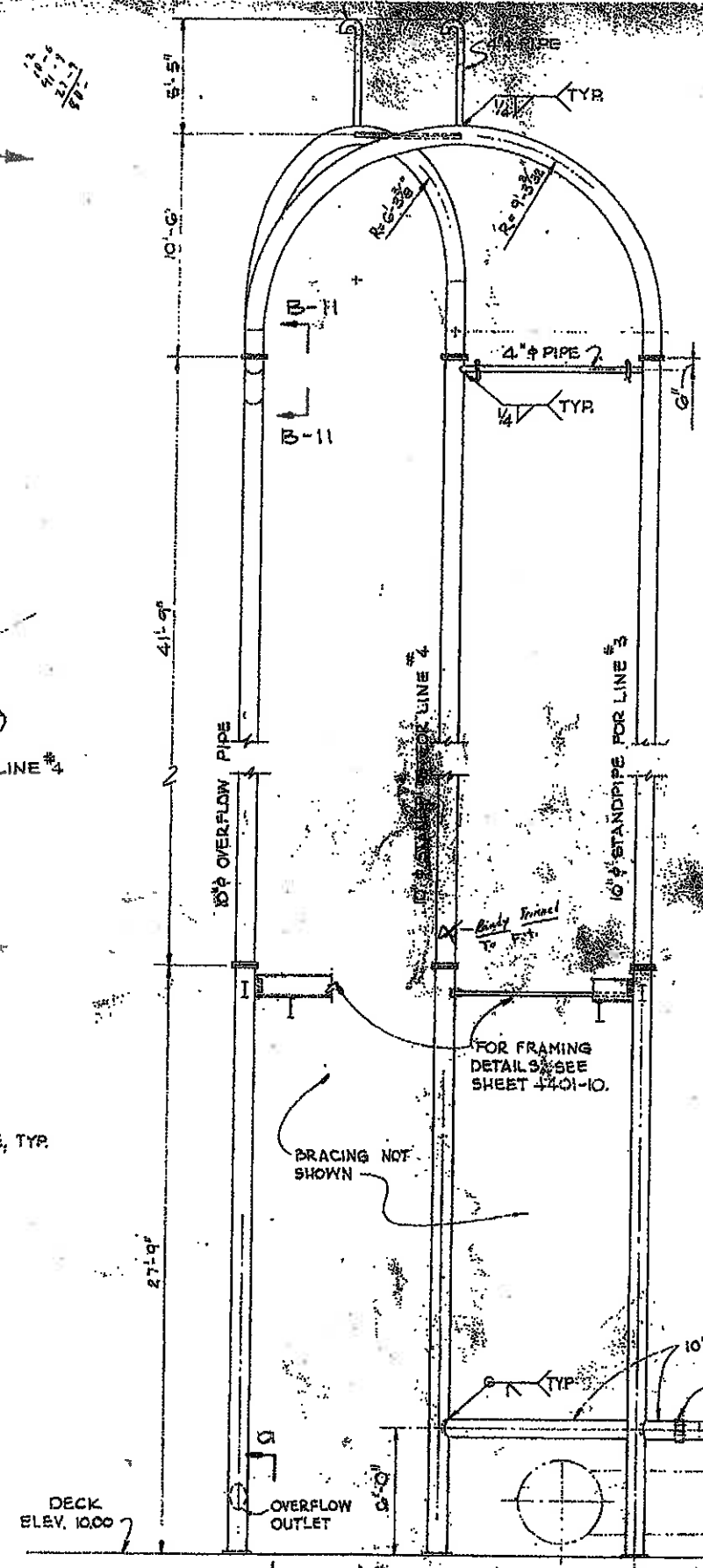
<div> <div>1/2/68</div> <div>AS-BUILT</div> <div>2/68</div> </div>	<div> <div>NO.</div> <div>DATE</div> <div>REVISION</div> <div>BY</div> <div>CHK'D</div> <div>APP'D</div> </div>	<div> <div>JOHN A. BLUME AND ASSOCIATES, ENGINEERS</div> <div>812 HOWARD STREET</div> <div>SAN FRANCISCO</div> </div>	<div> <div>Drawn</div> <div>Checked</div> <div>Approved</div> </div>	<div> <div>Scale</div> <div>Date</div> </div>	<div> <div>File No.</div> <div>Drawing No.</div> </div>



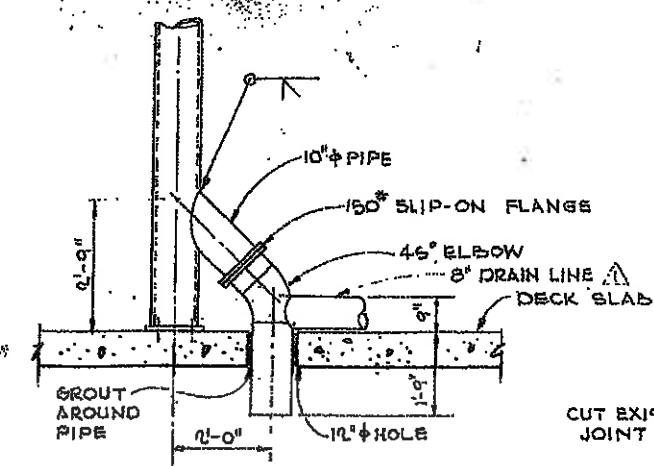
PLAN
SCALE: 1/4" = 1'-0"



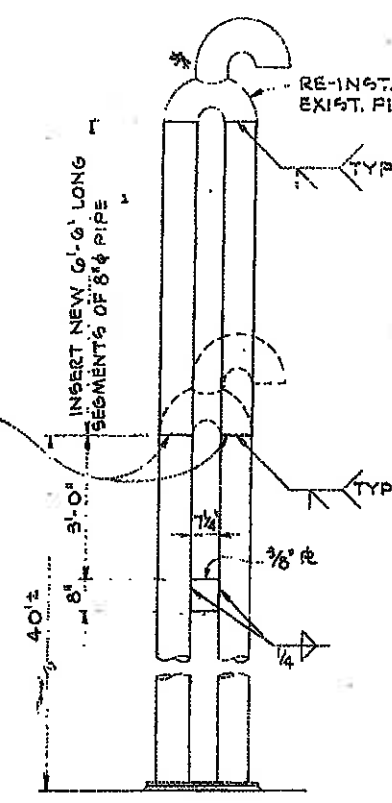
OVERFLOW PIPE WYE
ELEVATION B-II
SCALE: 1" = 1'-0"



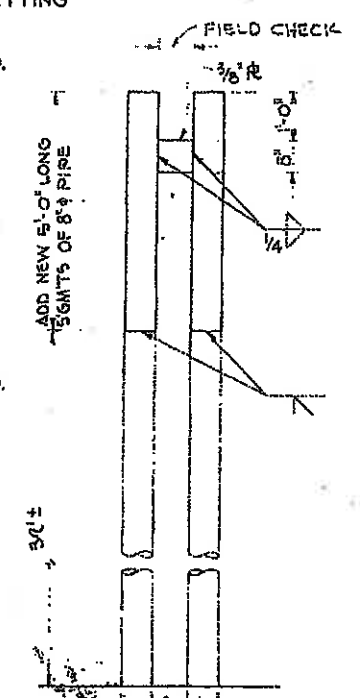
ELEVATION A-II
SCALE: 1/2" = 1'-0"



OVERFLOW OUTLET
SECTION A-A
SCALE: 1/2" = 1'-0"



EXTENSION OF
NORTH VENT
SCALE: 1/4" = 1'-0"

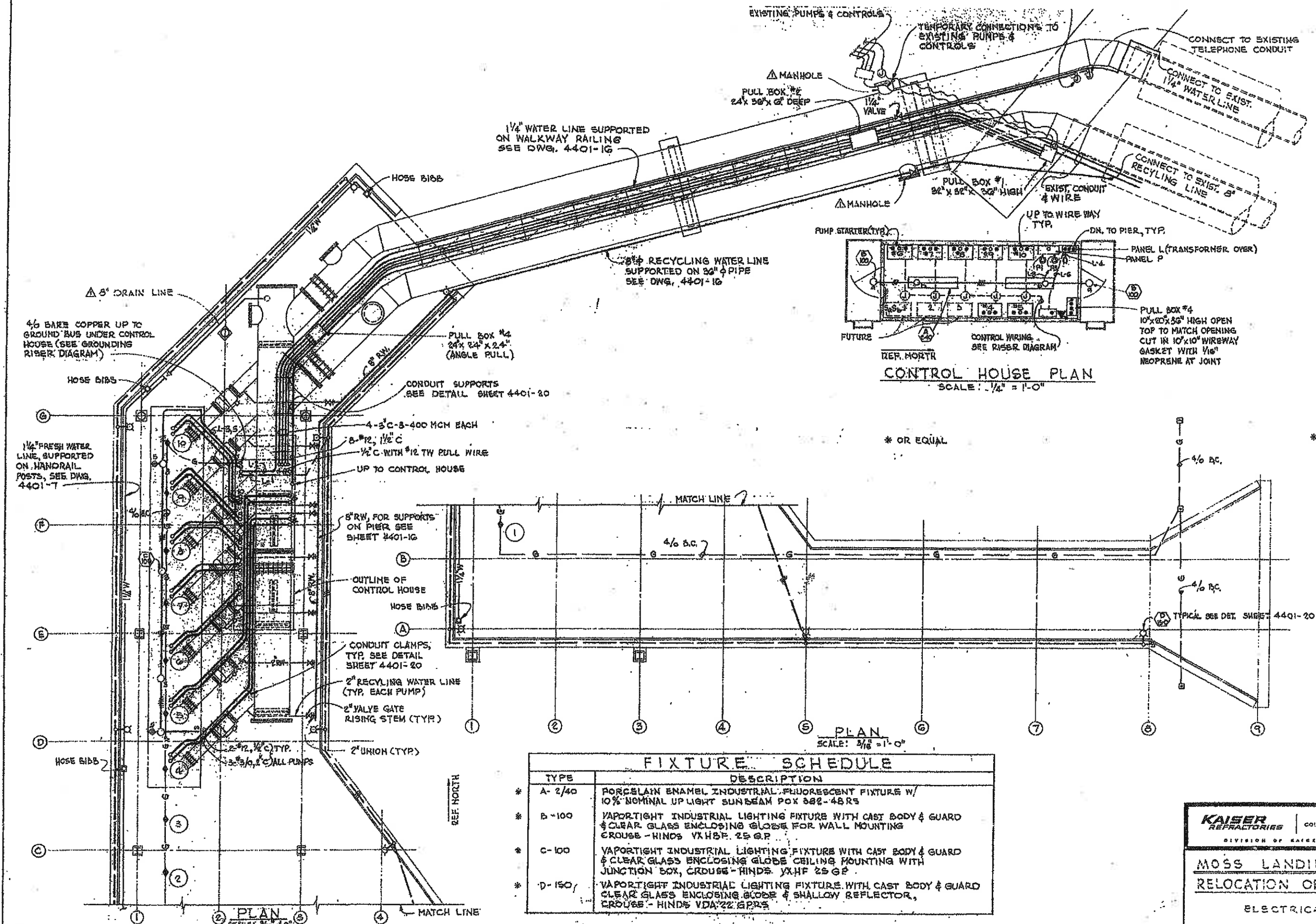


EXTENSION OF
SOUTH VENT
SCALE: 1/4" = 1'-0"

KAISER REFRACTORIES COLUMBIANA OHIO, MEXICO MINERALS, OAKLAND CALIFORNIA DIVISION OF KAISER ALUMINUM & CHEMICAL CORPORATION	
MOSS LANDING MAGNESIA PLANT RELOCATION OF SEA WATER INTAKE	
STANDPIPE DETAILS	
Drawn <u>R.E.</u> Checked <u>S.B.</u> Approved <u>[Signature]</u>	Scale <u>AS NOTED</u> Date <u>1/2/68</u>
File No. <u>107</u> Drawing No. <u>4401-11</u>	REFERENCES

NO.	DATE	REVISION	BY	CHKD.	APPD.
1	1/2/68	AS BUILT	RVB		

JOHN A. BROWN AND ASSOCIATES, ENGINEERS
632 HOWARD STREET, SAN FRANCISCO

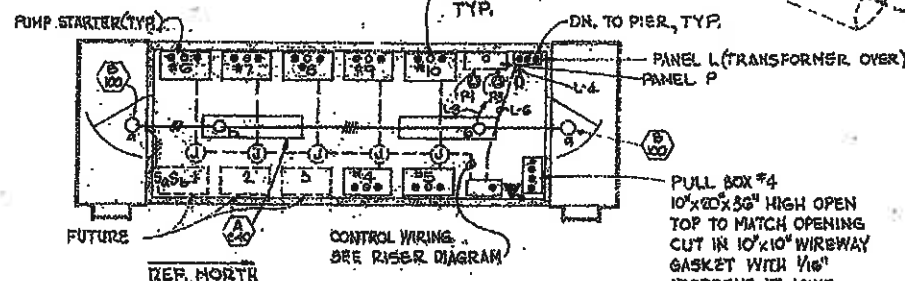


- FLUORESCENT LIGHT SYMBOL
- CEILING LIGHTING OUTLET
- WALL LIGHTING OUTLET
- LIGHTING FIXTURE WITH POLE
- S WALL SWITCH
- ⊕ CONVENIENCE RECEPTACLE
- ⊕ WELDING OUTLET
- ⊕ JUNCTION BOX, CAST METAL TYPE W/ GASKETED COVER
- ▲ TELEPHONE OUTLET
- CONDUIT GOING UP
- CONDUIT GOING DOWN
- CONDUIT EXPOSED (ALSO PIPING WHERE SHOWN)
- CONDUIT CAST IN SLAB
- G BARE COPPER GROUNDING CABLE IN SLAB OR BURIED AT 2'-0\"/>

NOTES

- * 1. SECURE CONDUIT TO STRUCTURAL MEMBERS WITH KORNS CONDUIT SUPPORTS
2. ALL PULL BOXES EXPOSED TO THE WEATHER SHALL HAVE CONDUIT HUBS WELDED TO ENCLOSURE FOR ALL CONDUIT ENTRANCES & SHALL HAVE 1/2\"/>

CONTROL HOUSE PLAN
SCALE: 1/4\"/>



PLAN
SCALE: 3/16\"/>

FIXTURE SCHEDULE

TYPE	DESCRIPTION
* A-2/40	PORCELAIN ENAMEL INDUSTRIAL FLUORESCENT FIXTURE W/ 10% NOMINAL UP LIGHT SUNBEAM POX 382-48 RS
* B-100	VAPORTIGHT INDUSTRIAL LIGHTING FIXTURE WITH CAST BODY & GUARD & CLEAR GLASS ENCLOSING GLOBE FOR WALL MOUNTING CROUSE-HINDS VXHSE 25 GP
* C-100	VAPORTIGHT INDUSTRIAL LIGHTING FIXTURE WITH CAST BODY & GUARD & CLEAR GLASS ENCLOSING GLOBE CEILING MOUNTING WITH JUNCTION BOX, CROUSE-HINDS VXHSE 25 GP
* D-150	VAPORTIGHT INDUSTRIAL LIGHTING FIXTURE WITH CAST BODY & GUARD CLEAR GLASS ENCLOSING GLOBE & SHALLOW REFLECTOR, CROUSE-HINDS VDA22 GPRS

KAISER REFRACTORIES COLUMBIA OHIO, MISSOURI, OAKLAND CALIFORNIA
DIVISION OF KAISER ALUMINUM & CHEMICAL CORPORATION

MOSS LANDING MAGNESIA PLANT RELOCATION OF SEA WATER INTAKE

ELECTRICAL & PIPING LAYOUT

NO.	DATE	REVISION	BY	CHKD	APPD
1	1/2/68	AS BUILT	RVB		

JOHN A. BEUME AND ASSOCIATES, ENGINEERS 612 HOWARD STREET, SAN FRANCISCO, CALIF. 94102		B. M. GRACISMAN & T. R. SIMONSON CONSULTING ENGINEERS SAN FRANCISCO 94102	
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Drawn	RVB	Scale	AS SHOWN	File No.		Drawing No.	
Checked	E.V.H.						
Approved	RVB	Date					