ADDENDUM NO. 1 Date: April 5, 2024
TO THE CONTRACT DOCUMENTS Project No.: W8Y09802
for the construction of
Natomas Mutual Water Company
Elkhorn Pumping Plant Replacement

To All Planholders and/or Prospective Bidders:

Questions and Answers
(no changes, additions, and/or deletions to the Contract Documents):

Question: Does the galvanized structural steel for the pumping plant platform get field painted?
Response: Please refer to Section 05 50 00, Metal Fabrications, Paragraph 2.08.D.2.

Question: Section 01 30 00 requires the contractor to stop work or not start work due to the presence of various species including Swainson's Hawk, Garter Snakes and other nesting birds in or near the work area. If the work is delayed or cannot start due to the presence of any of the mentioned species, would the subsequent delay be considered excusable and compensable under the contract?
Response: Please refer to Section 01 30 00, Environmental Compliance, Paragraph 3.11.D, and Section 00 72 00, General Conditions, Paragraph 4.05.

Question: Please clarify who is responsible to hire and pay for the designated biologist that is a requirement in the streambed alteration agreement. It is unclear whether the contractor or owner will hire and pay the biologist.
Response: Owner will provide designated biologist; please refer to changes, additions, and/or deletions made herein.

Question: Please clarify if there is a maximum bid amount for mobilization.
Response: No maximum specified; please refer to Section 01 29 00, Measurement and Payment, Paragraph 1.02.E.

Question: A Builder’s Risk deductible of $10K will be very difficult to get in today’s market. A deductible in the range of $250,000 is more in line with today’s market and for the size of this required builder’s risk limits. Please confirm that the Contractor may obtain a reasonable deductible that is available in today’s market?
Response: Please refer to changes, additions, and/or deletions made herein.

Question: The Contractor is a large, sophisticated entity whose corporate policies insure all operations in the United States. Providing complete copies of corporate policies are onerous and an unnecessary requirement. Per market precedence,

certificates of insurance with applicable endorsements should suffice. Please confirm that this is acceptable.

Response: Refer to Section 00 72 00, General Conditions, Article 6.02.C. Certificates of insurance with all the appropriate endorsements should suffice.

Question: The insurance requirements for subcontractors will be problematic if they can't use umbrella/excess policy limits to meet the primary requirements and the subcontractors won't be able to provide $10M of umbrella/excess limits. Could the Contractor establish the insurance limits for the subcontractors based on the subcontractor's scope of work?

Response: Please refer to changes, additions, and/or deletions made herein.

The following changes, additions, and/or deletions are hereby made a part of the Contract Documents for the construction of Natomas Mutual Water Company Elkhorn Pumping Plant Replacement dated February 2024 as fully and completely as if the same were fully set forth therein:

A. PART 1 — PROCUREMENT REQUIREMENTS

Section 00 41 13, Bid Form (Stipulated Prices Basis)

1. REPLACE this section in its entirety with the revised section attached.

B. PART 2 — CONTRACTING REQUIREMENTS

Section 00 73 00, Supplementary Conditions

1. Page 3, DELETE Paragraph 5.06.B. in its entirety and REPLACE with the following:

   5.06.B. Existing piping, equipment, structural components, building materials, and piles to be demolished are suspected of containing hazardous coatings and materials. Contractor shall include all costs to sample, manage, transport, and dispose of potential hazardous coatings and materials in accordance with local, state, and federal laws.

2. Page 5, ADD Paragraph 6.03.E.2. as follows:

   6.03.E.2. Subcontractor Excess or Umbrella Liability:

a) General Aggregate	$5,000,000
b) Each Occurrence	$5,000,000

3. Page 7, DELETE Paragraph 6.05.A.15. in its entirety and REPLACE with the following:

   6.05.A.15. Property insurance furnished under this Contract shall have deductibles no greater than $250,000 for direct physical loss in any one occurrence.

4. Page 16, DELETE Paragraph 15.01.D.1. in its entirety and REPLACE with the following:

   15.01.D.1. Contractor acknowledges that the Project will be paid out of grant funds from agencies of the State of California and the Federal Bureau of Reclamation. Upon approval of each Application for Payment by Engineer, Owner will promptly submit the approved Application for Payment to the funding agencies. Progress payments will be disbursed within 60 days of the submittal of the Application for Payment to the funding agencies. Recognizing that the timely disbursement of grant funding is outside the control of Owner once it is submitted to the funding agencies, Contractor waives any rights it may have under California Civil Code §8800 relating to progress payments.

C. PART 3 — SPECIFICATIONS

Section 01 29 00, Payment Procedures

1. Page 3, DELETE Table in Paragraph 1.05.F. in its entirety and REPLACE with the following:

Item	Method of Measurement
CY	Cubic Yard – Field Measure by Engineer
LB	Pound(s) – Weight Measure by Scale
LF	Linear Foot – Measured by Engineer
TON	Ton—Weight Measure by Scale (2,000 pounds)

2. Page 4, DELETE Table in Paragraph 1.06.C. in its entirety and REPLACE with the following:

Item	Description
Steel Piles	24-inch steel pipe pile material and installation of additional length required when tip elevation necessary to achieve capacity is deeper than estimated pile tip elevation for required ultimate driving resistance indicated.
Asbestos-Containing Material Abatement	Onsite management, transport, and disposal.
Lead Based Paint Abatement	Onsite management, transport, and disposal.
Treated Wood Waste Abatement	Onsite management, transport, and disposal.

Section 01 45 00, Permits

1. Page 9, ADD Paragraph 1.03.E.3.c. as follows:

    c. Designated Biologist will be provided by the Owner to fulfill those specific duties and responsibilities of the Streambed Alteration Agreement.

2. Page 9, ADD Paragraph 3.01.A.2. as follows:

    2. Reclamation District No. 1000: Temporary Use Permit and Hold Harmless Agreement.

3. ADD new Supplement 2, Reclamation District No. 1000: Temporary Use Permit and Hold Harmless Agreement, attached; immediately following Supplement 1.

Section 02 41 00, Demolition

1. REPLACE this section in its entirety with the revised section attached.

Section 02 82 00, Asbestos Removal

1. ADD new section in its entirety with the attached.

Section 02 83 00, Lead Paint Removal

1. ADD new section in its entirety with the attached.

Section 31 23 23, Fill and Backfill

1. REPLACE this section in its entirety with the revised section attached.

E. PART 4 — DRAWINGS

1. Drawing 000-G-0006, STRUCTURAL NOTES 2, REPLACE entire Drawing with attached revised Drawing 000-G-0006, STRUCTURAL NOTES 2.

2. Drawing 050-X-1001, DEMOLITION PLAN AND SECTION, REPLACE entire Drawing with attached revised Drawing 050-X-1001, DEMOLITION PLAN AND SECTION.

3. Drawing 050-C-1001, OVERALL SITE PLAN AND SURVEY CONTROL, REPLACE entire Drawing with attached revised Drawing 050-C-1001, OVERALL SITE PLAN AND SURVEY CONTROL.

4. Drawing 050-C-1002, SITE PLAN, REPLACE entire Drawing with attached revised Drawing 050-C-1002, SITE PLAN.

5. Drawing 050-C-3001, SECTIONS, REPLACE entire Drawing with attached revised Drawing 050-C-3001, SECTIONS.

6. Drawing 050-C-5001, DETAILS, REPLACE entire Drawing with attached revised Drawing 050-C-5001, DETAILS.

7. Drawing 050-YP-1001, DISCHARGE PIPING PLAN AND PROFILE, REPLACE entire Drawing with attached revised Drawing 050-YP-1001, DISCHARGE PIPING PLAN AND PROFILE.

8. Drawing 800-E-1001, SITE PLAN, REPLACE entire Drawing with attached revised Drawing 800-E-1001, SITE PLAN.

9. Drawing 800-E-2003, TRANSFORMER AND SWITCHBOARD PLAN, REPLACE entire Drawing with attached revised Drawing 800-E-2003, TRANSFORMER AND SWITCHBOARD PLAN.

All Bidders shall acknowledge receipt and acceptance of this Addendum No. 1 in the Bid Form or by submitting the Addendum with the bid package. Bid Forms submitted without acknowledgment or without this Addendum will be considered in nonconformance.

Jacobs

Project Manager

Appended hereto and part of Addendum No. 1:

A. Section 00 41 13, Bid Form (Stipulated Prices Basis)
B. Section 01 45 00, Permits, Supplement 2, Reclamation District No. 1000: Temporary Use Permit and Hold Harmless Agreement
C. Section 02 41 00, Demolition
D. Section 02 82 00, Asbestos Removal
E. Section 02 83 00, Lead Paint Removal
F. Section 31 23 23, Fill and Backfill
G. Revised Drawing 000-G-0006
H. Revised Drawing 050-X-1001
I. Revised Drawing 050-C-1001
J. Revised Drawing 050-C-1002
K. Revised Drawing 050-C-3001
L. Revised Drawing 050-C-5001
M. Revised Drawing 050-YP-1001
N. Revised Drawing 800-E-1001
O. Revised Drawing 800-E-2003

END OF ADDENDUM NO. 1

NOTE TO BIDDER: Use typewriter or ink for completing this Bid Form.

BID FORM
(STIPULATED PRICE BASIS) [ADD NO. 1]

1. BID RECIPIENT

1.1. This Bid is submitted to:

Owner: Natomas Mutual Water Company

Address: 2601 West Elkhorn Boulevard, Rio Linda, CA 95673

Project Identification: Elkhorn Pumping Plant Replacement

1.2. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2. BIDDER'S ACKNOWLEDGEMENTS

2.1. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

3. BIDDER'S REPRESENTATIONS

3.1. In submitting this Bid, Bidder represents that:

3.1.1. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

Addendum No.	**Addendum Date**

(Bidder shall insert number of each Addendum received.)

3.1.2. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

3.1.3. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

3.1.4. Bidder has carefully studied: i) reports of explorations and tests of subsurface conditions at or contiguous to the Site and drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) which have been identified in Paragraph 5.03 of the Supplementary Conditions as containing reliable “technical data,”; and ii) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph 5.06 of the Supplementary Conditions as containing reliable “technical data.”

3.1.5. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder’s safety precautions and programs.

3.1.6. Based on information and observations referred to in paragraph above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) Bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

3.1.7. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

3.1.8. Bidder has given Engineer written notice of conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

3.1.9. The Bidding Documents are generally sufficient to indicate and convey understanding of terms and conditions for the performance of the Work for which this Bid is submitted.

4. BIDDER'S CERTIFICATION

4.1. Bidder certifies:

4.1.1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization or corporation;

4.1.2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

4.1.3. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

4.1.4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this paragraph:

4.1.4.1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

4.1.4.2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish Bid prices at artificial noncompetitive levels, or (c) to deprive Owner of the benefits of free and open competition;

4.1.4.3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, noncompetitive levels; and

4.1.4.4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

4.1.5. Required sales and use taxes are included in the stated Bid prices for the Work unless provision is made herein for the Bidder to separately itemize the estimated amount of sales tax or if Instructions to Bidders state Owner is tax exempt.

4.1.6. In accordance with California Public Contract Code 6101 Bidder has not been convicted of violating a state or federal law respecting the employment of undocumented aliens in preceding 5 years.

4.1.7. In accordance with California Labor Code 1777.1, neither Bidder nor its Subcontractors have violated the statutes regarding apprentices for 1 year for the first violation and up to 3 years for the second or subsequent violations.

4.1.8. In accordance with Public Works Reforms (SB854), all Bidders who Bid or work on a public works project must be registered with the State of California Department of Industrial Relations.

4.1.9. In accordance with California Public Contract Code 10162, neither Bidder nor any employee with a proprietary interest in Bidder, has ever been disqualified, removed, or otherwise prevented from bidding on or completing a federal, state or local government project because of a violation of law or a safety regulation.

4.1.10. In accordance with California Public Contract Code 10232, Bidder has no more than one final, unappealable finding of contempt of court by a federal court in last 2 years because of Bidder's failure to comply with a National Labor Relations Board order.

4.1.11. In accordance with California Public Contract Code 10285.1, Bidder has not been convicted of violating state or federal antitrust law within the last 3 years.

5. BASIS OF BIDS

5.1. Bidder shall complete the Work in accordance with the Contract Documents for the following price(s):

5.2. Lump Sum Bid Price:

Item No.	Item Description	Lump Sum Bid Price
1.	Mobilization.	$
2.	Hazardous Materials Survey of structures and components scheduled for demolition.	$
3.	Demolition.	$

Item No.	Item Description	Lump Sum Bid Price
4.	Mechanically cleaned wedgewire fish screens described in Section 35 79 19, Mechanically Cleaned Wedgewire Fish Screens.	$
5.	Excepting only work covered in Bid Items 1 through 4 above and Unit Price Bid Items below, all Work required to be provided under the Contract Documents.	$
Lump Sum Bid Price (Total of Above)		$

5.3. Unit Price Bid Schedule:

5.3.1. Unit prices have been computed in accordance with Paragraph 13.03.C of the General Conditions.

5.3.2. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

Unit Price Bid Schedule					
Item No.	**Description**	**Estimated Quantity**	**Unit**	**Bid Unit Price**	**Extended Bid Unit Price**
1.	Steel Piles; 24-inch steel pipe pile material and installation of additional length required when tip elevation necessary to achieve capacity is deeper than estimated pile tip elevation for required ultimate driving resistance indicated.	40	LF	$	$
2.	Asbestos-Containing Material Abatement; onsite management, transport, and disposal.	15	CY	$	$

Unit Price Bid Schedule					
Item No.	**Description**	**Estimated Quantity**	**Unit**	**Bid Unit Price**	**Extended Bid Unit Price**
3.	Lead Based Paint Abatement; onsite management, transport, and disposal.	500	LB	$	$
4.	Treated Wood Waste Abatement; onsite management, transport, and disposal.	25	TON	$	$
Total of Extended Bid Unit Prices					$

5.4. Base Bid Summary:

5.4.1. Lump Sum Bid Price: $_____

5.4.2. Total Extended Unit Bid Prices: $_____

5.4.3. Base Bid (Total of Above): $_____

6. TIME OF COMPLETION

6.1. Bidder agrees the Work, and any Milestones specified in Section 01 31 13, Project Coordination, will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates, or within the number of calendar days, indicated in the Agreement.

6.2. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work, and any specified Milestones, within the Contract Times.

7. ATTACHMENTS TO THIS BID

7.1. The following documents are submitted with and made a condition of this Bid:

7.1.1. Required Bid security in the form of Bid bond.

7.1.2. List of Project References.

7.1.3. List of Proposed Subcontractors.

7.1.4. Noncollusion Affidavit.

7.1.5. Nondiscrimination Clause.

7.1.6. Drug-Free Workplace Certification.

7.1.7. Certification Regarding Lobbying.

7.1.8. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion.

8. DEFINED TERMS

8.1. The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

9. BID SUBMITTAL

9.1. This Bid submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By (signature): _____

Doing business as: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner – attach evidence of authority to sign)

Name *(typed or printed)*: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): ____

By: _____
(Signature – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____ (CORPORATE SEAL)

Attest: _____
(Signature of Corporate Secretary)

Date of Qualification to do business in California is:
_____.

A Joint Venture

Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of joint venture partner – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address: _____

_____

Phone No.:_____ FAX No.: _____

E-mail: _____

SUBMITTED on _____, 20_____

California Contractor's License No.: _____

Contractor's License Class (where applicable): _____

California DIR Public Works Contractor Registration No.: _____

Bidder certifies that it is a California company as defined in Public Contract Code 6107.

_____ Yes _____ No

Bidder's principal place of business is in California:

_____ Yes (resident) _____ No (nonresident)

END OF SECTION

TEMPORARY USE PERMIT AND HOLD HARMLESS AGREEMENT
Reclamation District NO. 1000 [ADD NO. 1]
Permit No.

Permittee:	(Named Contractor)
Location:	Sacramento River Levee at Natomas Central Mutual Water Company Elkhorn Pumping Plant
Purpose:	Access and Temporary Use for Construction Trailers, Storage of Equipment and Materials and Utility Connection
Term:	June 1, 2024 to November 1, 2024

This Permit grants to Permittee the temporary right to access and use a portion of the property and levee easement(s) held by Reclamation District No. 1000 (District) and Sacramento Area Flood Control Agency (SAFCA) in the area depicted on Exhibit "A" attached hereto (the "site") for construction trailers, storage of equipment and materials and utility connections as part of the Natomas Central Mutual Water Company (NCMWC) reconstruction project for the Elkhorn Pumping Plant including construction of a temporary ramp on the existing levee. This right is subject to the following terms and conditions:

1. The permission granted under this Permit is strictly limited to the term and uses stated above.

2. The District reserves the right to rescind this Permit at any time by written notice to Permittee.

3. This permit does not include the right to pass over property not belonging to or under the control of District. Permittee shall obtain any necessary approvals from other landowners or regulatory agencies.

4. Maximum speed limit on levees is ten (10) miles per hour.

5. Permittee shall provide continuous access for District personnel, vehicles and equipment at all times to allow for the District to conduct its operation and maintenance responsibilities.

6. Permittee agrees to exercise reasonable care to avoid damage to District facilities and shall repair any damage caused by Permittee, its agents, employees or subcontractors as directed by the District. Upon completion of the work for which the permit was obtained or upon its expiration, Permittee shall fully restore the District's facilities to their pre-project condition to the satisfaction of the District.

7. Permittee will submit a deposit to the District in the amount of $20,000, in a form satisfactory to the District, to insure restoration of the site per the above conditions to the satisfaction of the District. If in the District's opinion, the site has not been

properly restored, the District may use funds from the deposit to restore the site per the above conditions. Upon restoration of the site to the satisfaction of the District, the remaining deposit funds will be returned to the Permittee within 30 days

8. Fill material used for any temporary ramp shall be to the satisfaction of the District and generally conform to existing levee fill material; free of construction debris, large rocks and vegetation. Location of a temporary ramp shall be approved by the District and shall be removed upon completion of construction unless otherwise approved by the District.

9. Existing AB on site which conflicts with the proposed use of the site shall be removed, stockpiled and re-spread upon completion of the work. Otherwise, existing AB shall be protected in place. Existing AB contaminated with construction debris or dirt shall be cleaned or replaced to the satisfaction of the District.

10. Equipment shall not be serviced at the site; any hazardous materials (oil, diesel fuel, ect) shall immediately be removed and cleaned up to the satisfaction of the District.

11. No hazardous materials shall be stored on the site. Temporary restroom facilities are permitted provided they are serviced on a regular basis.

12. In preparation for flood season, all weather access to the levee shall be provided to the satisfaction of the District by October 15 of each year. No equipment or materials may be stored on the property during the flood season of November 1 to April 15 unless otherwise approved by the District. Consideration by the District to allow materials to remain during the flood season will require a Flood Emergency Action Plan approved by the District. Any fill placed on the waterside of the levee for access shall be removed and the levee slope restored prior to October 15.

13. District is not responsible for any damage to or loss of equipment or materials brought to the site caused by vandalism.

14. The District reserves the right to take any action it deems necessary in the event of an emergency. In exercising this reserved power, the District shall have no liability or responsibility to Permittee, its agents or subcontractors. Permittee shall immediately remove all encroachments including, but not limited to, facilities, structures, equipment, and materials upon notification by the District.

15. Permittee hereby agree(s) to defend and indemnify and save and hold the District and SAFCA its employees free and harmless from any damage, costs (including attorney's fees and court costs) or liabilities which may arise as result of the exercise of this Permit by Permittee, its agents, employees or subcontractors.

16. Permittee shall keep and maintain comprehensive general liability insurance in a minimum insured limit of $2,000,000.00 prior to entry on the site and until expiration or termination of this Permit and completion of site restoration, and shall provide a

certificate thereof to the District naming the District and SAFCA as additional insured.

17. Any notice required or permitted to be given from one party hereto to the other shall be deemed given upon receipt and shall be sent by first class U.S. Mail, nationally recognized courier service, or email, addressed as follows or to such different address as may be provided by notice from one party to the other.

If to District: Reclamation District No. 1000
1633 Garden Highway
Sacramento, CA 95833
ATTN: Kevin L. King
Email: kking@rd1000.org

If to Permittee:

_____
_____
ATTN:_____
Email:_____

Authorized by:

_____
Kevin L. King
General Manager

Agreed by:

_____
Print Name:
Title:

Date: _____

SECTION 02 41 00
DEMOLITION [ADD NO. 1]

PART 1 GENERAL

1.01 DEFINITIONS

A. ACM: Asbestos-containing material. In accordance with 8 CCR 1529 ACM is any material containing more than one percent asbestos.

B. Demolish/Demolition: Dismantling, razing, destroying, or wrecking of any fixed building or structure or any part thereof. Demolition also includes removal of pipes, manholes tanks, conduit, and other underground facilities, whether as a separate activity or in conjunction with construction of new facilities. Unless otherwise specified, title to items identified for demolition shall revert to Contractor.

C. Presumed Lead Based Paint. In accordance with 17 CCR 35043 presumed lead based paint is any paint or surface coating found on a structure built before January 1, 1978, excluding paint that has been tested and contains less than 1.0 mg/cm2 or less than 0.5 percent by weight.

D. Modify: Provide all necessary material and labor to modify an existing item to the condition indicated or specified.

E. Relocate: Remove, protect, clean and reinstall equipment, including electrical, instrumentation, and all ancillary components required to make the equipment fully functional, to the new location identified on Drawings.

F. Renovation: Altering a facility or one or more facility components in any way.

G. Salvage/Salvageable: Remove and deliver, to the specified location(s), the equipment, building materials, or other items so identified to be saved from destruction, damage, or waste; such property to remain that of Owner.

H. Treated Wood Waste (TWW). The California DTSC defines treated wood waste as wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi or other environmental conditions using a chemical registered per FIFRA.

I. Universal Waste Lamp: In accordance with 22 CCR 66273, the bulb or tube portion of an electric lighting device, examples of which include, but are not limited to, fluorescent, high-intensity discharge, neon, mercury vapor, high-pressure sodium, and metal halide lamps.

J. Universal Waste Thermostat: A temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of 22 CCR 66273.

1.02 SUBMITTALS

A. Informational Submittals:

1. Submit proposed Demolition/Renovation Plan, in accordance with requirements specified herein, for approval before such Work is started.
2. Submit copies of any notifications, authorizations and permits required to perform the Work.
3. Copies of reports and other documentation required for abandoning wells.
4. Copies of applicable training and certification requirements required to perform a hazardous materials survey in California.
5. Copies of applicable permits required for structure renovation and/or demolition.

1.03 REGULATORY AND SAFETY REQUIREMENTS

A. When applicable, demolition Work shall be accomplished in strict accordance with 29 CFR 1926-Subpart T.

B. Comply with federal, state, and local regulations applicable to transportation and disposal of all wastes and recyclable materials. In addition to the requirements of the General Conditions, Contractor’s safety requirements shall conform to ANSI A10.6.

C. Structures must be surveyed for the presence of hazardous materials prior to demolition or renovation in accordance with 40 CFR 61.145, 8 CCR 1529 and 8 CCR 1532.1. A structure is defined as including any load-bearing portion of a structure. The survey must be performed by California licensed, certified, accredited person(s).

D. Management and disposal of TWW per California Health and Safety Code (H.S.C.) Section 25230.

1.04 DEMOLITION/RENOVATION PLAN

A. Demolition/Renovation Plan shall provide for safe conduct of the Work and shall include:

1. Detailed description of methods and equipment to be used for each operation;
2. The Contractor's planned sequence of operations, including coordination with other work in progress;
3. Disconnection schedule of utility services.
4. Detailed description for performing a hazardous materials survey, identified required abatement from the assessment and management of wastes/recyclables generated during renovation/demolition.
5. List of subcontracted lower tier companies and copies of needed certifications, licenses or training documentation.

1.05 SEQUENCING AND SCHEDULING

A. The Work of this Specification shall not commence until Contractor's Demolition/Renovation Plan has been approved by Engineer.

B. Include the Work of this Specification in the progress schedule, as specified in Section 01 32 00, Construction Progress Documentation.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXISTING FACILITIES TO BE DEMOLISHED OR RENOVATED

A. Buildings and adjacent designated areas scheduled for complete demolition are as shown on Drawings.

B. Structures:

1. Existing above-grade structures indicated shall be removed to 3 feet below grade.
2. Core drill concrete slabs and other concrete improvements scheduled to remain in place below ground, or break holes at the structure's lowest point to allow water to freely migrate through.
3. Sidewalks, curbs, gutters and street light bases shall be removed as indicated.

C. Substructure: Extract conflicting existing pilings prior to driving new piles.

D. Utilities and Related Equipment:

1. Notify Owner or appropriate utilities to turn off affected services at least 48 hours before starting demolition or renovation activities.
2. Remove existing utilities as indicated and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by Engineer.
3. When utility lines are encountered that are not indicated on Drawings, notify Engineer prior to further work in that area.
4. Remove meters, transformers, and related equipment and deliver to a location as determined by the Owner.
5. Excavate and remove utility lines serving buildings to be demolished to a distance of 10 feet beyond the outside perimeter of the demolition.
6. Provide a permanent leak-proof closure for water and gas lines.

E. Patching:

1. Where removals leave holes and damaged surfaces exposed in the finished Work, patch and repair to match adjacent finished surfaces as to texture and finish.
2. Where new Work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new Work.
3. Patching shall be as specified and indicated, and shall include fill holes and depressions left as a result of removals in existing concrete walls with an approved patching material, applied in accordance with the manufacturer’s printed instructions.

F. Electrical:

1. Cut off concealed or embedded conduit, boxes, or other materials a minimum of 3/4 inch below final finished surface.
2. When removing designated equipment, conduit and wiring may require rework to maintain service to other equipment.
3. Rework existing circuits, or provide temporary circuits as necessary during renovation to maintain service to existing lighting and equipment not scheduled to be renovated. Existing equipment and circuiting shown are based upon limited field surveys. Verify existing conditions, make all necessary adjustments, and record the Work on the Record Drawings. This shall include, but is not limited to, swapping and other adjustments to branch circuits and relocation of branch circuit breakers within panelboards as required to accomplish the finished work.
4. Reuse of existing luminaires, devices, conduits, boxes, or equipment will be permitted only where specifically indicated.

5. Raceways and cabling not scheduled for reuse.
6. Inaccessibly Concealed: Cut off and abandon in place.
7. Exposed or Concealed Above Accessible Ceilings: Remove.
8. Raceways and Cabling Scheduled for Future Use: Cap/seal and tag.
9. Relocating Equipment: Extend existing wiring or run new wiring from the source.
10. Where the existing raceway is concealed, the outlet box shall be cleaned, and a blank cover plate installed.
11. Where the concealed raceway is uncovered remove raceway (or extended to new location if appropriate).
12. Provide new typewritten panelboard circuit directory cards.

G. Universal Waste Lamps and Thermostats: Manage, contain, package, and label in strict accordance with 22 CCR 66273.

H. Hazardous Materials/Waste:

1. Contain, package, and label in strict accordance with 22 CCR 66262.
2. Containers for transport in strict compliance with 49 CFR.

I. Treated Wood Waste storage, management, transport and disposal in strict accordance with CA H.S.C Section 25230.

3.02 PROTECTION

A. Dust and Debris Control: Prevent the spread of dust and debris to avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution.

B. Traffic Control Signs: Where pedestrian and driver safety is endangered in the area of removal Work, use traffic barricades with flashing lights.

C. Construction equipment and mobile emissions sources shall comply with California Air Resources Board (CARB) diesel particulate matter emissions standards and regulations.

D. Existing Work:

1. Survey the Site and examine Drawings and Specifications to determine the extent of the Work before beginning any demolition or renovation.
2. Take necessary precautions to avoid damage to existing items scheduled to remain in place, to be reused, or to remain the property of Owner; any Contractor-damaged items shall be repaired or replaced as directed by Engineer.

3. Provide temporary weather protection during interval between removal of existing exterior surfaces and installation of new to ensure that no water leakage or damage occurs to structure or interior areas of existing building.
4. Ensure that structural elements are not overloaded as a result of or during performance of the Work. Responsibility for additional structural elements or increasing the strength of existing structural elements as may be required as a result of any Work performed under this Contract shall be that of the Contractor. Repairs, reinforcement, or structural replacement must have Engineer approval.
5. Do not overload pavements to remain.

E. Weather Protection: For portions of the building scheduled to remain, protect building interior and materials and equipment from weather at all times.

F. Trees: Protect trees within the Site that might be damaged during demolition and are indicated to be left in place, by a 6-foot-high fence. The fence shall be securely erected a minimum of 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the Work shall be replaced in kind, as approved by the Engineer.

G. Facilities:

1. Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities.
2. Floors, roofs, walls, columns, pilasters, and other structural elements that are designed and constructed to stand without lateral support or shoring, and are determined by Contractor to be in stable condition, shall remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the Engineer.
3. Protect all facility elements not scheduled for demolition.
4. Provide interior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities.

H. Protection of Personnel:

1. During demolition, continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site.

2. Provide temporary barricades and other forms of protection to protect Owner's personnel and the general public from injury due to demolition Work.
3. Provide protective measures as required to provide free and safe passage of Owner's personnel and the general public to occupied portions of the structure.

3.03 BURNING

A. The use of burning at the Site for the disposal of refuse and debris will not be permitted.

3.04 RELOCATIONS

A. Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Clean all items to be relocated prior to reinstallation, to the satisfaction of Engineer. Repair items to be relocated which are damaged or replace damaged items with new undamaged items as approved by Engineer.

3.05 BACKFILL

A. Do not use demolition debris as backfill material.

B. Fill excavations, open basements and other hazardous openings to existing ground level or foundation level of new construction in accordance with Section 31 23 23, Fill and Backfill.

C. Provide fill meeting California Department of Toxic Substance Control (DTSC) Clean Fill Guidelines and other applicable regulations.

3.06 TITLE TO MATERIALS

A. All salvaged equipment and materials will remain the property of Owner.

B. Title to equipment and materials resulting from demolition is vested in the Contractor upon approval by Engineer of Contractor's Demolition/Renovation Plan, and the resulting authorization by Engineer to begin demolition.

3.07 DISPOSITION OF MATERIAL

A. Do not remove equipment and materials without approval of Contractor's Demolition/Renovation Plan by Engineer.

B. Materials and equipment that are specified to be salvaged to Owner shall be delivered to a storage site as directed within 8 miles of the Site.

C. Remove salvaged items in a manner to prevent damage, and pack or crate to protect the items from damage while in storage or during shipment. Properly identify containers as to contents. Repair or replace, at the discretion of Engineer, items damaged during removal or storage.

D. Owner will not be responsible for the condition or loss of, or damage to, property scheduled to become Contractor's property after Engineer's authorization to begin demolition. Materials and equipment shall not be viewed by prospective purchasers or sold on the Site.

E. Potentially contaminated materials proposed for off-site disposal (demolition debris, soil, universal wastes or water) will be classified using criteria contained within 22 CCR 66261. Wastes classified as hazardous or otherwise regulated will be managed in accordance with applicable local, state and federal regulatory requirements. Universal wastes will be recycled in accordance with regulatory requirements or managed as hazardous wastes.

3.08 CLEANUP

A. Debris and rubbish shall be removed from Site and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

END OF SECTION

SECTION 02 82 00
ASBESTOS REMOVAL [ADD NO. 1]

PART 1 GENERAL

1.01 SUMMARY

A. This section applies to:

1. The removal of asbestos containing materials (ACM) and presumed asbestos containing materials (PACM), and describes the resultant procedures and equipment required to protect workers, the environment and area from contact with airborne asbestos fibers.
2. The disposal of any ACM generated by the work.

1.02 REFERENCED STANDARDS

A. This section incorporates by reference the latest revisions of the embedded standard referenced herein. In case of conflict between the requirements of this section and those of a listed document, the requirements of this section shall prevail.

1. Federal regulations codified in the Code of Federal Regulations (CFR) governing ACM removal and waste management include but are not limited to:

Reference	Title
29 CFR 1910.1001	Safety and Health Regulations for Construction: Asbestos
40 CFR 61, Subpart M	National Emission Standards for Hazardous Air Pollutants - Asbestos

2. California State regulations codified in the ACM removal and waste management include but are not limited to:

Reference	Title
8 CCR 1529	Construction Safety Orders Dusts, Fumes, Mists, Vapors and Gases, Asbestos

3. Sacramento Metropolitan Air Quality Management District (SAQMD):

Reference	Title
Rule 902	Asbestos

1.03 ASBESTOS INSPECTION, SAMPLING AND TESTING

A. An asbestos survey shall be performed to determine if the proposed construction areas, under this Contract and the materials therein, do contain asbestos. The survey shall be performed by a qualified person with who is certified by the Division of Occupational Safety and Health pursuant to regulations required by Subdivision (b) of Section 9021.5 of the labor code. The Survey may be performed by a Site Surveillance Technician (SST) under supervision of a certified asbestos consultant.

B. The asbestos survey report will be used to identify ACM requiring abatement prior to demolition.

1.04 SUBMITTALS

A. Procedures: Section 01 33 00, Submittal Procedures.

B. Asbestos Removal and Disposal Plan:

1. Submit a detailed plan of the safety precautions such as lockout, tagout, tryout, fall protection, and confined space entry procedures and equipment and work procedures to be used in the removal of materials identified as containing asbestos during the hazardous materials survey. The plan shall include but not be limited to:
   a. The precise personal protective equipment to be used including, but not limited to, respiratory protection, type of whole-body protection, the location of asbestos control areas including clean and dirty areas, buffer zones, showers, storage areas, change rooms, removal method, interface of trades involved in the construction, sequencing of asbestos related work, type of wetting agent, locations of local exhaust equipment, air monitoring plan, and a detailed description of the method to be employed in order to control environmental pollution.
   b. Fire and medical emergency response plans and an Activity Hazard Analyses (AHAs). The Asbestos Removal and Disposal Plan shall be approved in writing prior to starting any asbestos work. The Asbestos Supervisor and designated Competent Person shall meet with the Resident Project Representative prior to beginning work, to discuss in detail the Asbestos Removal and

Disposal Plan, including work procedures and safety precautions. Compliance with this the plan will be enforced as if an addition to the Specification. Any changes required in the Specification as a result of the plan shall be identified specifically in the plan for approval by the Engineer prior to starting work.

c. Asbestos waste handling and disposal procedures in accordance with the California Title 22 waste regulations and SMAQMD Rule 902.
d. Proposed landfills for disposal of asbestos waste.

C. Product Data:

1. Safety Data Sheets for all materials.
2. Respirators.

D. Test Reports:

1. Air Sampling Results.
2. Asbestos Disposal Quantity Report.

E. Certificates and Records:

1. Asbestos Worker, Supervisor, and Contractor Certifications and Registrations from California Contractors State Licensing Board (CSLB).
2. Agency (10 Day) Notification to SMAQMD.
3. Respiratory Protection Program.
4. Testing Laboratory if suspect materials are tested.
5. Landfill Approval.
6. Delivery Tickets.
7. Asbestos Waste Material Shipment Records.
8. Medical Certification.
9. Designated Competent Person.
10. Federal, State or Local Citations on Previous Projects.
11. Equipment Used to Contain Airborne Asbestos Fibers.

PART 2 PRODUCTS

2.01 MATERIALS

A. Materials of Construction:

Component	Material
Disposal Containers	Transparent, leak-tight (defined as solids, liquids, or dust that cannot escape or spill out) disposal containers shall be provided for ACM wastes as required by 29 CFR 1926.1101 and SMAQMD Rule 902.
Sheet Plastic	Sheet plastic shall be polyethylene of 6 mil minimum thickness and shall be provided in the largest sheet size necessary to minimize seams. Film shall conform to ASTM D4397.
Mastic Removing Solvent	Mastic removing solvent shall be nonflammable and shall not contain methylene chloride, glycol ether, or halogenated hydrocarbons. Solvents used onsite shall have a flash point greater than 140 degrees F and approved by the Engineer.
Leak-Tight Wrapping	Two layers of 6 mil minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1. Materials specified are acceptable for the application. Contractor may propose alternative materials, subject to review and approval or rejection.

B. Equipment: Provide manufacturer's certificate of compliance for all equipment used to contain airborne asbestos fibers.

PART 3 EXECUTION

3.01 HEALTH AND SAFETY

A. Comply with Section 00 72 00, General Conditions.

B. Permits, Licenses, and Notifications:

1. Prior to the start of work, obtain necessary permits and licenses in conjunction with asbestos removal, hauling, and disposition, and furnish notification of such actions required by Federal, State, regional, and local authorities.
2. Notify the SMAQMD in writing 10 working days prior to commencement of work in accordance with 40 CFR 61-Subpart M; SMAQMD Rule 902.
3. Pay applicable agency fees.
4. Also notify the Resident Project Representative in writing 20 working days prior to the start of asbestos work.

3.02 WARNING SIGNS AND LABELS

A. Provide warning signs printed in English, Spanish or other languages represented by the work force involved in asbestos removal activities at all approaches to asbestos control areas. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide labels and affix to all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to the requirements are acceptable.

B. Warning Sign. Provide vertical format conforming to 29 CFR 1926.200, 29 CFR 1926.1101 and SMAQMD Rule 902 Section 301.3 minimum 20 by 14 inches displaying the following legend in the lower panel:

Legend	Notation
DANGER	One inch Sans Serif Gothic or Block
ASBESTOS	One inch Sans Serif Gothic or Block
MAY CAUSE CANCER	One inch Sans Serif Gothic or Block
CAUSES DAMAGE TO LUNGS	1/4-inch Sans Serif Gothic or Block
AUTHORIZED PERSONNEL ONLY	1/4-inch Sans Serif Gothic or Block

Legend	Notation
WEAR RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING IN THIS AREA (if required)	1/4-inch Sans Serif Gothic or Block

1. Spacing between lines shall be at least equal to the height of the upper of any two lines.

C. Warning Labels. Provide labels conforming to 29 CFR 1926.1101 and SMAQMD Rule 902 Section 301 of sufficient size to be clearly legible, displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST AVOID CREATING DUST

D. To the extent feasible, provide transparent viewing ports which allow observation of all disturbance from outside the containment. Provide access to viewing ports and unobstructed view of the containment interior at all times from the start date to completion date.

3.03 WORK AREA PREPARATION

A. A decontamination area (equipment room/area) shall be provided for Class I work involving less than 25 feet or 10 square feet of thermal system insulation or surfacing ACM, and for Class II and Class III asbestos work operations where exposures exceed the permissible exposure limits or where there is no negative exposure assessment. The equipment room or area shall be adjacent to the regulated area for the decontamination of employees, material, and their equipment which could be contaminated with asbestos. The area shall be covered by an impermeable drop cloth on the floor or horizontal working surface. The area shall be of sufficient size to accommodate cleaning of equipment and removing personal protective equipment without spreading contamination beyond the area.

B. Confirm that the following procedures are followed:

1. Before leaving the regulated area, remove all gross contamination and debris from work clothing using a high efficiency particulate air filter (HEPA) vacuum.
2. Employees shall remove their protective clothing in the equipment room or area and deposit the clothing in labeled impermeable bags or containers for disposal or laundering.
3. Employees shall not remove their respirators until showering.
4. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, confirm that employees engaged in Class I asbestos jobs:
    a. Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or
    b. Remove their contaminated work suits in the equipment room, without cleaning worksuits, and proceed to a shower that is not adjacent to the work area.

3.04 WORK PROCEDURE

A. Perform asbestos related work in accordance with 29 CFR 1926.1101; 40 CFR 61-Subpart M; 8 CCR 1529, and SMAQMD Rule 902 and as specified herein. Use wet removal procedures as listed in the Asbestos Removal and Disposal Plan. Wear and utilize protective clothing and equipment as specified herein. No eating, smoking, drinking, chewing gum, tobacco, or applying cosmetics is permitted in the asbestos work or control areas. Personnel of other trades not engaged in the removal of asbestos containing material shall not be exposed at any time to airborne concentrations of asbestos unless all the personnel protection and training provisions of this Specification are complied with by the trade personnel. Stop asbestos removal work in the regulated area immediately when the airborne total fiber concentration:

1. Equals or exceeds 0.01 f/cc, or the pre-removal concentration, whichever is greater, outside the regulated area; or
2. Equals or exceeds 1.0 f/cc inside the regulated area.

B. Correct the condition to the satisfaction of the Resident Project Representative, including visual inspection and air sampling. Work shall resume only upon notification by the Resident Project Representative. Corrective actions shall be documented. If an asbestos fiber release or spill

occurs outside of the asbestos control area, stop work immediately, correct the condition to the satisfaction of the Resident Project Representative including clearance sampling, prior to resumption of work.

C. Remove and dispose of the materials identified as having less than 1 percent asbestos according to 29 CFR 1926.1101, where that regulation refers to "asbestos" rather than "asbestos containing material" or "ACM".

D. Remove and dispose of materials identified as having greater than 1 percent asbestos in accordance with California Title 22 regulations.

E. Perform work without damage or contamination of adjacent work. Where such work is damaged or contaminated as verified using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no additional expense. This includes inadvertent spill of dirt, dust, or debris in which it is reasonable to conclude that asbestos may exist. When these spills occur, stop work immediately and clean up the spill. When satisfactory visual inspection and air sampling results are obtained, work may proceed at the discretion of the Resident Project Representative.

F. Establish designated limits for the asbestos control area for Class II removal activities with the use of red barrier tape; install critical barriers, splash guards and signs, and maintain all other requirements for asbestos control area except local exhaust. Place impermeable drop cloths on surfaces beneath removal activity extending out 3 feet in all directions. A detached decontamination system may be used. Conduct area monitoring of airborne fibers during the work shift at the designated limits of the asbestos work area and conduct personal samples of each worker engaged in the work. If the airborne fiber concentration of the workers or designated limits at any time exceeds background or 0.01 fibers per cubic centimeter, whichever is greater, stop work immediately and correct.

G. Wet asbestos material with a fine spray of amended water during removal, cutting, or other handling so as to reduce the emission of airborne fibers. Remove material and immediately place in 6 mil plastic disposal bags. Remove asbestos containing material in a gradual manner, with continuous application of the amended water or wetting agent in such a manner that no asbestos material is disturbed prior to being adequately wetted. Where unusual circumstances prohibit the use of 6 mil plastic bags, submit an alternate proposal for containment of asbestos fibers to the Engineer for approval. Containerize asbestos containing material while wet. Do not allow asbestos material to accumulate or become dry. Handle asbestos containing material as indicated in 40 CFR 61-Subpart M; WAC 296-65; WAC 296-62, Part I-1; and Puget Sound Clean Air Authority, Chapter 3, Regulation III, Article 4.

H. For all Class I jobs involving the removal of more than 25 linear feet or 10 square feet of TSI or surfacing material; or other Class I jobs where a negative exposure assessment cannot be produced critical barriers will be placed over all openings to the regulated area, except where activities are performed outdoors or use another barrier or isolation method as verified by perimeter area surveillance during each work shit at each boundary of the regulated areas, showing no visible asbestos dust; and perimeter area monitoring showing that clearance levels in 40 CFR Part 763, Subpart E are not more than background levels representing the same area before asbestos work began.

3.05 CLEAN-UP AND DISPOSAL

A. Housekeeping: Essential parts of asbestos dust control are housekeeping and clean-up procedures. Maintain surfaces of the asbestos control area free of accumulations of asbestos fibers. Give meticulous attention to restricting the spread of dust and debris; keep waste from being distributed over the general area. Use HEPA filtered vacuum cleaners. DO NOT BLOW DOWN THE SPACE WITH COMPRESSED AIR. When asbestos removal is complete, all asbestos waste is removed from the worksite, and final clean-up is completed, the Contractor shall attest that the area is safe before the signs can be removed.

B. Procedure for Disposal: Coordinate all waste disposal manifests with the Resident Project Representative. Collect asbestos waste, contaminated wastewater filters, asbestos contaminated water, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing which may produce airborne concentrations of asbestos fibers and place in sealed fiber-proof, waterproof, non-returnable containers (e.g., double plastic bags 6 mils thick, cartons, drums, or cans). Wastes within the containers shall be adequately wet in accordance with 40 CFR 61-Subpart M; WAC 296-65; WAC 296-62, Part I-1; and Puget Sound Clean Air Authority, Chapter 3, Regulation III, Article 4. Affix a warning and Department of Transportation (DOT) label to each container including the bags or use at least 6 mils thick bags with the approved warnings and DOT labeling preprinted on the bag. Clearly indicate on the outside of each container the name of the waste generator and the location at which the waste was generated. Prevent contamination of the transport vehicle (especially if the transport vehicle is a rented truck likely to be used in the future for non-asbestos purposes). These precautions include lining the vehicle cargo area with plastic sheeting (similar to work area enclosure) and thorough cleaning of the cargo area after transport and unloading of asbestos debris is complete. Dispose of waste asbestos material at a landfill authorized to accept asbestos waste. For temporary storage, store sealed impermeable bags in asbestos waste drums or skids

comply with 40 CFR 61-Subpart M; 8 CCR 1529 and SMAQMD Rule 902; standards for hauling and disposal. Sealed plastic bags may be dumped from drums into the burial site unless the bags have been broken or damaged. Damaged bags shall remain in the drum and the entire contaminated drum shall be buried. Workers unloading the sealed drums shall wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.

C. Contractor cannot deviate from the facilities identified in the Asbestos Removal and Disposal Plan without Engineer's prior approval.

D. Asbestos Disposal Quantity Report: The Contractor shall record and report the amount of ACM and PACM removed and released for disposal. Deliver the report for the previous day at the beginning of each day shift with amounts of material removed during the previous day reported in linear feet or square feet as described initially in this Specification and in cubic feet for the amount of asbestos containing material released for disposal.

E. Title to Non-Asbestos Materials. All non-asbestos waste materials become the property of the Contractor and shall be disposed of as specified in applicable local, State, and Federal regulations and herein.

F. No separate or additional payment will be made for materials containing 1 percent or less asbestos.

3.06 QUALITY CONTROL

A. The Contractor shall provide copies of all records and reports to the Resident Project Representative.

B. The Resident Project Representative will inspect all work for compliance with the Specifications.

END OF SECTION

SECTION 02 83 00
LEAD PAINT REMOVAL [ADD NO. 1]

PART 1 GENERAL

1.01 SUMMARY

A. This section provides information pursuant to 29 CFR 1926.62 and 8 CCR 1532.1 and to all other applicable requirements concerning working on, working around, demolishing, and reporting on paint that contains lead (lead paint).

B. A hazardous materials survey shall be performed to identify and provide information on lead based paint present in structures proposed for demolition.

C. Notify all employees and subcontractors who are onsite or perform work subject to this section of the contents of this section.

1.02 REFERENCED STANDARDS

A. This section incorporates by reference the latest revisions of the embedded standard referenced herein. In case of conflict between the requirements of this section and those of a listed document, the requirements of this section shall prevail.

Reference	Title
29 CFR 1926.62	Safety and Health Regulations for Construction: Lead
RCRA	Resource Conservation Recovery Act
22 CCR 66261 and 66262	CA Hazardous Waste Regulations
8 CCR 1532.1	Construction Safety Orders, Dust, Fumes, Mists, Vapors, and Gases, Lead

1.03 DEFINITIONS

A. Degraded paint. Paint that is peeling, chipped, chalking, flaking or others separating from a building component or surface.

B. Lead Control Area. Control methods or system to prevent the spread of lead dust, paint chips or debris to adjacent areas that may include temporary containment, floor or ground cover protection, physical boundaries, and

warning signs to prevent unauthorized entry of personnel. High efficiency particulate air (HEPA) filtered local exhaust equipment may be used as engineering controls to further reduce personnel exposures or building/outdoor environmental contamination.

C. Lead paint. Any paint which contains lead as determined by the testing laboratory using a valid test method. The requirements of this section do not apply if no detectable levels of lead are found using a quantitative method for analyzing paint using laboratory instruments with specified limits of detection (usually 0.01 percent). An X-Ray Fluorescence instrument is not considered a valid test method.

D. Lead paint waste. Waste stream that includes lead paint chips and dust (i.e., debris physically removed from painted surfaces) and demolition debris coated with lead paint.

E. Paint with lead. Any paint with detectable amount of lead.

1.04 LEAD INSPECTION, SAMPLING AND TESTING

A. A lead based paint survey is needed to determine if the proposed construction areas under this contract and the materials therein are classified as lead based paint. The survey shall be performed by a qualified person who is certified by the California Department of Public Health as a Lead Inspector Assessor in California per 17 CCR 316100.

1.05 CONTRACTOR'S RESPONSIBILITIES

A. All painted materials are considered to be suspect for paint with lead.

B. It is the Contractor’s responsibility that employees are not being exposed to lead in excess of the Permissible Exposure Limit (PEL) which is defined by OSHA and the California OSHA as 50 micrograms per cubic meter averaged over an 8 hour time weighted average (TWA) and an action level of 30 micrograms per cubic meter over an 8 hour TWA. The Contractor will comply with applicable rules and regulations pertaining to paint with lead, as required in 29 CFR 1926.62 and 8 CCR 1532.1.

C. Submit a Lead Removal Plan for review by the Engineer.

D. Fully inform workers of the presence of paint with lead and lead paint removal or disturbance activities.

E. Ensure that all workers with the potential to impact painted surfaces in a manner that can cause an airborne release are appropriately trained per OSHA

(29 CFR 1926.62), 8 CCR 1532.1 and California Health & Safety Code Section 105250.

F. The Contractor can stop work at any time to assess and make corrective actions to reduce potential for exposure to airborne concentrations of lead.

1.06 SUBMITTALS

A. Lead Removal Plan:

1. Site-specific work plan that demonstrates the Contractor's methods for demolition and renovation activities with the potential to impact paint with lead, including handling, waste containment, and disposal of waste with paint with lead. Additionally, if waste materials are to be recycled, the Lead Removal Plan shall identify how painted materials intended for recycling are segregated, stored, and transported to an approved recycling facility. As a minimum, the Lead Removal Plan shall include:
   a. A general description of work practices, engineering controls, air monitoring and decontamination involving removal or disturbance of painted materials.
   b. Description of whether the work will involve removal or disturbing painted materials.
   c. Control methods during activities that can disturb painted materials in a manner that can cause an airborne release, such as cutting, torching, or impacts causing flaking.
   d. Employee exposure assessment process.
   e. Content otherwise necessary to demonstrate that the Contractor meets the requirements 8 CCR 1532.1 and California Health and Safety Code training requirements.
   f. Qualification/certification/training certificates and role of each person (including Contractor's or Subcontractor's employee) involved in painted surface removal or demolition.
   g. The Contractor will be responsible for waste characterization sampling of waste stream bound for landfill. This will include sampling of the waste stream to determine if the waste is hazardous per 40 CFR 261.24 and 22 CCR 66261.24 which sets the threshold for lead at 5.0 mg/L based on Toxicity Characteristic Leaching Procedure (TCLP) of lead, Total Threshold Limit Concentration (TTLC) of 50 mg/kg and Soluble Threshold Limit Concentration (STLC) of 5 mg/L. The Contractor shall provide a method for collecting waste characterization sample of the waste stream and provide analytical laboratory certification.
   h. Qualifications of the proposed testing laboratory to perform analysis of air monitoring and waste characterization samples as

required to support the Contractor's Lead Removal Plan and procedures for the removal or disturbance of painted materials.

i. Contractor shall provide name and address of recycling facility where painted materials will be sent.
j. Proposed dangerous/hazardous waste landfills permitted by the state under Subtitle C of the Resource Conservation and Recovery Act (RCRA) for disposal of hazardous wastes as determined by waste characterization sampling completed by the Contractor.
k. Proposed non-dangerous/hazardous waste landfills.
l. Manufacturer's product information, specifications and directions for use for all products used for the chemical removal of painted surfaces.
m. Procedures for personnel and equipment cleanup/decontamination.
n. Waste management, recycling, and/or disposal practices including description of the process and procedures for removal of the material from the Site and transportation to the landfill or recycling facility. The Lead Removal Plan shall identify container selection and labeling, as applicable.
o. Qualification/certificates of waste transportation subcontractor.
p. Qualification/certification of waste disposal facilities and documentation of final lead waste transportation and disposal.
q. Interface with trades and sequencing of paint removal or disturbance. Include a description of arrangements made among Subcontractor's work areas to inform affected employees and to clarify responsibilities to control exposures.

B. Prior to Construction: If the Contractor intends to reduce the full implementation of the requirements of 29 CFR 1926.62 and 8 CCR 1532.1, submit Exposure Assessment Data Report supporting the justification to reduce full implementation of these regulations and supporting the Contractor's Lead Removal Plan.

C. Close-Out Submittals:

1. Upon disposal of the waste in the selected and approved landfill, submit completed waste manifests or appropriate shipping documentation signed by the Contractor, all transporters, transferors and disposal facilities.
2. Submit manifests or appropriate shipping documentation within 30 days of the time at which the lead wastes are received at the disposal facility.
3. Submit certificate of recycling within 30 days of the time at which lead wastes are received at the recycling facility.

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. Deliver all materials used for the removal of paint in the original packages, containers or bundles bearing the name of the manufacturer and the brand name, where applicable.

B. Store all materials subject to damage off the ground, away from wet or damp surfaces and under cover sufficient to prevent damage or contamination. Replacement materials shall be stored outside the work area until removal is completed.

C. Damaged, deteriorating, or previously used materials shall not be used and shall be removed from the work site and disposed of properly.

PART 3 EXECUTION

3.01 WORK AREA PREPARATION

A. Establish control area that includes a perimeter sufficient to perform the construction work around each area where work practices has the potential to cause an airborne release of lead. The control areas shall be demarcated according to the requirements of 29 CFR 1926.62 and 8 CCR 1532.1.

B. Containers used for the storage of waste and recyclable materials will be closed unless when actively being filled. Roll-off dumpsters will be equipped with a means to prevent storage piles from migrating (i.e. covers).

C. Waste Accumulation Area: Prepare an area for use for the temporary storage of any waste. Waste containers will be closed unless when actively being filled, including roll-off dumpsters.

D. Recycling Accumulation Area: Prepare an area for use for the temporary storage of recyclable materials.

3.02 WORK PROCEDURE

A. General Procedures: The work includes all measures necessary to adequately protect workers, authorized personnel, Owner, and the public from lead exposure during the paint removal or disturbance activities.

B. Degraded paint will be removed prior to any activity that can cause flaking/peeling of degraded paint. These activities include demolition or preparing surfaces for saw cutting, sanding, blast cleaning or removal,

grinding, or torch cutting. Paint with lead will also be removed as necessary to protect workers/comply with CA OSHA rules, the public, and the environment during these activities.

C. Coordinate Work of All Trades: Coordinate the work and activities of all trades working at the facility to assure that work is performed in accordance with the applicable regulations and that the control limits are maintained at all times.

D. Access to Work Area: During paint removal activities, limit access to the control areas to Contractor and Subcontractor personnel, and construction management staff and personnel.

E. Prevent dust generation at all times to the maximum extent practicable.

F. Provide barriers or covers to prevent dust, abrasive materials or other products used in paint removal or disturbance from accumulating on the operating level or settling into existing structures.

G. Use procedures and equipment to limit occupational and environmental exposure to lead when paint with lead is removed or disturbed or when painted building components are impacted or demolished. The procedure employed by the Contractor shall not create the potential for contaminating surrounding areas with airborne lead. Dust generation shall be kept to a minimum.

H. The use of powered machine for vibrating, sanding, grinding, or abrasive blasting is prohibited unless equipped with local exhaust ventilation systems equipped with HEPA filters or the paint was removed from the surface prior to using any of these tools.

I. All painted waste debris shall be handled, stored, and disposed of in a manner that meets or exceeds applicable federal, state, and local requirements.

J. Personnel and equipment decontamination shall occur whenever people or equipment leave the work site as described in the Contractor’s Lead Removal Plan. Decontamination waste shall be packaged, stored, labeled, and disposed of according to all applicable requirements. All contaminated equipment, tools or materials that cannot be decontaminated shall be stored and disposed of by the Contractor in accordance with all federal, state and local regulations.

3.03 RECYCLING OR DISPOSAL

A. Contain/package, transport, and recycle or dispose painted wastes in accordance with applicable local, state and federal regulations.

B. Except for scrap metal, including painted scrap metal, that will be recycled, determine if painted waste is a /hazardous waste, as defined in RCRA (40 CFR 261.24) and 22 CCR 66261.24:

1. Demolition debris coated with lead will be characterized by:
   a. Characterize demolition waste using whole building approach.
   b. Testing the individual building components and separate from other demolition debris.

C. Coordinate the offsite shipment, and recycling or disposal of wastes with the Owner.

D. Disposal of Hazardous Waste:

1. Prepare waste disposal manifest package that includes a waste profile naming the Owner as the waste generator; analytical data summary applicable to the waste; letter of acceptance from the proposed waste disposal facility to accept the waste; a completed hazardous waste manifest; and any other applicable information necessary for the Owner to complete review of the waste disposal package and provide signature as the hazardous waste generator.
2. The Owner, as the waste generator, will sign the profile and the signed profile will then be submitted to the disposal facility for acceptance of any hazardous waste. Once the acceptance letter is received from the disposal facility, transportation can be scheduled.
3. Transport hazardous waste to the RCRA Subtitle C/Permitted Dangerous Waste landfill identified in the Contractor’s Lead Removal Plan.

E. Disposal of Non-Dangerous, Solid Waste:

1. Provide a list of proposed RCRA Subtitle D permitted landfills for non hazardous waste disposal.
2. Prepare waste disposal manifest package that includes a waste profile naming the Owner as the waste generator; analytical data summary applicable to the waste; letter of acceptance from the proposed waste disposal facility to accept the waste; a completed nonhazardous waste manifest or Bill of lading; and any other applicable information necessary for the Owner to complete review of the waste disposal package and provide signature as the hazardous waste generator.

3. The Owner, as the waste generator, will sign the profile and the signed profile will then be submitted to the disposal facility for acceptance of nonhazardous waste. Once the acceptance letter is received from the disposal facility, transportation can be scheduled.
4. Transport nonhazardous waste to the RCRA Subtitle D/Permitted Dangerous Waste landfill identified in the Contractor's Lead Removal Plan.

F. Scrap Metal Recycling:

1. Scrap metal that will be recycled, including scrap metal coated with lead paint, is excluded from being designated as dangerous/hazardous waste under 22 CCR 66261 and applicable local and state regulations.
2. Scrap metal that is disposed rather than recycled is fully regulated under California Waste Regulations contained in 22 CCR 66261 and applicable local, state and federal regulations.

G. Contractor cannot deviate from the recycling or disposal facilities identified in the Contractor's Lead Removal Plan without Engineer prior approval.

H. Verify the specific requirements for the handling, transporting, unloading and disposal of the concrete with the selected landfill, including the maximum allowable size of debris allowed at the specific landfill.

I. Concrete coated with paint with lead will not be recycled, unless specifically permitted by the recycling facility and approved by the Engineer.

3.04 CLEAN-UP

A. Housekeeping:

1. Maintain all surfaces throughout the area free of lead paint dust and debris to the maximum extent practicable.
2. Restrict debris from being distributed over the general area.

B. Clean-up:

1. Maintain surfaces of the lead control area as free of accumulation of paint chips and dust as practicable.
2. Restrict the spread of dust and debris.
3. Keep waste from being distributed over the work area.
4. The use of compressed air or dry sweeping to clean up the area is strictly prohibited.

5. At the end of each shift, clean the area of visible paint contamination by vacuuming with a HEPA filtered vacuum cleaner, wet mopping the area, or cleanup by other appropriate means.
6. At the end of paint removal activities, wet wipe and HEPA vacuum all surfaces in the lead control area after visible dust and debris is removed. If adjacent areas become contaminated at any time during the work, clean, and visually inspect.

END OF SECTION

SECTION 31 23 23
FILL AND BACKFILL [ADD NO. 1]

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. ASTM International (ASTM):
   a. C117, Standard Test Method for Materials Finer Than 75-Micrometers (No. 200) Sieve in Mineral Aggregates by Washing.
   b. C136, Standard Method for Sieve Analysis of Fine and Coarse Aggregates.
   c. D75, Standard Practice for Sampling Aggregates.
   d. D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).
   e. D6938, Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.02 DEFINITIONS

A. Borrow Material: Material from required excavations or from designated borrow areas on or near Site.

B. Completed Course: A course or layer that is ready for next layer or next phase of Work.

C. Earth Fill: Fill materials required to raise existing grade in areas other than under structures or pavements.

D. Imported Material: Materials obtained from sources offsite, suitable for specified use.

E. Influence Area:

1. Area within planes sloped downward and outward at 60-degree angle from horizontal measured from:
   a. 1 foot outside outermost edge at base of foundations or slabs.
   b. 1 foot outside outermost edge at surface of roadways or shoulder.
   c. 0.5 foot outside exterior at spring line of pipes or culverts.

F. Lift: Loose (uncompacted) layer of material.

G. Optimum Moisture Content:

1. Determined in accordance with ASTM Standard specified to determine maximum dry density for relative compaction.
2. Determine field moisture content on basis of fraction passing 3/4-inch sieve.

H. Prepared Ground Surface: Ground surface after completion of required demolition, clearing and grubbing, stripping of topsoil, excavation to grade, and subgrade preparation.

I. Relative Compaction:

1. Ratio, in percent, of as-compacted field dry density to laboratory maximum dry density as determined in accordance with ASTM D1557.
2. Apply corrections for oversize material to either as-compacted field dry density or maximum dry density, as determined by Engineer.

J. Selected Backfill Material: Materials available onsite that Engineer determines to be suitable for specific use.

K. Structural Fill: Fill materials as required under structures, pavements, and other facilities.

L. Well-Graded:

1. A mixture of particle sizes with no specific concentration or lack thereof of one or more sizes.
2. Does not define numerical value that must be placed on coefficient of uniformity, coefficient of curvature, or other specific grain size distribution parameters.
3. Used to define material type that, when compacted, produces a strong and relatively incompressible soil mass free from detrimental voids.

1.03 SUBMITTALS

A. Informational Submittals:

1. Manufacturer’s data sheets for compaction equipment.
2. Certified test results from independent testing agency.
3. Elevation survey results for fill behind retaining wall.

B. Action Submittals: Settlement Monitoring Survey Reports.

1.04 QUALITY ASSURANCE

A. Notify Engineer when:

1. Structure is ready for backfilling, and whenever backfilling operations are resumed after a period of inactivity.
2. Soft or loose subgrade materials are encountered wherever site fill is to be placed.
3. Fill material appears to be deviating from Specifications.

1.05 SEQUENCING AND SCHEDULING

A. Complete applicable Work specified in Section 02 41 00, Demolition; Section 31 10 00, Site Clearing; Section 31 23 13, Subgrade Preparation; and Section 31 23 16, Excavation, and prior to placing fill or backfill.

B. Backfill against concrete structures only after concrete has attained compressive strength, specified in Section 03 30 00, Cast-in-Place Concrete. Obtain Engineer's acceptance of concrete work and attained strength prior to placing backfill.

C. Backfill around water-holding structures only after completion of satisfactory leakage tests as specified in Section 03 30 00, Cast-in-Place Concrete, and Section 33 05 16.13, Precast Concrete Utility Structure.

D. Backfill around buried tanks only after tank is set in position, securely anchored, and ready to be backfilled and Engineer provides authorization to backfill.

E. Do not place granular base, subbase, or surfacing until after subgrade has been prepared as specified in Section 31 23 13, Subgrade Preparation.

F. Perform settlement monitoring as specified in Article Settlement Monitoring, after fill is placed to within 1 foot of final grade prior to installation of 30-inch RW pipeline.

PART 2 PRODUCTS

2.01 SOURCE QUALITY CONTROL

A. Gradation Tests:

1. As necessary to locate acceptable sources of imported material.
2. During production of imported material, test at the start of production and submit results.

2.02 EARTH FILL

A. Excavated material from required excavations free from rocks larger than 3 inches, from roots and other organic matter, ashes, cinders, trash, debris, and other deleterious materials.

B. Containing a minimum of 20 percent passing the No. 200 sieve.

C. Having a Liquid Limit less than 50, and a plasticity index of 8 or greater.

D. Provide imported material of equivalent quality, as required to accomplish Work.

2.03 STRUCTURAL FILL

A. Excavated material from required excavations, or imported material, free from rocks larger than 3 inches, from roots and other organic matter, ashes, cinders, trash, debris, and other deleterious materials.

B. Well-graded from coarse to fine and containing sufficient fines to bind material when compacted, but with maximum of 35 percent passing the No. 200 sieve.

C. Nonplastic or low plasticity material (Liquid Limit less than 35, Plasticity Index less than 12).

D. Provide imported material of equivalent quality, if required to accomplish Work.

2.04 WATER FOR MOISTURE CONDITIONING

A. Free of hazardous or toxic contaminates, or contaminants deleterious to proper compaction.

2.05 CRUSHED ROCK

A. Crushed, Angular Gravel: Uniformly graded between 1 inch to 3 inches.

B. Maximum Particle Size: Nominal 3-inch.

C. Maximum Percent Passing the 1-inch Sieve: 20 percent.

D. Maximum Percent Passing the No. 4 Sieve: 10 percent.

2.06 DRAIN ROCK

A. Crushed, Angular Gravel: Uniformly graded between 1/4 inch to 1 inch.

B. Maximum Particle Size: Nominal 1-inch.

C. Maximum Percent Passing the No. 4 Sieve: 10 percent.

D. Maximum Percent Passing the No. 40 Sieve: 5 percent.

2.07 GEOTEXTILE (FOR RIPRAP BEDDING, SEPARATION OF BACKFILL MATERIALS IN DEMOLITION OF EXISTING STRUCTURE, AND WRAPPING DRAIN ROCK BEHIND RETAINING WALL)

A. Pervious sheet of polyester, polypropylene, or polyethylene fabricated into stable network of fibers that retain their relative position with respect to each other. Geotextile shall be nonwoven, composed of continuous or discontinuous (staple) fibers held together through needle-punching, spun-bonding, thermal-bonding, or resin-bonding.

B. Geotextile Edges: Selvaged or otherwise finished to prevent outer material from pulling away from geotextile.

C. Physical Properties:

1. Conform to requirements in following Table 1:

Table 1
Physical Property Requirements for Nonwoven Geotextile

Property	Requirement	Test Method
Nominal Weight	10 ounces/sq. yard	ASTM D5261
Water Permittivity	0.8 $sec.^{-1}$, Minimum	ASTM D4491
Apparent Opening Size (AOS)	80 to 100 U.S. Standard Sieve Size	ASTM D4751
Grab Tensile Strength, Machine Direction	250 lb/in, Minimum	ASTM D4632
Grab Elongation, Machine Direction	50 percent, Minimum	ASTM D4632
CBR Puncture Strength	600 lb, Minimum	ASTM D6241
Trapezoid Tear Strength	100 lb, Minimum	ASTM D4533

2.08 BASE COURSE ROCK

A. As specified in Section 32 11 23, Aggregate Base Courses.

PART 3 EXECUTION

3.01 GENERAL

A. Keep placement surfaces free of water, debris, and foreign material during placement and compaction of fill and backfill materials.

B. Place and spread fill and backfill materials in horizontal lifts of uniform thickness, in a manner that avoids segregation, and compact each lift to specified densities prior to placing succeeding lifts. Slope lifts only where necessary to conform to final grades or as necessary to keep placement surfaces drained of water.

C. During filling and backfilling, keep level of fill and backfill around each structure even.

D. If pipe, conduit, ductbank, or cable is to be laid within fill or backfill:

1. Fill or backfill to an elevation 2 feet above top of item to be laid.
2. Excavate trench for installation of item.
3. Install bedding, if applicable, as specified in Section 31 23 23.15, Trench Backfill.
4. Install item.
5. Backfill envelope zone and remaining trench, as specified in Section 31 23 23.15, Trench Backfill, before resuming filling or backfilling specified in this section.

E. Tolerances:

1. Final Lines and Grades: Within a tolerance of 0.1 foot unless dimensions or grades are shown or specified otherwise.
2. Grade to establish and maintain slopes and drainage as shown. Reverse slopes are not permitted.

F. Settlement: Correct and repair any subsequent damage to structures, pavements, curbs, slabs, piping, and other facilities, caused by settlement of fill or backfill material.

3.02 FILL UNDER AND AROUND STRUCTURES

A. Behind Retaining Wall:

1. Place drain rock for 3 feet wide and 5 feet high immediately behind the wall at bottom of wall.
2. Place geotextile between structural fill and drain rock, and continue geotextile to overlap a minimum of 18 inches along contact of drain rock with concrete.
3. Place drain rock and structural fill in maximum lift thickness of 8 inches across entire area of fill as shown.
4. Compact Drain Rock with minimum 3 passes of a vibratory plate compactor. Compact structural fill as specified for under facilities.
5. Place fill up to within 18 inches of final grade as shown prior to excavating for pipeline installation.
6. Perform settlement monitoring in accordance with Article Settlement Monitoring, prior to excavating for pipeline installation.

B. Under Facilities: Within influence area beneath structures, slabs, pavements, piping, conduits, ductbanks, and other facilities, backfill with structural fill, unless otherwise shown. Place structural fill in lifts of 8-inch maximum thickness and compact each lift to minimum of 95 percent relative compaction as determined in accordance with ASTM D1557.

C. Other Areas:

1. Backfill with earthfill to lines and grades shown, with proper allowance for topsoil thickness where shown.
2. Place in lifts of 6-inch maximum thickness and compact each lift to minimum 90 percent relative compaction as determined in accordance with ASTM D1557.
3. Use a sheepsfoot or padded-foot roller compactor with a minimum steel drum diameter of 4 feet. The roller weight must be sufficient to obtain minimum relative compaction for the lift height used.

D. Fill Placement up against Levee Slope or on Sloping Ground that is Steeper than 12 Percent:

1. Clear or excavate horizontal key at toe of fill slopes, with minimum depth of 1 foot and width of 6 feet, to allow fill placement in lifts within 3 percent of level.
2. Cut into existing ground slope as the fill placement proceeds to create a stepped interface between the fill and native ground.

3. Cut a bench into existing slope a minimum of 12 inches horizontally, up to a maximum of 24 inches, before placing each horizontal lift of earthfill.
4. Place earthfill in horizontal lifts of 6-inch maximum compacted thickness, compact each lift to minimum of 90 percent relative compaction as determined in accordance with ASTM D1557.
5. Moisture condition earth fill between 0 percent to 3 percent above the optimum moisture content as determined with ASTM D1557, prior to compaction.
6. Maximum Vertical Edge of Cut Bench: 2 feet.
7. Minimum Width of Fill Lift: At least as wide as the compaction equipment.

3.03 SITE TESTING BY OWNER

A. Gradation:

1. One sample from each 500 yards of material placed or more often as determined by Engineer, if variation in gradation is occurring, or if material appears to depart from Specifications.
2. If test results indicate material does not meet Specification requirements, terminate material placement until corrective measures are taken.
3. Remove material placed in Work that does not meet Specification requirements.

B. In-Place Density Tests:

1. In accordance with ASTM D6938. During placement of materials, test as follows:
   a. Earth Fill: One per 250 cubic yards, and at least two per vertical foot of fill placed each day.
   b. Base Course Rock: One per 1,000 square feet of area placed for each lift.
   c. Structural Fill: One per 200 cubic yards, and at least two per vertical foot of fill placed each day.
2. Adjust moisture condition and recompact material placed in Work that does not meet Specification requirements. Reduce lift thickness as necessary to achieve specified relative compaction.

3.04 SETTLEMENT MONITORING FOR FILL

A. Install settlement monitoring markers or monuments on top surface of fill subgrade within 1 foot of locations shown on Drawing 050-C-1001.

B. Protect monuments in place until receiving approval from Engineer for discontinuation of survey, embed in concrete base if necessary to protect from construction traffic.

C. Survey northing, easting, and elevations within 1 day after monument installation, at 2 days, and weekly thereafter.

D. Submit a Settlement Monitoring Survey Report within 2 days after each survey. Include the date, time, coordinates, and elevation of all prior survey results.

E. Obtain written confirmation from Engineer that settlement has sufficiently subsided prior to installation of 30-inch RW pipeline. The preliminary estimate of the settlement period is three to 4 weeks.

3.05 GRANULAR BASE, SUBBASE, AND SURFACING

A. Place and Compact as specified in Section 32 11 23, Aggregate Base Courses.

3.06 REPLACING OVEREXCAVATED MATERIAL

A. Replace excavation carried below grade lines shown or established by Engineer as follows:

1. Beneath Footings: Concrete of strength equal to that of respective footing, as specified in Section 03 30 00, Cast-in-Place Concrete.
2. Beneath Fill or Backfill: Same material as specified for overlying fill or backfill.
3. Beneath Slabs-On-Grade: Structural fill.
4. Trenches:
    a. Unauthorized Overexcavation: Either aggregate base course as specified in Section 32 11 23, Aggregate Base Courses, or Controlled Low Strength Material, as specified in Section 31 23 23.15, Trench Backfill.

3.07 ACCESS ROAD SURFACING

A. Place and compact aggregate base course as specified in Section 32 11 23, Aggregate Base Courses. Place and compact asphalt concrete as specified in Section 32 12 16, Asphalt Paving.

END OF SECTION

WELDING

1. WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS):
   - D1.1, STRUCTURAL WELDING CODE STEEL
   - D1.2, STRUCTURAL WELDING CODE ALUMINUM
   - D1.3, STRUCTURAL WELDING CODE SHEET STEEL
   - D1.4, STRUCTURAL WELDING CODE REINFORCING STEEL
   - D1.6, STRUCTURAL WELDING CODE STAINLESS STEEL
2. REPAIR WELDS FOUND DEFECTIVE IN ACCORDANCE WITH AWS D1.1 CLAUSE 7.25.
3. USE INTERMITTENT WELDS AT FIELD WELDS OF EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.
4. BUTT JOINT WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.

STRUCTURAL STEEL AND METAL FABRICATIONS

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

W-SHAPES AND CHANNELS	A992
MISCELLANEOUS SHAPES INCLUDING	
ANGLES, PLATES, ETC.	A572, GRADE 50
HOLLOW STRUCTURAL SECTIONS (HSS)	A500, GRADE C
STEEL PIPE	A53, GRADE B
STAINLESS STEEL SHAPES	A276

2. ALUMINUM SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

STRUCTURAL SHAPES	B308
PLATES	B209

3. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT CalOSHA STANDARDS.
4. FASTENERS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING ASTM STANDARDS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:

UNLESS SHOWN OTHERWISE	F3125, GRADE A325, TYPE 1
ANCHOR BOLTS (AB)	
STAINLESS STEEL	F593, AISI TYPE 316, CONDITION CW
STEEL OR GALVANIZED STEEL	F1554, GR 36 / A153
MACHINE BOLTS (MB)	
STEEL	A307
STAINLESS STEEL	F593, AISI TYPE 316, CONDITION CW
GALVANIZED STEEL	A307 / A153
ALUMINUM	F468, ALLOY 2024-T4

5. ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
6. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE PERMITTING AGENCY FOR ACCEPTANCE PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK OR ARE REQUIRED TO BE SUBMITTED FOR REVIEW ONLY BY THE ENGINEER.
2. WHERE DEFERRED SUBMITTALS INCLUDE ADDITIONAL MATERIALS, INSTALLATION, ANCHORAGE, OR CERTIFICATION OF COMPONENTS THAT REQUIRE SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION TO MEET CODE REQUIREMENTS, THE DEFERRED SUBMITTAL SHALL INCLUDE SPECIFIC LINE ITEMS TO BE ADDED TO THE APPROPRIATE TABLES IN THE PROJECT'S STATEMENT OF SPECIAL INSPECTIONS PLAN IF THEY ARE NOT ALREADY IDENTIFIED.
3. THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER SECTION 107,3,4,1 OF 2022 CBC THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OR SAFETY RELATED SYSTEM INFORMATION FOR REVIEW TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE, THE CONTRACTOR SHALL SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ADDITIONALLY, ACCEPTANCE INDICATED ON THE ENGINEER'S COMMENT FORM, ALONG WITH THE COMPLETED, FINAL SUBMITTAL SHALL THEN BE SUBMITTED BY THE CONTRACTOR TO THE PERMITTING AGENCY AND APPROVED PRIOR TO INSTALLATION OF THESE ITEMS.

SPECIFICATION SECTION	CODE REQUIRED DEFERRED SUBMITTALS FOR REVIEW BY PERMITTING AGENCY
01 88 15	ANCHORAGE AND BRACING
05 52 16	ALUMINUM RAILING
33 05 16.13	PRECAST CONCRETE UTILITY STRUCTURE
35 79 19	FISH SCREEN
40 05 15	PIPING SUPPORT SYSTEMS
44 42 56.23	PUMP CAN
OTHER	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS

1

REGISTERED PROFESSIONAL ENGINEER JEREMY A. HENRIKSON No. S5698 STRUCTURAL STATE OF CALIFORNIA

04/02/2024

NO.	DATE	REVISION	DR	CHK	APVD
1	03/19/2024	ADDENDUM 1	J MINOR	H HENRIKSON	B MEMEO
DSGN	J KELLOGG				

	JM	BM
	BY	APVD

ELKHORN PUMPING PLANT REPLACEMENT
Natomas Mutual Water Company
Rio Linda, CA

Jacobs

GENERAL

STRUCTURAL NOTES 2

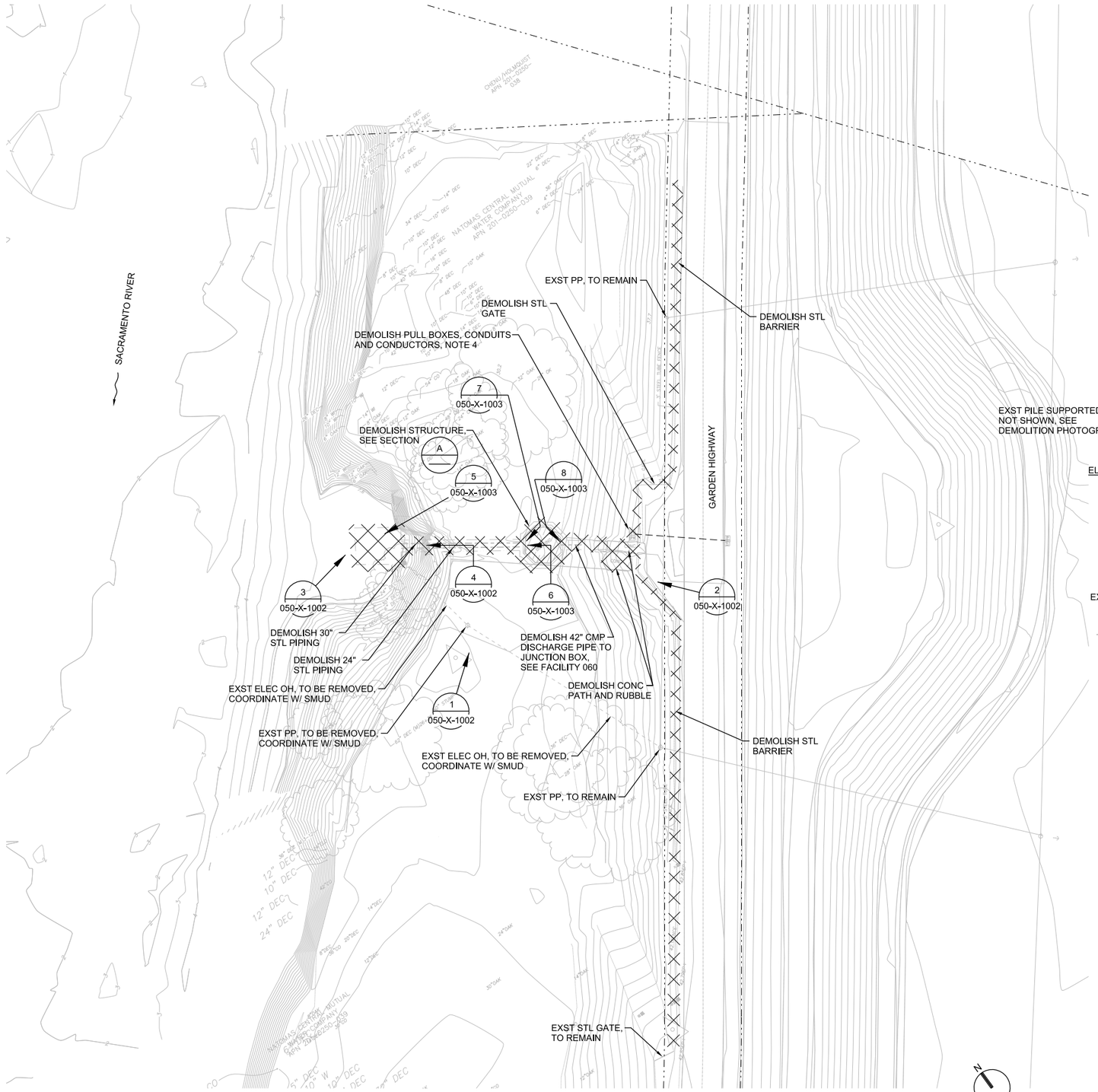
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

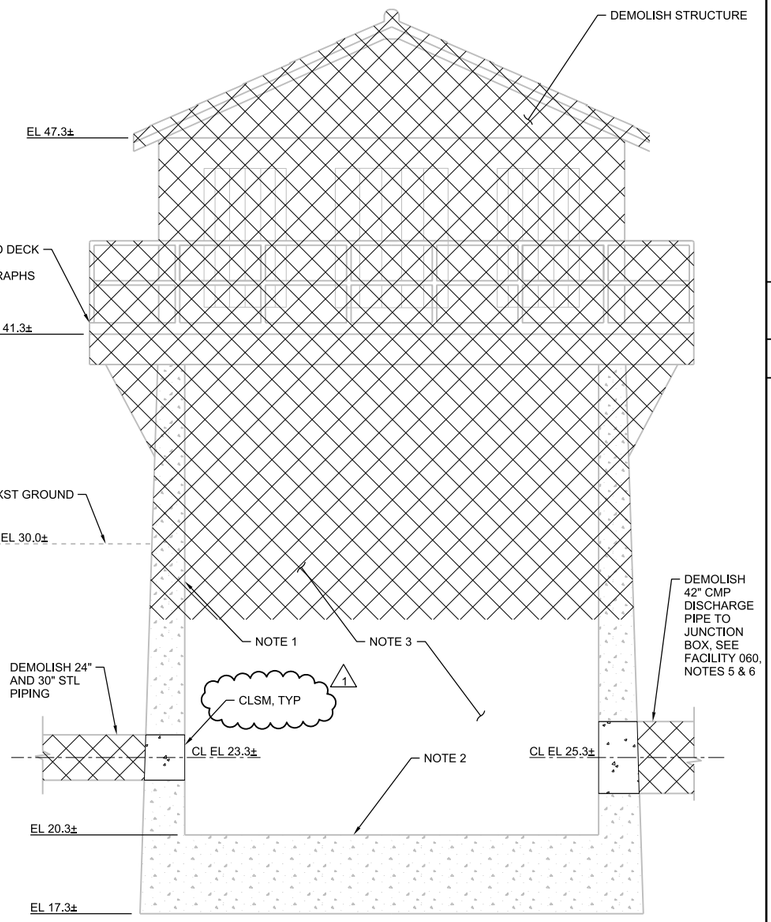
DATE	APRIL 2024
PROJ	W8Y09802
DWG	000-G-0006
SHEET	6 of 66

NOTES:

1. DEMOLISH CONCRETE WALLS 3 FEET (MIN) BELOW EXISTING GROUND.
2. ABANDON EXISTING CONCRETE FOUNDATION/SLAB IN-PLACE. CORE DRILL EIGHT (8) 6-INCH DIAMETER HOLES (EVENLY DISTRIBUTED) IN CONCRETE SLAB.
3. BACKFILL STRUCTURE: PROVIDE CLEAN CRUSHED DRAIN ROCK IN CORE HOLES AND A MINIMUM OF 1' ABOVE PERFORATED CONCRETE SLAB. PROVIDE STRUCTURAL FILL ABOVE DRAIN ROCK MATERIAL TO EXISTING GROUND, PLACE GEOTEXTILE BETWEEN STRUCTURAL FILL AND DRAIN ROCK, AND CONTINUE GEOTEXTILE TO OVERLAP A MINIMUM OF 1 FOOT ALONG CONTACT OF STRUCTURAL FILL WITH CONCRETE.
4. DEMOLISH CONDUITS AND CONDUCTORS EXTENDING FROM THE PULL BOXES TO PUMPING PLANT. CONDUITS EXTENDING FROM THE PULL BOXES TOWARD GARDEN HIGHWAY AND THROUGH THE LEVEE SHALL BE PROTECTED IN PLACE FOR REUSE.
5. INSTALL VALVES IN VALVE VAULT PER DWG 050-YP-2001, PRIOR TO DEMOLISHING EXISTING SLIDE GATE AND 42" CMP DISCHARGE PIPE.
6. INSTALL AND MAINTAIN A TEMPORARY WATER-TIGHT PLUG IN EXISTING 42" CMP DISCHARGE PIPE ON WATERSIDE OF LEVEE. REMOVE TEMPORARY PLUG UPON COMPLETION OF FACILITY 060, JUNCTION BOX.



PLAN
1"=30'



A SECTION
NTS

04/02/2024

NO.	DATE	REVISION	DR	CHK	APVD
1	3/19/2024	ADDENDUM 1	JM	BY	APVD
				BM	B MEMEO

DSGN A KELLOGG | J MINOR | T HOWARD

ELKHORN PUMPING PLANT REPLACEMENT
Natomas Mutual Water Company
Rio Linda, CA

Jacobs

CIVIL

DEMOLITION PLAN AND SECTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	APRIL 2024
PROJ	W8Y09802
DWG	050-X-1001
SHEET	18 of 66

SURVEY CONTROL TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
744*	2020334.04	6672036.61	42.32	SET 1" IP w/PSO CAP
746	2018634.818	6670645.11	41.49	SET 1" IP w/PSO CAP
1105	2018339.462	6670422.58	43.24	REBAR & CAP
1106	2018766.36	6670911.48	47.40	REBAR & CAP
1107	2018857.712	6670667.27	32.11	IRON PIPE SET W/PLUG
2208*	2016209.41	6673165.81	28.35	5/8" REBAR & PSO CAP

* NOT SHOWN

BENCHMARK:

NGS "G-858" BRASS DISK SET IN SOUTH END OF THE EAST HEAD WALL, IN A CONCRETE BRIDGE 9 FEET EAST OF THE CENTERLINE OF S. BREWER ROAD.

ELEV: 67.56'

DATUM: NAVD88

SETTLEMENT MONITORING MARKERS, NOTE 4

	NORTHING	EASTING
200	2018878.28	6670739.54
201	2018898.32	6670711.71

NOTES:

1. NEWLY VEGETATED AREA NOT BE BE DISTURBED BY CONTRACTOR STAGING OR STORAGE WITHOUT PERMISSION. ANY DISTURBANCE OF THIS AREA WILL NEED TO BE REVEGETATED PER SAFCA SPECIFICATIONS.
2. DATE OF AERIAL IMAGERY SHOWN IN VICINITY OF PUMPING PLANT SITE IS JUNE 21, 2023. ADDITIONAL AERIAL IMAGERY FOR THE SURROUNDING AREA IS DATED JULY 7, 2022. AERIAL IMAGERY IS PROVIDED FROM NEARMAP, INC.
3. DO NOT OBSTRUCT PATROL ROADS OR RAMPS.
4. INSTALL SETTLEMENT MONITORING MARKERS OR MONUMENTS AS SPECIFIED. PROTECT MONUMENTS IN PLACE DURING SETTLEMENT MONITORING PERIOD AND UNTIL REMOVAL IS APPROVED BY ENGINEER.

WORK LIMIT CONTROL TABLE		
POINT NO.	NORTHING	EASTING
500	2019142.95	6670732.37
501	2018980.73	6670980.04
502	2018892.55	6670924.42
503	2018740.47	6670945.02
504	2018672.32	6671045.72
505	2018635.65	6671021.67
506	2018603.6	6671073.22
507	2018510.26	6671015.19
508	2018502.84	6671012.57
509	2018503.27	6670962.95
510	2018516.51	6670941.84
511	2018214.7	6670668.76
512	2018197.38	6670600.1
513	2018232.3	6670572.85
514	2018320.89	6670555.26
515	2018485.52	6670602.26
516	2018689.87	6670307.27
517	2019082.45	6670575.1

0 100 200 300
1"=100'

REGISTERED PROFESSIONAL ENGINEER
ASHLEY E. KELLOGG
C76561
CIVIL
STATE OF CALIFORNIA

04/02/2024

NO.	DATE	REVISION	DSGN	DR	CHK	APVD
1	3/19/2024	ADDENDUM 1	A KELLOGG	K BISHOP	T HOWARD	B MEMEO
				JM	BY	APVD
					BM	APVD

ELKHORN PUMPING PLANT REPLACEMENT
Natomas Mutual Water Company
Rio Linda, CA

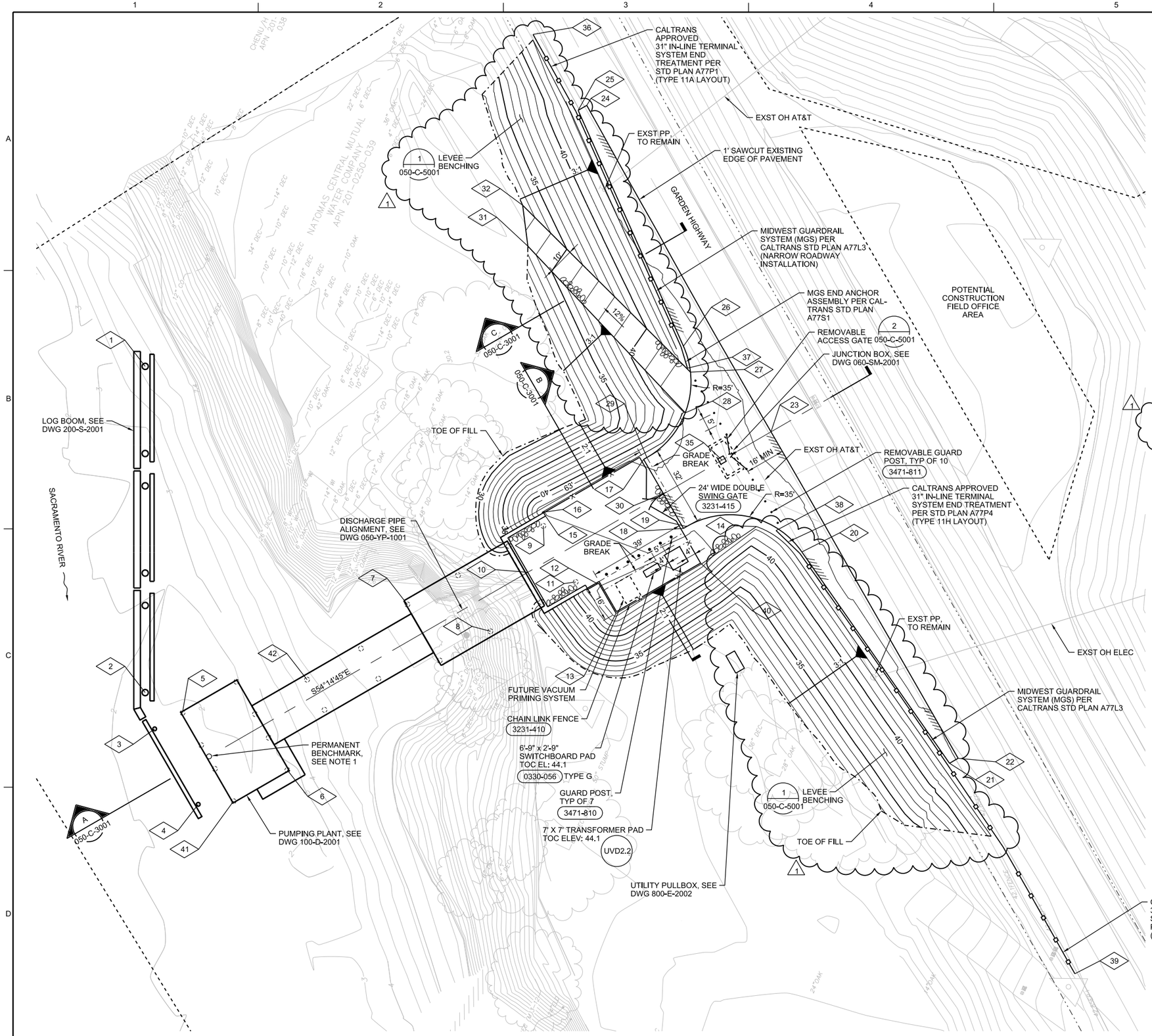
Jacobs

CIVIL

OVERALL SITE PLAN AND SURVEY CONTROL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	APRIL 2024
PROJ	W8Y09802
DWG	050-C-1001
SHEET	21 of 66



GRADING COORDINATE TABLE

FINISH GRADE CONTROL TABLE

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	2019075.34	6670719.95		CENTER OF PILE
2	2019021.54	6670600.51		CENTER OF PILE
3	2019012.09	6670588.78		CENTER OF PILE
4	2018983.69	6670568.33		CENTER OF PILE
5	2019004.55	6670599.25		CENTER OF PILE
6	2018956.67	6670595.59		CENTER OF PILE
7	2018940.03	6670676.02		CENTER OF PILE
8	2018905.20	6670679.90		CENTER OF PILE
9	2018903.17	6670727.22		CENTER OF PILE
10	2018901.24	6670707.65	43.75	EDGE OF GRAVEL SURFACING
11	2018878.03	6670712.51	43.00	EDGE OF GRAVEL SURFACING
12	2018873.49	6670715.39	43.67	EDGE OF GRAVEL SURFACING
13	2018862.12	6670707.21	44.75	EDGE OF GRAVEL SURFACING
14	2018825.04	6670762.15	42.34	HINGE
15	2018904.00	6670731.20	43.00	EDGE OF GRAVEL SURFACING
16	2018905.91	6670731.97	42.89	EDGE OF GRAVEL SURFACING
17	2018877.41	6670768.13	41.92	EDGE OF PAVEMENT
18	2018851.44	6670749.43	42.56	EDGE OF PAVEMENT
19	2018850.57	6670750.65	42.52	EDGE OF PAVEMENT
20	2018804.18	6670760.34	42.94	EDGE OF PAVEMENT
21	2018715.25	6670707.32	42.94	EDGE OF PAVEMENT
22	2018712.91	6670710.56	43.02	SAWCUT - MATCH EXISTING
23	2018835.30	6670799.23	43.17	SAWCUT - MATCH EXISTING
24	2018956.63	6670888.37	43.34	SAWCUT - MATCH EXISTING
25	2018958.96	6670885.12	43.23	EDGE OF PAVEMENT
26	2018881.51	6670816.16	42.86	EDGE OF PAVEMENT
27	2018874.64	6670807.80	42.74	EDGE OF PAVEMENT
28	2018869.83	6670792.04	42.13	EDGE OF PAVEMENT
29	2018876.38	6670769.57	41.88	EDGE OF PAVEMENT
30	2018863.55	6670750.00	42.20	GRADE BREAK
31	2018963.63	6670841.21	32.24	MATCH EXISTING
32	2018954.98	6670827.1	33.48	MATCH EXISTING
33				NOT USED
34				NOT USED
35	2018848.57	6670780.80	42.71	TOP OF GRATE
36	2018988.00	6670905.49		BEGIN MGS
37	2018876.39	6670808.74		END MGS (APPROX)
38	2018817.18	6670763.93		BEGIN MGS
39	2018700.47	6670697.02		END MGS (APPROX)
40	2018839.04	6670739.27	43.81	HINGE
41	2018971.28	6670575.30		CENTER OF PILE
42	2018964.38	6670631.94		CENTER OF PILE

NOTE:

1. PERMANENT BENCHMARK (BRASS CAP OR SIMILAR) TO BE INSTALLED BY CONTRACTOR AT PROJECT COMPLETION. BENCHMARK CONTROL AND ELEVATION TO BE NOTED ON AS-BUILT PLANS.

0 20 40 60
1"=20'

REGISTERED PROFESSIONAL ENGINEER ASHLEY E. KELLOGG C76561 CIVIL STATE OF CALIFORNIA

04/02/2024

NO.	DATE	REVISION	DR	CHK	APVD
1	3/19/2024	ADDENDUM 1	A KELLOGG	K BISHOP	T HOWARD

BY	APVD
JM	BM

B MEMEO

DSGN

ELKHORN PUMPING PLANT REPLACEMENT
Natomas Mutual Water Company
Rio Linda, CA

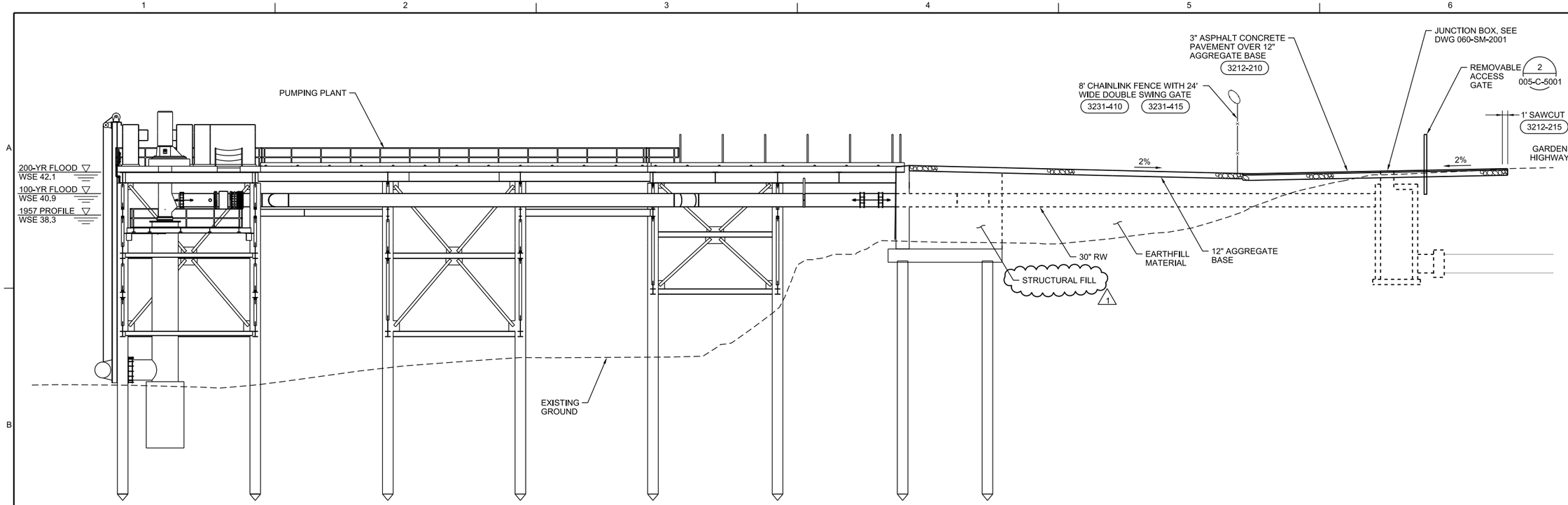
Jacobs

CIVIL

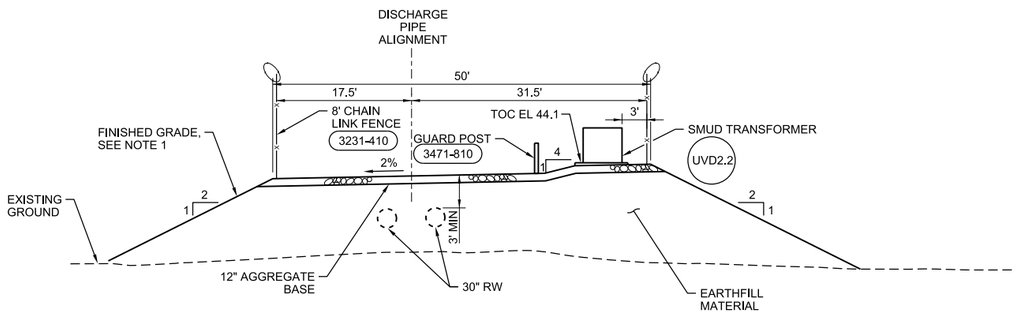
SITE PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

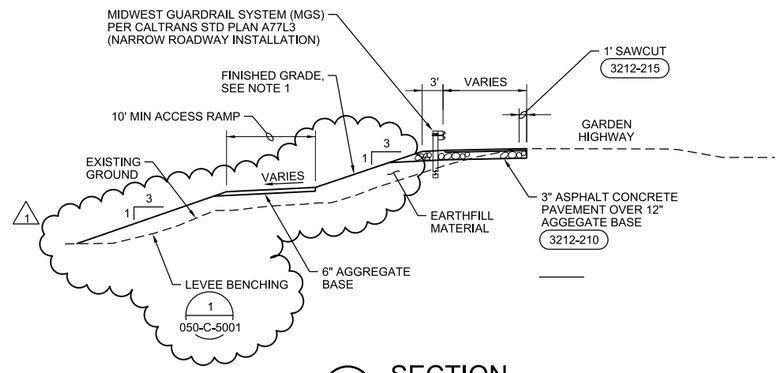
DATE	APRIL 2024
PROJ	W8Y09802
DWG	050-C-1002
SHEET	22 of 66



A SECTION
1" = 10'
050-C-1002



B SECTION
1" = 10'
050-C-1002



C SECTION
1" = 10'
050-C-1002

NOTES:

1. SURFACE RESTORATION OF EARTHEN SLOPES SHALL BE VEGETATED IN ACCORDANCE WITH SECTION 01 30 00 ENVIRONMENTAL REQUIREMENTS AND THE APPROVED SWPPP. VEGETATED COVER TYPE SHALL ADHERE TO THOSE LISTED IN CALIFORNIA CODE OF REGULATIONS, TITLE 23, WATERS, DIVISION 1. CENTRAL VALLEY FLOOD PROTECTION BOARD, CHAPTER 1. ORGANIZATION, POWERS AND STANDARDS, ARTICLE 8. STANDARDS, SECTION 131. VEGETATION, TABLE 8.4 PARTIAL LIST OF GROUND COVERS SUITABLE ON LEVEES.

REGISTERED PROFESSIONAL ENGINEER
ASHLEY E. KELLOGG
C76561
CIVIL
STATE OF CALIFORNIA

04/02/2024

NO.	DATE	REVISION	DR	CHK	APVD
1	3/19/2024	ADDENDUM 1	JM	BM	APVD

DSGN A KELLOGG | K BISHOP | T HOWARD | B MEMEO

ELKHORN PUMPING PLANT REPLACEMENT
Natomas Mutual Water Company
Rio Linda, CA

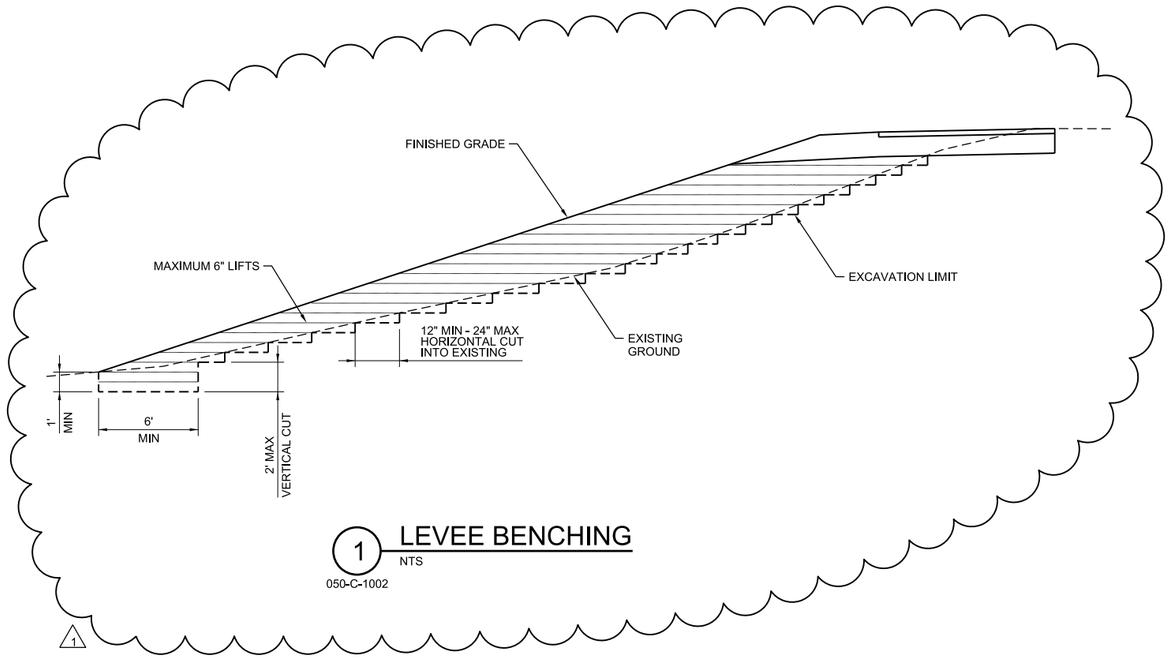
Jacobs

CIVIL

SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

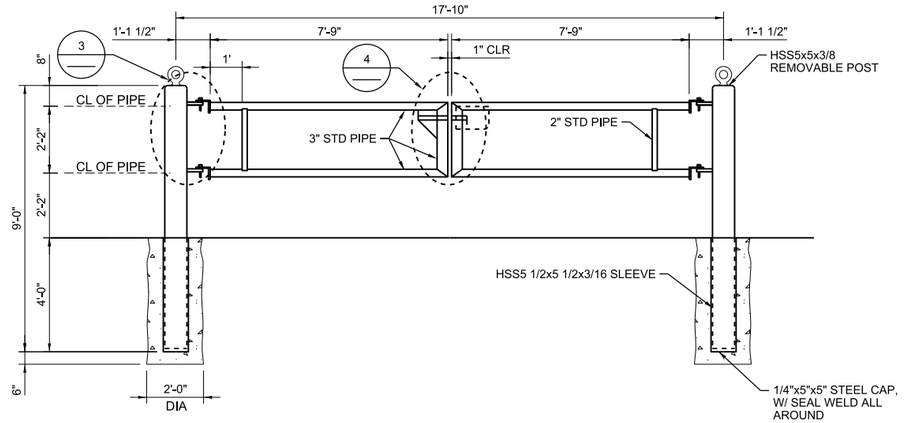
DATE	APRIL 2024
PROJ	W8Y09802
DWG	050-C-3001
SHEET	23 of 66



1 LEVEE BENCHING

NTS

050-C-1002

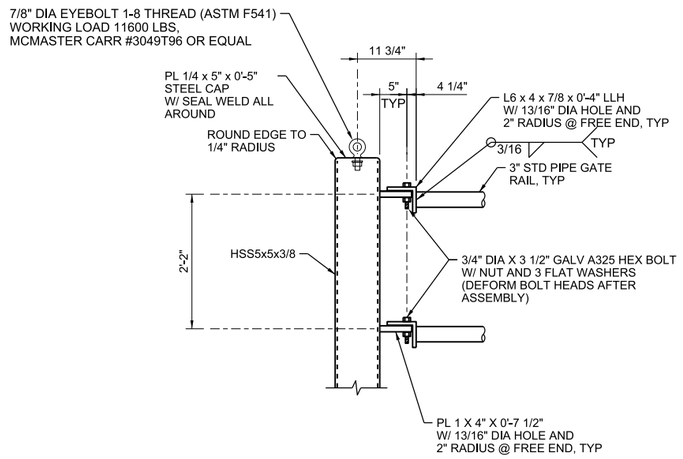


ACCESS CONTROL GATE FRONT ELEVATION

2 REMOVABLE ACCESS GATE

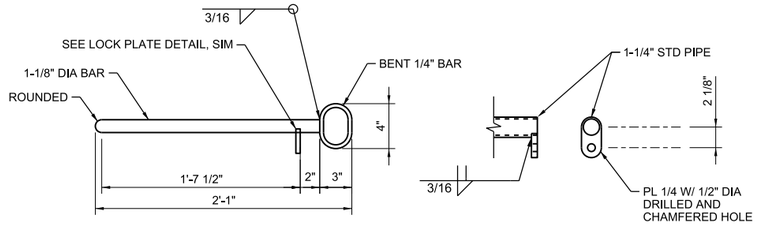
NTS

050-C-1002



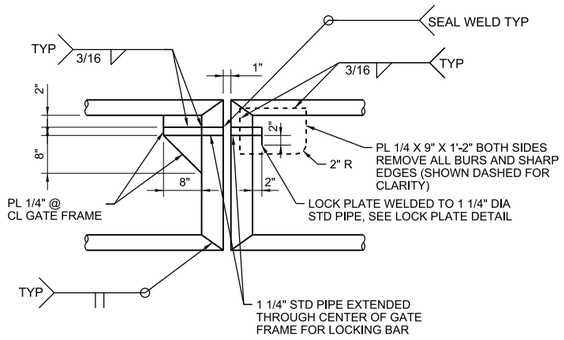
3 DETAIL

NTS



LOCKING BAR

LOCK PLATE



4 DETAIL

NTS

04/02/2024

NO.	DATE	DSGN	DR	CHK	APVD	BY
1	3/19/2024	A KELLOG	K BISHOP	T HOWARD	APVD	JM

REVISION

ADDENDUM 1

BM APVD

B MEMEO

ELKHORN PUMPING PLANT REPLACEMENT

Natomas Mutual Water Company

Rio Linda, CA

Jacobs

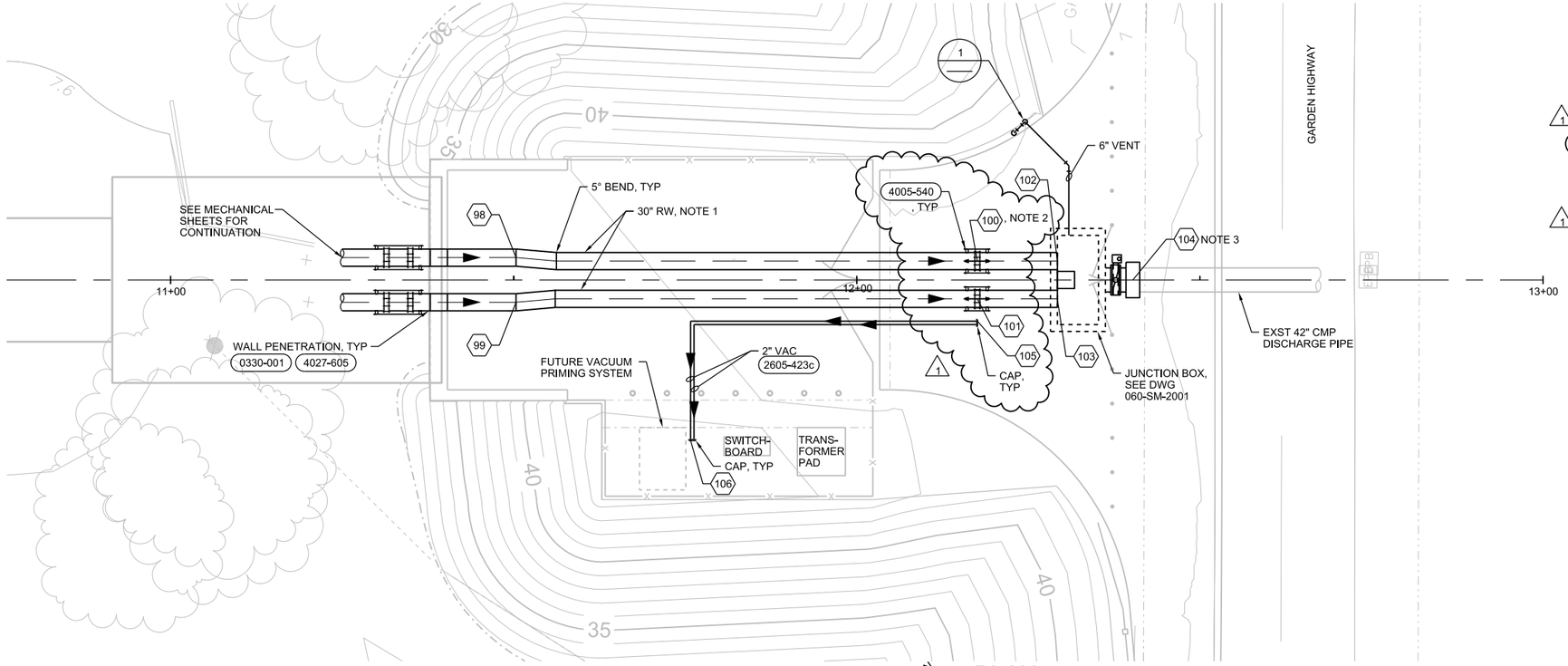
CIVIL

DETAILS

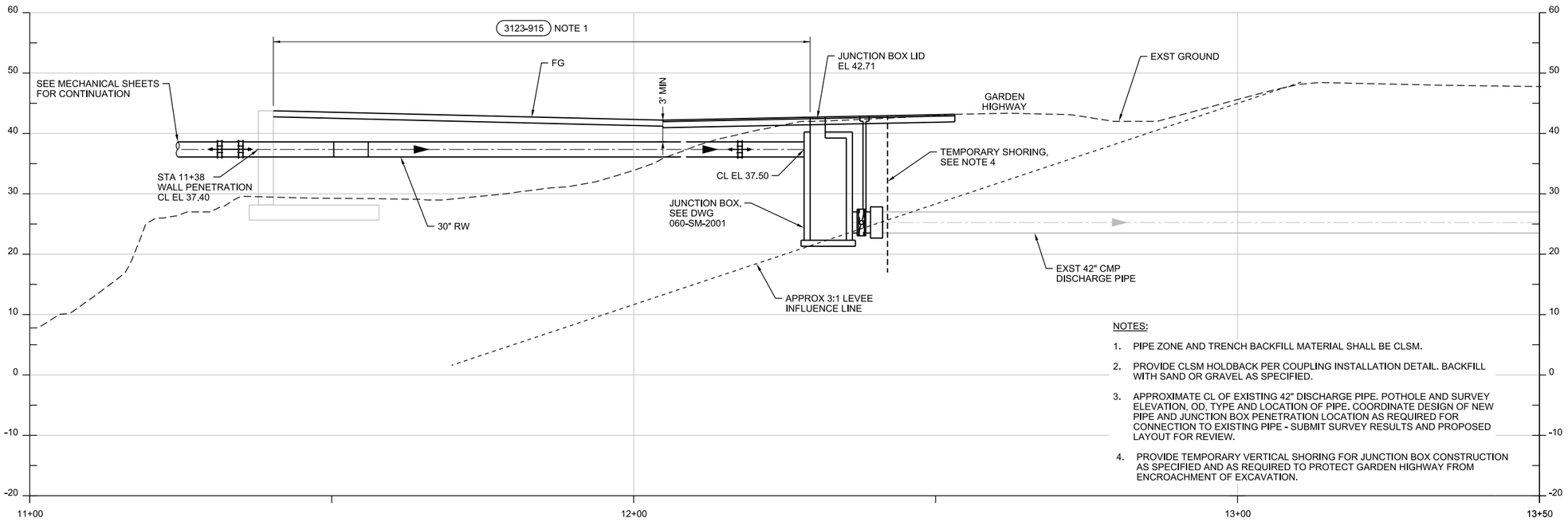
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	APRIL 2024
PROJ	W8Y09802
DWG	050-C-5001
SHEET	24 of 66



PLAN
1"=10'



PROFILE
1"=10'

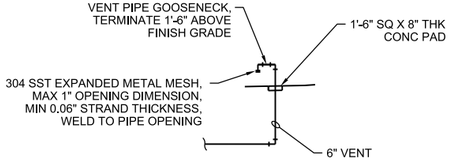
NOTES:

1. PIPE ZONE AND TRENCH BACKFILL MATERIAL SHALL BE CLSM.
2. PROVIDE CLSM HOLDBACK PER COUPLING INSTALLATION DETAIL. BACKFILL WITH SAND OR GRAVEL AS SPECIFIED.
3. APPROXIMATE CL OF EXISTING 42" DISCHARGE PIPE. POTHOLE AND SURVEY ELEVATION, OD, TYPE AND LOCATION OF PIPE. COORDINATE DESIGN OF NEW PIPE AND JUNCTION BOX PENETRATION LOCATION AS REQUIRED FOR CONNECTION TO EXISTING PIPE - SUBMIT SURVEY RESULTS AND PROPOSED LAYOUT FOR REVIEW.
4. PROVIDE TEMPORARY VERTICAL SHORING FOR JUNCTION BOX CONSTRUCTION AS SPECIFIED AND AS REQUIRED TO PROTECT GARDEN HIGHWAY FROM ENCROACHMENT OF EXCAVATION.

YARD PIPING COORDINATE TABLE

YARD PIPING CONTROL TABLE

POINT NO.	NORTHING	EASTING	CL ELEVATION	DESCRIPTION
98	2018898.04	6670717.68	37.41	30" RW
99	2018892.76	6670713.87	37.41	30" RW
100	2018858.34	6670771.95	37.49	30" RW
101	2018853.87	6670768.73	37.49	30" RW
102	2018851.53	6670781.4	37.50	30" RW
103	2018847.07	6670778.18	37.50	30" RW
104	2018842.87	6670788.72	25.25, NOTE 3	42" RW
105	2018851.24	6670766.84	39.25	2" VAC
106	2018861.56	6670722.75	41.25	2" VAC



SECTION

1 DETAIL
NTS

REGISTERED PROFESSIONAL ENGINEER ASHLEY E. KELLOGG C76561 CIVIL STATE OF CALIFORNIA

04/02/2024

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
1	3/19/2024	ADDENDUM 1	A KELLOGG	K BISHOP	T HOWARD	JM	BM

B MEMEO

ELKHORN PUMPING PLANT REPLACEMENT
Natomas Mutual Water Company
Rio Linda, CA

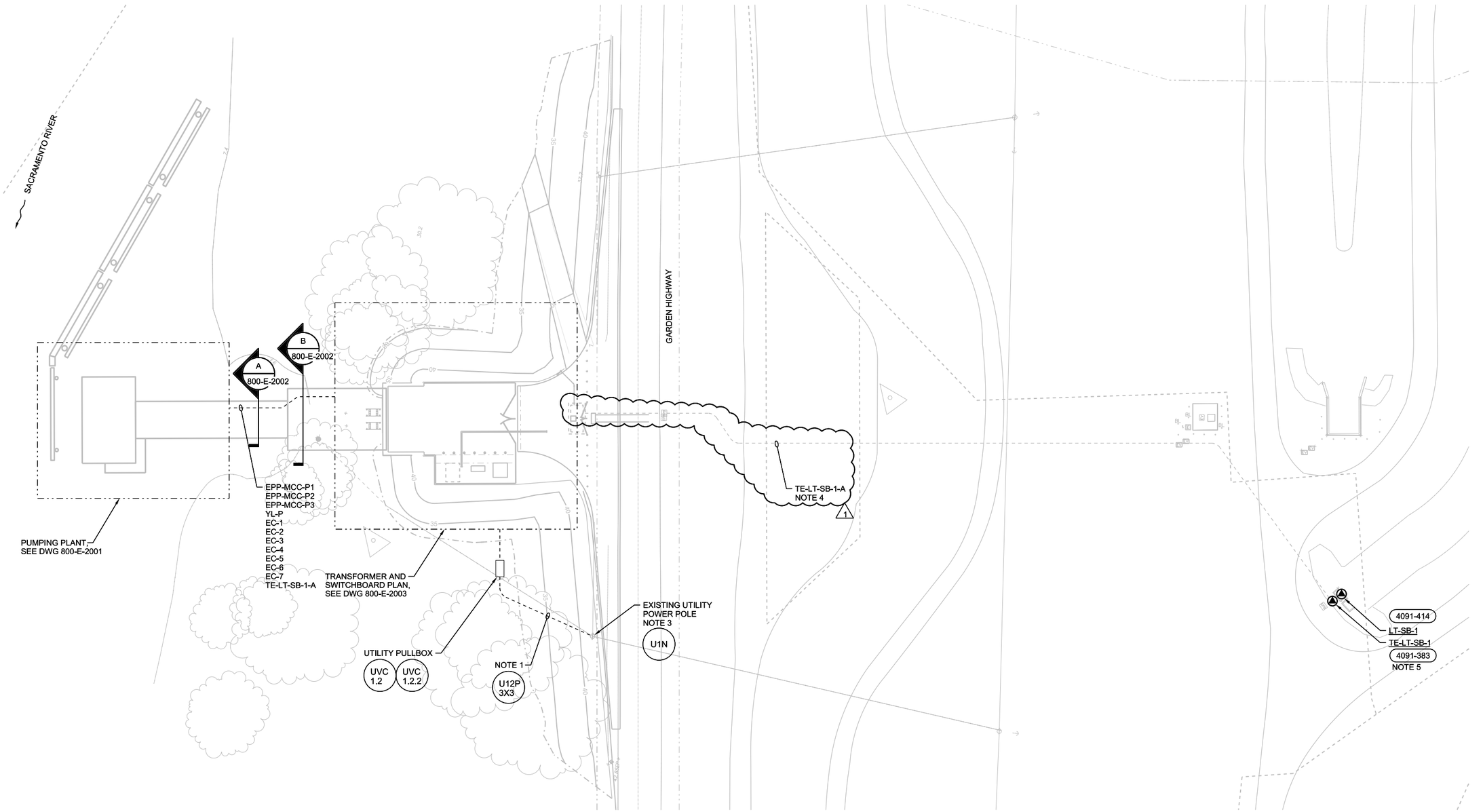
Jacobs

CIVIL

DISCHARGE PIPING PLAN AND PROFILE

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	APRIL 2024
PROJ	W8Y09802
DWG	050-YP-1001
SHEET	25 of 66



PLAN
1"=25'

NOTES:

1. PROVIDE SERVICE RELATED CONSTRUCTION IN ACCORDANCE WITH SMUD REQUIREMENTS.
2. UTILITY PRIMARY: PROVIDE POLE RISER, TRENCH, CONDUIT, AND BACKFILL IN ACCORDANCE WITH SMUD REQUIREMENTS, COORDINATE LOCATION OF UTILITY CONNECTION.
3. STUB 4" CONDUIT 10' UP EXISTING POWER POLE. COORDINATE WITH SMUD FOR FINAL CONDUIT SIZE.
4. TE-LT-SB-1-A SHALL BE ROUTED IN EXISTING 2" CONDUIT TO THE LOCATION OF NEW SEDIMENTATION BASIN LEVEL TERMINAL ENCLOSURE. SEE DWG 800-E-2002 FOR EXISTING CONDUIT TIE IN POINT.
5. EXTEND EXISTING CONDUIT TO NEW STANCHION MOUNTED TERMINAL ENCLOSURE AND TERMINATE CONDUCTORS AT TE-LT-SB-1. PROVIDE NEW CONDUIT AND CONDUCTORS BETWEEN TE-LT-SB-1 AND LT-SB-1 SIZED PER CIRCUIT CALLOUT LT-SB-1-MSC. MOUNT TERMINAL ENCLOSURE AND LEVEL TRANSDUCER PER STANDARD DETAILS.

1 0 25 50 75
1"=25'

REGISTERED PROFESSIONAL ENGINEER
STEPHEN DWAYNE PARKER
No. E17110
Exp. 8/30/2025
ELECTRICAL
STATE OF CALIFORNIA

04/02/2024

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	03/19/2024	S SHORT	J MINOR	S PARKER	B MEMEO	RS	BM
	ADDENDUM 1		REVISION				

ELKHORN PUMPING PLANT REPLACEMENT
Natomas Mutual Water Company
Rio Linda, CA

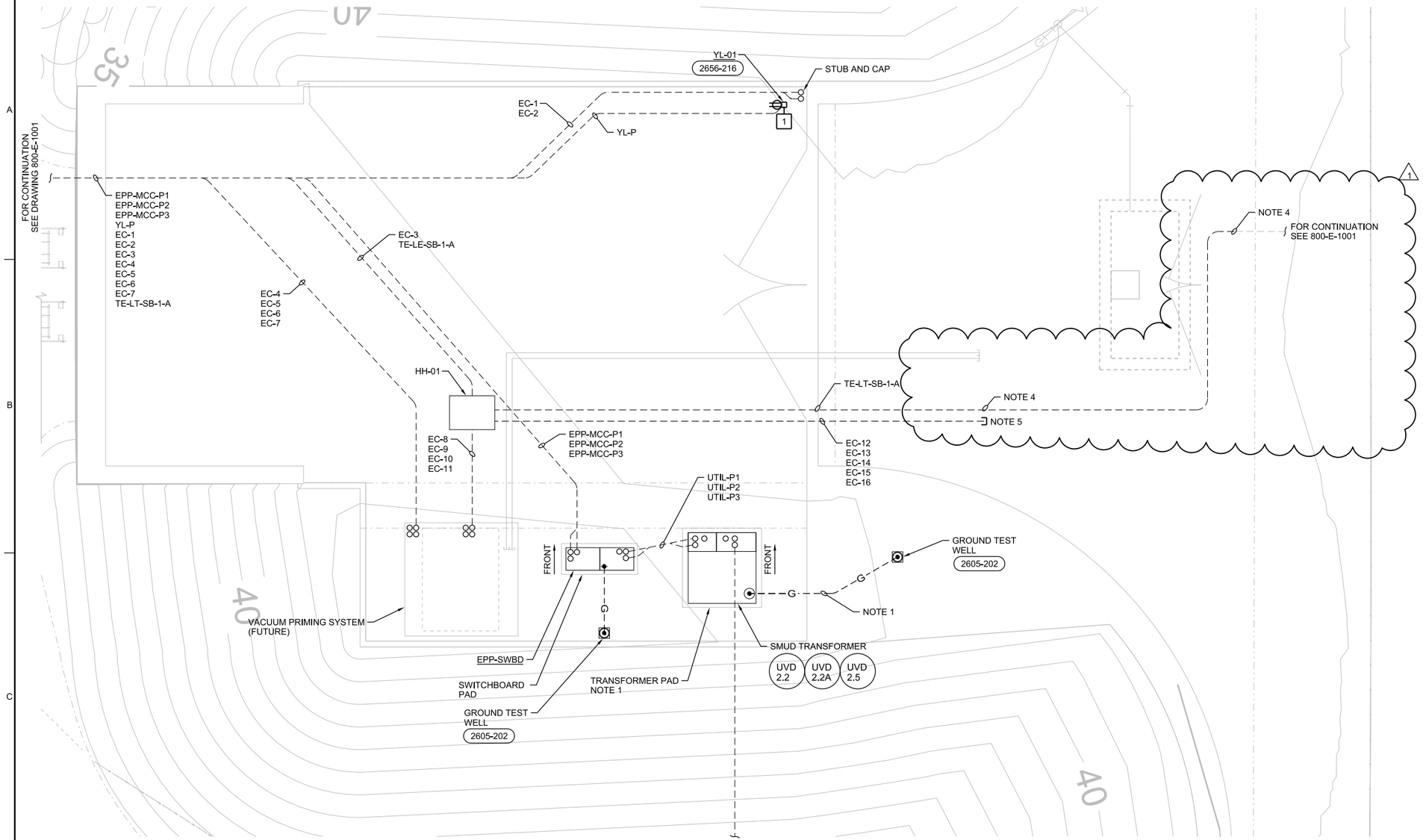
Jacobs

ELECTRICAL

SITE PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	APRIL 2024
PROJ	W8Y09802
DWG	800-E-1001
SHEET	49 of 66



NOTES:

1. PROVIDE SERVICE RELATED CONSTRUCTION AND GROUNDING IN ACCORDANCE WITH SMUD REQUIREMENTS.
2. UTILITY PRIMARY: TRENCH, CONDUIT, AND BACKFILL IN ACCORDANCE WITH SMUD REQUIREMENTS.
3. IT IS ASSUMED THAT ALL FUTURE VACUUM SYSTEM EQUIPMENT WILL BE FED FROM A 120/240V SUB PANELBOARD LOCATION NEAR VACUUM SYSTEM. SUB PANELBOARD WILL BE FED FROM LP-01.
4. LEVEL INSTRUMENT CONDUCTORS SHALL BE FED IN NEW CONDUIT TO EXISTING 2" CONDUIT THAT CROSSES UNDER THE LEVEE. CONTRACTOR TO FIELD LOCATE EXISTING 2" CONDUIT TIE IN POINT.
5. CAP BURIED CONDUITS ON EAST SIDE OF ENTRANCE GATE FOR FUTURE EQUIPMENT.

PLAN
1"=5'

0 5 10 15
1"=5'

REGISTERED PROFESSIONAL ENGINEER
STEPHEN DWAYNE PARKER
No. E17110
Exp. 8/30/2025
ELECTRICAL
STATE OF CALIFORNIA
04/02/2024

NO.	DATE	DSGN	REVISION	CHK	APVD
1	03/19/2024	S SHORT	ADDENDUM 1	J MINOR	S PARKER
				RS	BY
				BM	APVD

B MEMEO

Jacobs

ELECTRICAL

TRANSFORMER AND SWITCHBOARD PLAN

ELKHORN PUMPING PLANT REPLACEMENT

Natomas Mutual Water Company

Rio Linda, CA

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	APRIL 2024
PROJ	W8Y09802
DWG	800-E-2003
SHEET	52 of 66