



SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT

RFB #8342 Chiller Base Demolition and Rehab

ADDENDUM No. 2

**RECEIPT OF THIS ADDENDUM MUST BE ACKNOWLEDGED IN THE SPACE PROVIDED
ON THE COST RESPONSE.**

Addendum No. 2 is hereby made part of the Regional San RFB #8342.

Dated: 02/21/2020

Ami Patrick, PE
Associate Civil Engineer
Regional San

ADDENDUM No. 2

RECEIPT OF THIS ADDENDUM MUST BE ACKNOWLEDGED IN THE SPACE PROVIDED ON THE COST RESPONSE.

Addendum Item	Section and Page or Drawing No.	Location and Description of Change
2.001	Pre-Bid meeting	An optional pre-bid site walk will be held at 9:00 am on Thursday, February 27, 2020. Attendees must email Andrew Frankel at frankela@sacsewer.com prior to this meeting.
2.002	Original RFB #8342 document: pages 1, 2, 5, 9, 36	Replace these pages with the pages included in Addendum No. 2.
2.003	Added specification section 01 14 16.	Specification Section 01 14 16 "Coordination With Occupants" included with Addendum No. 2.
2.004	Added specification section 01 29 76.	Specification Section 01 29 76 "Progress Payment Procedures" included with Addendum No. 2.
2.004	Added specification section 01 31 19.	Specification Section 01 31 19 "Project Meetings" included with Addendum No. 2.
2.004	Added specification section 01 32 16.	Specification Section 01 32 16 "Construction Progress Schedule" included with Addendum No. 2.
2.005	Added specification section 01 33 00.	Specification Section 01 33 00 "Submittal Procedures" included with Addendum No. 2.
2.006	Added specification section 01 78 39.	Specification Section 01 78 39 "Project Record Documents" included with Addendum No. 2.
2.007	Added specification section 02 83 19.15	Work on this project will include lead paint removal per specification section 02 83 19.15 which is included with Addendum No. 2.

This Addendum No. 2 shall be incorporated into, and made part of, the contract documents for RFB #8342 Chiller Base Demolition and Rehab.

****END OF SECTION****

REQUEST FOR BID**This Is Not An Order - Make A Copy For Your File - Return Original**

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT 8521 LAGUNA STATION ROAD ELK GROVE, CA 95758-9550	Issue Date	January 29, 2020
	Bid Number	RFB # 8342
C O N T R A C T O R	Return your Bid in envelope, sealed and clearly marked on outside with Bid number and date shown below to: <div style="text-align: center;"> SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT 8521 LAGUNA STATION ROAD ELK GROVE, CA 95758-9550 ATTN: RFB # 8342 </div> <p>Bids must be received at Sacramento Regional County Sanitation District Reception and logged in prior to the date and time indicated. Bids will not be accepted after 3:00 P.M. on:</p> <p style="text-align: center;">February 21 <u>March 5</u>, 2020</p>	
	For Additional Information Contact	
	Issuing Officer:	Tamblynn Stewart
	PHONE:	(916) 875-9014
Merchandise or Service for Delivery To: Sacramento Regional County Sanitation District 8521 Laguna Station Road Elk Grove, CA 95758		

FAILURE TO SIGN THIS SECTION MAY DISQUALIFY YOUR RESPONSE

The undersigned offers and agrees to furnish the articles and/or services listed in this document at the prices and terms stated, subject to all of this Request for Bid:

Firm Name	Terms of Sale:
Signature	F.O.B. Point
Printed Name	CSLB No.:
Federal Tax ID Number	DIR Registration No.:
Date	E-Mail:
Telephone:	Fax:

Chiller Base Demolition and Rehabilitation Project

NOTICE TO CONTRACTORS

NOTICE IS HEREBY GIVEN THAT the Sacramento Regional County Sanitation District (Regional San) invites sealed bids to provide all labor and equipment necessary for RFB # 8342 Chiller Base Demolition and Rehabilitation Project, located at 8521 Laguna Station Road, Elk Grove, CA 95758.

ENGINEER'S ESTIMATE: ~~\$110,000~~ 130,000

Bids will be received at Regional San's Office, 8521 Laguna Station Rd, Elk Grove, CA 95758 **until 3:00p.m., February 21 March 5, 2020** to be publicly opened and declared aloud by Regional San representatives.

- 1) Any bidder who wishes its bid to be considered is responsible for making certain that its bid is actually delivered to the designated Regional San Office. Bids shall be addressed to the Sacramento Regional County Sanitation District, 8521 Laguna Station Rd, Elk Grove, CA 95758, ATTN: RFB # 8342.
- 2) Bidder envelope must clearly list contractor name and return address. Envelopes that do not list contractor name and address will not be opened.

Bidder shall be properly licensed in accordance with the Contractors' Licenses Law; Business and Professional Code of the State of California. See part 2.17 of this RFB for licensing requirements of this project.

Department of Industrial Relations (DIR) Compliance

- A. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5
- B. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
- C. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

A **MANDATORY Pre-Bid Meeting** will be held on **February 11, 2020 at 9:00AM** at the Sacramento Regional Wastewater Treatment Plant (8521 Laguna Station Rd, Elk Grove, CA 95758). The purpose of the meeting is to review and clarify project requirements, conduct site inspection, and to respond to questions from the bidders.

Pre-Bid Meeting attendees must e-mail Andrew Frankel at frankela@sacsewer.com with attendee names to RSVP prior to the meeting. This information is required to provide access at the Treatment Plant's security gate.

Detailed bid request document can be obtained by contacting Tamblynn Stewart at (916) 875-9014 or stewartt@sacsewer.com

Bid bond/deposit not less than ten (10) percent of the aggregate total bid is required to be submitted with the sealed bid.

Successful Bidder must furnish a 100 percent Performance Bond and Payment Bond.

Bidders are hereby notified that pursuant to Part 7, Chapter 1, Article 2, Section 1770, et seq., of the Labor Code of the State of California, the successful CONTRACTOR and its subcontractors shall pay their labor forces not less than the general prevailing rate of wages as determined by the Director of the Department of Industrial Relations, and travel and subsistence pay as such are defined in applicable collective bargaining agreements filed in accordance with Section 1773.8 of said Labor Code, for work needed and performed on this project. It shall, pursuant to the provisions of Section 1773.2 of said Labor Code, be a requirement of the work for the successful bidding contractor to post and maintain a copy of said wages' determinations at the project site throughout the duration of the work.

KEY ACTION DATES

KEY ACTION DATES

Bid Issue: January 29, 2020

RFB Advertisement: January 29, 2020 and February 4, 2020

Mandatory Pre-Bid Meeting **February 11, 2020 at 9:00AM**
Regional San
8521 Laguna Station Road
Elk Grove, CA 95758

Question Due Date: February 18, 2020

DIR Registration Due: February 20, 2020

Bids from Contractors not registered on the Department of Industrial Relations website by this date will not be opened.

Bid Due Date: ~~February 21~~ March 5, 2020 by 3:00 PM

Intent to Award: ~~February 24~~ March 9, 2020

Contract Award: ~~February 28~~ March 13, 2020

Provide Required Insurance and Bonds March ~~5~~ 19, 2020

Vet Bonds March ~~6~~ 20, 2020

Notice to Proceed: To Be Determined

Pre-Construction Meeting: To Be Determined

Project Completion: ~~May-June~~ 15, 2020

BID INQUIRES -

Questions regarding this bid should be referred to:

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT
Purchasing & Material Support
8521 Laguna Station Rd.
Elk Grove, CA 95758

Attn: Tamblynn Stewart
Senior Contract Services Officer
(916) 875-9014
stewartt@sacsewer.com

Questions regarding drawings and specifications shall be referred to:

Andrew Frankel
Senior Civil Engineer
(916) 875-9228
frankela@sacsewer.com

These inquiries are to be submitted by **February 18, 2020**. Any interpretations by Regional San will be made in the form of a written addendum. The receipt of such an addendum must be acknowledged in accordance with the directions indicated. Oral explanations or instructions given before the award of the contract will not be binding.

Bidder Response: Interested bidders must complete and return the following pages/sections by the closing date and time shown on the cover page in order to be considered.

- Cover Page with authorized signature
- Insurance Coverage Statement (See Appendix A)
- Bid Guarantee Bond (See Appendix B)
- Instruction for Performance Bond (See Appendix C)
- Instruction for Payment Bond (See Appendix D)
- Cost Response (See Appendix E)
- Subcontractors (See Appendix F)
- Exception to Bid (See Appendix G)
- Contractor's License Certification (See Appendix H)
- Non-Collusion Declaration (See Appendix I)
- Two (2) copies of proposal and mark the original as the "Original" or "Master Copy"

Note: Regional San will not accept proposals by way of facsimile transmission or e-mail. Bid responses must be signed and received in a sealed envelope by 3:00PM on ~~February 21~~ March 5, 2020. Refer to instructions on the cover page.

APPENDIX E

COST RESPONSE

The cost of all labor, material and equipment necessary for the completion of the work itemized, even though not shown or specified, shall be included in the unit price for the various items shown herein.

Regional San reserves the right to increase or decrease the quantity of any item or omit items as may be deemed necessary, and the same shall in no way affect or make void the contract, except that appropriate additions or deductions from the contract total price will be made at the stipulated unit price.

Regional San future reserves the right to reject any or all bids, to waive any informality or irregularity in any bid or the bidding procedure, and to delete any items of work in the award of contract.

Item	Description	Estimated Quantity	Units	Unit Price (\$/unit)	Total Bid (Dollars)
1.	BASE BID: Construction of all work associated with the Chiller Base Demolition and Rehabilitation, complete as shown. <u>Work includes lead abatement as required by specification section 02 83 19.15.</u>	1	LS	N/A	
2.	ALLOWANCE: Piping modifications necessary to return equipment to service.			\$15,000	
TOTAL BID AMOUNT: (Sum of all contract services including bid items listed above)					
Total Bid in Words:					

Addenda:

It is acknowledged that addendum numbers _____ through _____ have been received and examined as part of these contract documents.

Signature of Bidder

Title

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SECTION 01 14 16

COORDINATION WITH OCCUPANTS

1.01 GENERAL

- A. Contractor work activities that impact existing District operations, property or facilities (such as pipelines, ductbanks, manholes, treatment processes, environmental resources, and access roads to District facilities) require an approved, signed Access Request (AR) prior to commencement of work. Interruption of flow or connection to an existing system or interceptor requires a Shutdown Plan and Location Map to be included with the Access Request. In addition to the Shutdown Plan, any activity that requires special safety precautions to be taken will require a Safety Work Plan to be included with the Access Request.
- B. ACCESS REQUEST:
1. Allows District Operations time to review the proposed work and to schedule and coordinate necessary process or equipment shutdowns,
 2. Allows District Safety office review of proposed work and contractors' safe work practices related to the specific work to be performed,
 3. Informs the contractor of any special hazards or exposures related to the specific work.
- C. The District maintains permits to collect, treat and discharge wastewater. These permits establish discharge limits for wastewater, storm water, and air emissions and establish spill reporting requirements and fines. Violation of District permits shall not result from the Contractor's work. Any unauthorized discharge or spill shall immediately be reported to the District's Plant Control Center (916-875-9400). The District will require the Contractor to stop or restrict any activity that has or could result in an unauthorized discharge or permit violation. The District will prevent or remedy the situation by the most expeditious means. The Contractor will be responsible for all costs incurred including fines.

1.02 REQUIREMENTS

A. COORDINATION AND ACCESS:

1. Activities that affect the operation of existing District equipment, including Plant processes, Interceptor pipelines or facilities, or access to District property will require coordination between District and Contractor.
2. Access Requests are generally required based on impending work activities discussed at weekly construction coordination meetings, and approval is issued jointly by the District O&M Support office and District Safety Office.
3. Unrestricted access for District personnel and equipment shall be provided at all times to existing facilities, unless a reduced level of access is explicitly allowed in the approved Access Request.

1.03 SCOPE

- A. An Access Request provides notification of a Work Item or other activity proposed by the Contractor. An Access Request describes the contemplated work including when, where and how it will be accomplished. An Access Request shall be submitted by a qualified representative of the Contractor who is familiar with all aspects of the work and pertinent safety requirements. An Access Request may be required whenever any of the following conditions are contained in or will be affected by Contractor's work:
1. General Project mobilization or District property access,
 2. Work in, connection to, or removal of any pipeline, manhole, pump station, asset or wastewater process or equipment.
 3. Any work that may impact environmental resources on District property,
 4. Any work that may impact or disrupt other activities on District property such as leased agricultural operations, scientific studies, or concurrent construction projects,
 5. Excavation on District property by location, dewatering of any excavation, structure, tank, vessel, or piping system
 6. Installation or removal of bulkheads, cofferdams and isolation devices
- B. Depending on the activities within the project, multiple Access Requests may be required.
- C. A fully completed Access Request form shall be submitted at least 10 working days prior to the date proposed for commencement of work. An Access Request meeting may be required prior to the approval of the work or upon the District's request.

- D. Contractors are required to describe the proposed work activity, indicate the property, system or equipment that will be affected, list the labor and equipment to be utilized, indicate the date, time and duration of the work, describe measures that will be implemented to reduce impacts to District property and facilities, and describe safety precautions to be observed. Drawing and section numbers shall be indicated where appropriate. A Shutdown plan shall be included with the Access Request when the work affects an existing system or process.
- E. The Contractor shall plan and schedule Access Requests as early as possible. An Access Request will be reviewed and returned within 10 working days after submission of all necessary information. Sufficient information and detail shall be included with an Access Request to permit District to evaluate the proposed operation and the associated risks. Insufficient information on an Access Request may delay approval within 10 working days.
- F. Contractor shall not be allowed to proceed with any work, or any portion of the work, described in an Access Request without complying with all the conditions, in their entirety, of the Access Request approval. All conditions of approval, including additional safety precautions added by the District Safety Office, shall be complied with and effectively communicated to Contractor's personnel and subcontractors. If the Contractor does not agree with the additional safety requirements, work shall not start until resolution is attained. Changes in the proposed activities or field conditions of an Access Request, or delay of the work, will require the submission of a new or revised Access Request.

1.04 SHUTDOWN PLAN

- A. A Shutdown Plan shall be included with an Access Request whenever an existing operating system or facility such as a pipeline, basin, tank, channel, power supply, control circuit, instrumentation, equipment, pump, meter, or structure is affected. Shutdowns shall be planned and coordinated to minimize the number and duration of activities that affect existing operations.
- B. The District will limit the duration of shutdowns for critical systems. Stated durations are the total time period between when the system is made available to Contractor and when it is ready for return to service. If the Contractor cannot complete the work within the allowed time, Contractor shall immediately request an extension from the District. If the District does not approve the requested extension, Contractor shall complete the work or return the system to operable condition. The District will complete the work if Contractor does not return the system to operable condition as directed. Contractor is responsible for extra costs or damages incurred by the Contractor or the District to meet these requirements.

C. REQUIREMENTS:

1. Designate the equipment or system that will be affected or removed from service. Describe the work to be undertaken. Identify the portion of the system that will be isolated, dewatered, decommissioned, de-energized, depressurized, or drained.
2. List the labor, equipment, materials, tools, utilities and incidental items to be used.
3. Indicate measures to prevent discharge of wastewater, stormwater pollution, odor or disruption of treatment processes.
4. Indicate dewatering method and means for disposal of leakage water.
5. Provide details for bulkheads, cofferdams and isolation devices.
6. Describe safety precautions and equipment.
7. Describe recovery plan if the shutdown cannot be completed as planned
8. List activities to be done by the District.
9. Indicate the time estimated to complete the shutdown.

**** END OF SECTION ****

REGIONAL SAN

ACCESS REQUEST

Prime Contractor	Contract #	Date
Sub-Contractor	AR #	Revision
Contact for Contractor	Work Item #	CPM Activity #
Phone	<input type="checkbox"/> Work Plan Attached	<input type="checkbox"/> Drawing Attached

PART 1 – CONTRACTOR WORK PERMIT

Start Date/Time	Completion Date/Time
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Reference Contract Drawings/Specifications

Equipment or System to be Worked On

Location of Work

Provide RMP/MOC no. for work affecting Regional San Gas Mgmt:

Type of Work (check all that apply)	<input type="checkbox"/> Civil	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Instrumentation
	<input type="checkbox"/> Process	<input type="checkbox"/> Coating	<input type="checkbox"/> Hotwork	<input type="checkbox"/> Other (specify)
	<input type="checkbox"/> Mobilization	<input type="checkbox"/> Traffic/Ped. Access	<input type="checkbox"/> Shutdown	

Description of Work _____

Anticipated Hazards _____

Tools/Equipment to be Used	<input type="checkbox"/> Cutting/Welding Torches	<input type="checkbox"/> Arc Welders	<input type="checkbox"/> Jack Hammers
	<input type="checkbox"/> Power Saws	<input type="checkbox"/> Grinders	<input type="checkbox"/> Pneumatic Tools
	<input type="checkbox"/> Backhoe	<input type="checkbox"/> Crane	<input type="checkbox"/> Radioactive Test Device
	<input type="checkbox"/> Other		

Revised 12-2018

Access Request – Page 1 of 3

Access Request Instructions:

1. Resident Engineer (RE)/District Representative (DR), provides AR forms to contractor.
2. Contractor Completes parts 1 & 2, signs and returns the AR to the RE/DR.
3. RE/DR makes appropriate comments, signs, and forwards AR to Ops Support/Engineering.
4. Ops Support/DR coordinates, reviews with Safety, Operations, and applicable Process Teams.
5. Ops Support/ Engineering Representative returns the approved AR or comments to RE/DR.
6. RE/DR records the date of receipt of approved AR and returns a copy of the AR to the contractor.
7. Contractor reviews comments and, if necessary, seeks clarification and resolution of any additional requirements prior to initiating work. Contractor signature on AR indicates agreement with conditions. Contractor returns signed AR to the RE/DR.
8. RE/DR files a copy of the completed AR with contract documents.
9. Contractor initiates work.

NOTE: For ARs for utility or outside agency work, contractor interacts directly with District Representative.

NOTE: Safety shall notify the RMP/PSM Manager of any task impacting the Gas Management Systems.

PART 2 – CONTRACTOR SAFETY PRECAUTIONS

All items checked will be complied with/used in accordance with applicable safety standards (CalOSHA, UFC, etc.) and the requesting contractor's safety program.

HOT WORK PLAN <input type="checkbox"/> Isolate Combustibles <input type="checkbox"/> Fire watch <input type="checkbox"/> Fire Extinguishers <input type="checkbox"/> Flash Protection	REVIEW EMERGENCY PROCEDURES/ALARMS <input type="checkbox"/> Oxygen Handling Areas <input type="checkbox"/> Gas Management Areas <input type="checkbox"/> Other _____
AIR MONITORING <input type="checkbox"/> Continuous <input type="checkbox"/> Periodic <input type="checkbox"/> Frequency _____	HOUSEKEEPING <input type="checkbox"/> Debris Removal <input type="checkbox"/> Dust Control <input type="checkbox"/> Maintain access to/through worksite
POTENTIAL ATMOSPHERIC HAZARDS TO BE MONITORED <input type="checkbox"/> Oxygen Deficiency <input type="checkbox"/> Oxygen Enrichment <input type="checkbox"/> Combustible Gases <input type="checkbox"/> Toxic Gases <input type="checkbox"/> Other _____	EXCAVATION/TRENCHES <input type="checkbox"/> Shoring <input type="checkbox"/> Sloping <input type="checkbox"/> Benching <input type="checkbox"/> Barricades <input type="checkbox"/> Excavation Plan Submittal Number _____
HAZARDOUS MATERIALS TRAINING <input type="checkbox"/> Substance(s) _____	ELEVATED AREAS <input type="checkbox"/> Fall Protection <input type="checkbox"/> Guardrails
ENERGY CONTROL PROCEDURES <input type="checkbox"/> Lockout <input type="checkbox"/> Blockout <input type="checkbox"/> Tagout	PIPING/EQUIPMENT OPENING AND/OR ENTRY (ensure prior to opening) <input type="checkbox"/> Effectively Isolated <input type="checkbox"/> Depressurized <input type="checkbox"/> Drained <input type="checkbox"/> Purged/Flushed of Hazardous Substance(s)
VENTILATION <input type="checkbox"/> Natural only <input type="checkbox"/> Auxiliary, continuous	ABATEMENT ACTIVITIES (Title 8, Construction Safety Orders) <input type="checkbox"/> Asbestos (Article 4 § 1529) <input type="checkbox"/> Lead (Article 4 § 1532.1)
CONFINED SPACE PROCEDURES <input type="checkbox"/> Permit Required <input type="checkbox"/> Personnel Retrieval System <input type="checkbox"/> Non-permit <input type="checkbox"/> Communication w/ Entrant <input type="checkbox"/> C-5 <input type="checkbox"/> Rescue Personnel @ site <input type="checkbox"/> Entry Permit @ site <input type="checkbox"/> Supplied Air	OTHER SAFETY PRECAUTIONS <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____

AR SUBMITTAL SIGNATURE BLOCK

Contractor signs below after page 1 and 2 are filled out with sufficient detail to allow AR to be reviewed. Contractor identifies all anticipated safety items prior to signing below. Safety Office staff will initial next to any additional safety items that have been checked off during the AR review process.

_____ Contractor Representative	_____ Date
------------------------------------	---------------

RE Comments	<input type="checkbox"/> See Attachment
Reviewed by Resident Engineer	Date

PART 3 – APPROVERS’ REMARKS

Safety Office Comments	<input type="checkbox"/> See Attachment

Approved By: Regional San Safety Office	Date
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District Rep/Ops Support/Engineering Comments	<input type="checkbox"/> See Attachment

Approved By: Regional San Ops Support/Engineering/District Representative	Date
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SIGNATURE BLOCK

The work described by this Access Request has been reviewed. The work methods described and identified in Parts 1 & 2, and the additional safety precautions identified in Parts 2 & 3 will be complied with and effectively communicated to personnel assigned this task. If the contractor does not agree with additional safety precautions, work shall not start until resolution is attained.

Contractor Representative	Date
---------------------------	------

- Distribution:**
- | | | |
|---|--|--|
| <input type="checkbox"/> Operation Support | <input type="checkbox"/> O&M Manager 1 (2) | <input type="checkbox"/> Electrical Supervisor |
| <input type="checkbox"/> Safety Office Representative | <input type="checkbox"/> Process Team Leader | <input type="checkbox"/> Facility Maintenance |
| <input type="checkbox"/> Resident Engineer | <input type="checkbox"/> Other _____ | <input type="checkbox"/> Project Engineer |
| <input type="checkbox"/> Contractor (supplied by RE/District Rep) | | |
- *Note – Provide copies of approved ARs to applicable sections, always include O&M Manager I’s in the distribution.**

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SECTION 01 29 76

PROGRESS PAYMENT PROCEDURES

PART 1 -- GENERAL

1.01 GENERAL

- A. Progress payments will be made monthly in accordance with the Bidding Schedule.
- B. Payment for items with a unit price will be based on the number of units completed.
- C. Payment for lump sum items will be based on an estimate of the percent of work completed.
- D. Payment for other items will be based on the Schedule of Values.
- E. A portion of the progress payment will be retained until the Work is completed and accepted by the Regional San Representative.
- F. Progress Payment Requests shall be submitted electronically to the Project Manager.

1.02 SCHEDULE OF VALUES

- A. After review of the initial schedule and before submission of the first Application for Payment, Contractor shall prepare and submit to Engineer a Schedule of Values covering each bid item. It shall be consistent with the Base Line Schedule. The cost for all activities plus the cost for Major Equipment shall equal the Total Bid Amount. The Schedule of Values will be used as the basis for progress payments.
- B. Payment for mobilization will be prorated until all the following items have been completed. Mobilization includes:
 - 1. Project manager on site full-time.
 - 2. Plant and construction equipment for activities for first month on-site.
 - 3. Fire protection established.
 - 4. Stormwater Best Management Practices (BMPs) installed.
 - 5. Safety Plan submitted and required notices posted.
 - 6. Quality Control Plan submitted.
 - 7. Payment of premiums for all Bonds and Insurance required.

C. As-Built Documentation and Maintenance:

1. Progress payments for as-built documentation will be made based on the quantity of documents submitted in accordance with weighting established in the PROJECT RECORD DOCUMENTS Section (01 78 39). The progress payment will be based on the number of documents submitted and accepted in proportion to the total number of as built documents.

D. Demobilization includes:

1. Submittal of warranties.
2. Removal of construction equipment.
3. Cleanup and disposal of materials, supplies, equipment and debris.
4. Restoration of areas, roads and other facilities damaged or altered as a result of the Work.

1.03 PAYMENT PROCEDURE

- A. The District will review the request and make payment for those items in accordance with the requirements of the Contract and the Schedule of Values. Payment will not be made for deficient or defective work. Progress payment requests shall be submitted electronically to the Project Manager.
- B. Progress payments do not constitute acceptance of the Work or a waiver of any terms or conditions of the Contract.

1.04 RETENTION

- A. Five percent of each progress payment will be retained until the Work has been completed and accepted by the Regional San Representative. If the work is progressing in accordance with the Contract, the Contractor may request, after 50 percent of the Work has been completed, including change orders, that the withholding of additional retention cease. The District Representative will review the progress to date and the remaining work. If it appears that the work will be successfully completed, the District will waive the retention on the remaining work.

1.05 WITHHOLDING

- A. The District will withhold additional amount from progress payments for the following causes:
 1. Claims against the Contractor for non-payment for labor, equipment or materials.
 2. Defective work.

3. Failure to pursue the Work in accordance with the schedule.
 4. Damage to District facilities or to other parties.
 5. The cost to the District if the Work is not completed within the Contract Time.
 6. Costs for replacement insurance due to cancellation or insufficient coverage.
 7. Failure to pay prevalent wages or submit certified payroll records.
 8. Failure to provide submittals, as-built documentation or operating and maintenance manuals
 9. Payments due the District from the Contractor.
 10. Provisions of law that enables or requires the District to withhold payments.
- B. Withheld funds which are not a penalty will be paid to the Contractor when the reason for the withhold has been resolved.
- C. The District may use withheld or retained funds to pay valid claims. In so doing, the District shall be considered an agent of the Contractor and shall not be liable for payments made in good faith. Such payments may be made without judicial determination of the claim. A complete and proper accounting will be provided.

1.06 FINAL PAYMENT

- A. A final estimate will be prepared by the District upon completion of the Work and a request for final payment. All prior estimates, progress payments, retention, withholdings and change orders shall be considered. A copy of the final estimate will be provided to the Contractor.
- B. The Contractor shall accept the final estimate or provide a written statement of exceptions with sufficient detail to ascertain the basis and amount within 15 days. Failure to provide a statement of exceptions within the allotted time shall indicate acceptance.
- C. The District will release retention in accordance with the Field Acceptance of the final payment shall release the District, its agents and consultants from any and all claims or liability on account of the work under the Contract or any alterations thereof.

****END OF SECTION****

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SECTION 01 31 19

PROJECT MEETINGS

PART 1 -- GENERAL

1.01 GENERAL REQUIREMENTS

- A. Meetings will be required throughout the duration of the Contract to facilitate communication, coordination and resolution of issues. District, Contractor, subcontractors, and other parties involved in the Work shall attend.
- B. There will be meetings to discuss particular aspects of the Work such as: scheduling, coordination, submittals, procedures, Access Requests, changes orders, testing, startup, and other topics as needed.
- C. District Representative will designate the purpose, date, time, and location for meetings. Contractor may request meetings as needed.
- D. All meetings shall be documented in the District document control system.

1.02 PRECONSTRUCTION

- A. A preconstruction meeting will be held prior to commencement of Work. This meeting will provide an opportunity for individuals to discuss initiation of the Work. Topics to be discussed include: mobilization, access, temporary facilities, utilities, subcontractors, schedules, procedures, correspondence, progress payments, payroll records, Access Requests, coordination, safety, quality control, personnel assignments and other topics as appropriate.
- B. District, Contractor, and major subcontractors shall attend.

1.03 PROGRESS

- A. Bi-weekly progress meetings will be conducted throughout the duration of the Contract. The purpose of these meetings is to inform, discuss and resolve issues related to the Work. Topics to be discussed include: progress, schedules, Access Requests, Requests for Information, Change Orders, Field Instructions, field coordination, submittals, quality control, testing, startup and other topics related to the Work.
- B. District, Contractor, subcontractors and suppliers as appropriate shall attend.

****END OF SECTION****

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SECTION 01 32 16

CONSTRUCTION PROGRESS SCHEDULE

1.01 GENERAL

- A. Schedules are required to demonstrate a method to accomplish the Work within the Contract Time. The District will rely upon the schedules to plan and coordinate activities with the Contractor and with others affected by the Work. Schedules shall be practical, logical, and an orderly sequence of planned operations. It shall include activities by suppliers, subcontractors and the District that are necessary to complete the Work in accordance with the Contract.
- B. The schedules shall be calendar based, time-scaled with activities listed by precedent from beginning to completion. Schedules and Updates shall be submitted for review.
- C. Schedules shall include time provided in the Contract for District interfacing activities.

1.02 REQUIREMENTS

A. Initial Schedule

- 1. Furnish a Bar Chart within 10 days of execution of the Contract depicting the major activities and items of the Work. The critical path should be noted. Start and finish dates for major activities shall be provided.

B. Rolling Schedule

- 1. Furnish a 3-week rolling schedule depicting the activities in detail. The Rolling Schedule shall indicate the items that were completed the prior week and the planned activities for the upcoming 2 weeks. The Rolling Schedule shall be updated bi-weekly and shall be presented at Progress Meetings.

1.03 UPDATING

- A. The schedules shall be updated to accurately depict the progress of the Work and any changes that may occur. Significant changes shall be noted.

1.04 PAYMENT

- A. Payment for schedules shall be considered included in the Total Bid Amount and no separate compensation will be provided.

****END OF SECTION****

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SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 -- GENERAL

1.01 GENERAL REQUIREMENTS

- A. Submittals include, but are not limited to, product data, shop drawings, test procedures, test results, annotated PLC program listings, AutoCAD® generated drawings, samples, requests for substitutions, descriptive data, certificates, methods, schedules, marked contract drawings and specifications, manufacturer's installation and other instructions, and miscellaneous work related items. Submittals also include all other information as may reasonably be required, in the opinion of the District Representative, to demonstrate fully that the materials and equipment to be furnished and the methods of work comply with the provisions and intent of the contract documents. Additional submittal requirements are specified in each individual section of the specifications. Items to be submitted are specified in these individual technical specification sections.
- B. All submittals will be submitted electronically to the Project Manager. Minimum size lettering height on all submittals shall be 12 point font for text documents, 1/16 inch height for 8-1/2 by 11 inch and 11 by 17 inch documents and 1/8-inch height for documents larger than 11 by 17.
- C. The review of the Contractor's drawings or other descriptive material shall not relieve the Contractor of responsibility for any error or of any obligation for accuracy of dimensions and details, for agreement and conformity with the contract drawings and specifications, or responsibility to fulfill the contract. If errors or omissions exist in the Contractor's submittals which are not noted by the District during the District's review, it shall be the Contractor's responsibility, at no additional cost to the District, to correct the errors and omissions, to correct field conditions, and to repair any damage inflicted to new or existing equipment and other improvements as a result of the errors or omissions.
- D. Where specified, the Contractor shall furnish submittals to the District Representative for information only. An electronic version and two hard copies of these submittals, 1 full size reproducible on 20 lb. white bond for document/drawings larger than 11 by 17 inches shall be transmitted to the District Representative. Designation "For Information Only" does not preclude the District Representative from reviewing or commenting on the submittal contents as specified in this section.
- E. All other submittals shall be submitted by the Contractor to the District Representative for review and comment. An electronic version and two hard copies of these submittals, 1 full size reproducible on 20 lb. white bond for documents/drawings larger than 11 by 17 inches shall be transmitted to the District Representative.

- F. All submittal data including shop drawings will become part of the project records furnished under the PROJECT RECORD DOCUMENTS Section (01 78 39). All changes or modifications during construction to original equipment submittals must be recorded and become part of the project record process as outlined in the respective sections.

1.02 DEFINITIONS

A. GENERAL:

1. The definitions of types of drawings, diagrams and other forms of submittal documents shall include the terms used in the following paragraphs. Whenever the following terms for drawings or other forms of submittal documents are used in submittal requirements, the definitions in the following paragraphs shall apply. The following set of definitions is not comprehensive. They are included to help clarify the meanings of certain terms applicable to mechanical, electrical, instrumentation and control system documents.

B. SINGLE-LINE DIAGRAMS:

1. A single-line diagram shall show by means of single lines and graphical symbols the course of an electrical circuit or system of circuits and components, devices, or parts used therein. Physical relationships are represented schematically.

C. ELEMENTARY OR SCHEMATIC DIAGRAM:

1. An elementary or schematic diagram shall show all circuits and devices of a system, equipment item, or assembly, or any defined functional portion thereof. A system is defined as any assembly of electrical, electronic, mechanical, hydraulic, pneumatic, and other various types of components and devices and/or materials which are combined, connected, and integrated as necessary to perform some specific function. Such a diagram emphasizes the functional arrangement of system components and devices as opposed to their physical arrangement, and is intended to provide a functional understanding the operation of the system or circuit. "Elementary" and "schematic" are equivalent terms unless additional definitions or requirements are stated. However, the term "elementary" as used herein for electrical drawings generally refers to those drawings and diagrams which show the connection and control of electrical devices, whereas the term "schematic" generally refers to those drawings or diagrams which show the connection and application of electronic devices. (Note: Most elementary diagrams provided in the contract drawings are located on "X" drawings titled "Control and Logic Diagrams.")

D. LOOP DIAGRAM:

1. Loop diagrams shall show a schematic representation of a complete hydraulic, electric and pneumatic circuit. Diagrams show all system devices with alphanumeric identification of each component in the loop. All connected equipment terminals are

shown with manufacturer's identification markings. All interconnecting cables and pneumatic tubing are shown with color code and alphanumeric identification. The location of all devices in the loop are shown; for example, field, panel front, panel rear, termination cabinet, computer I/O cabinet, etc. Diagrams also show the process lines and equipment to which the devices in the loop are connected with a description of the controller actions. The loop diagrams also show references to all other applicable drawings. Loop diagrams have symbols and layout in conformance with ISA S5.1 and S5.4.

E. CONNECTION DIAGRAM:

1. Connection diagrams shall show the physical placement and wiring of devices and terminals in a panel, cabinet, console, assembly or system. Devices and terminals are shown arranged in the physical layout (not necessarily to scale) as they would appear to a person who is servicing the equipment.

F. INTERCONNECTION DIAGRAM:

1. Interconnection diagrams shall show the external wiring between terminals of associated equipment, control panels, motor control centers, area control centers, terminal boxes, field switches, and any other device, panel, or enclosure.

G. PANEL FABRICATION DRAWINGS:

1. Panel fabrication drawings are scaled drawings that shall show the physical dimensions, materials, and construction of panels, cabinets, terminal boards, consoles, or other electrical or mechanical equipment enclosures. These drawings show the physical arrangement and mounting of all components in or on a panel, terminal board, cabinet, console, or enclosure. These drawings show the physical dimensions, and the space and mounting requirements of mechanical, electrical, control and instrumentation devices or pieces of equipment. Other information provided may include ventilation requirements, locations of connections, weight, and paint color, material and dry film thickness.

H. ELECTRONIC ASSEMBLY DRAWINGS:

1. Electronic assembly diagrams shall document circuit board assemblies, enclosures, and associated devices. They include circuit schematics, circuit board assembly drawings, and chassis layouts which show, locate, and identify all circuit assemblies, components, and component electrical connections and wiring.

I. INSTRUMENT INSTALLATION DRAWINGS:

1. Instrument installation drawings shall show the mounting and piping details of field mounted instruments and instrument racks.

J. BILL OF MATERIALS:

1. Materials identified on the drawing and listed by item number, a brief description, manufacturer, model number (and/or page number), serial number (if available), and quantity used. Associated equipment numbers must be shown. The items must match the field installation and the drawing.

1.03 STANDARD COMPLIANCE

- A. When materials or equipment are required to conform to the standards of organizations such as the American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL), documents showing or proving conformance shall be submitted.
- B. If an organization uses a label or listing to indicate compliance with a particular standard, the label or listing will be acceptable evidence, unless otherwise specified in the individual sections. In lieu of the label or listing, the Contractor shall submit a certificate from an independent testing organization which is competent to perform acceptable tests and is approved by the District's Representative. The certificate shall state that the item has been tested and found to be in conformance with the specified organization's standard. For materials and equipment whose compliance with organizational standards or specifications is not regulated by an organization using its own listing or label as proof of compliance, a certificate of compliance from the manufacturer shall be submitted for approval. The certificate shall identify the manufacturer, the product and the referenced standard and shall state that the manufacturer certifies that the product conforms to all requirements of the project specification and of the referenced standards listed.

1.04 SUBMITTAL REVIEW

- A. When review and comment is required of any drawing or information regarding materials and equipment, the Contractor shall submit the information electronically to the Project Manager. Within a reasonable time as specified in this section after receipt of said submittal, the District Representative will return the submittal documents electronically indicating one of the following four actions by item number:
 1. If review and comment indicates no exceptions, copies will be returned marked "NO EXCEPTIONS TAKEN". Work may begin immediately on incorporating the material and equipment covered by the submittal into the work.
 2. If review and comment indicates limited corrections are required, copies will be returned marked "MAKE CORRECTIONS NOTED". Work may begin immediately on incorporating the material and equipment covered by the submittal document into the work.
 3. If review and comment indicates insufficient or incorrect data has been submitted, copies will be returned marked "AMEND AND RESUBMIT." The Contractor is not authorized to begin incorporating the material and equipment covered by this submittal document into the work until the submittal document is revised,

resubmitted and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED".

4. If review and comment indicates the material and equipment submittal is unacceptable, copies will be returned marked "REJECTED - SEE REMARKS". The Contractor is not authorized to begin incorporating the material and equipment covered by this submittal into the work until a new submittal is made, resubmitted, and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED".
- B. When submittal documents are referred to in these specifications as "approved," "reviewed" or "accepted," this means that they are stamped as in case 1 or 2 above.
 - C. Designation of submittal documents "for information only," does not preclude the District's Representative from reviewing or commenting on the submittal contents. Information only submittals returned to the Contractor marked "AMEND AND RESUBMIT" or "REJECTED - SEE REMARKS" shall be revised and resubmitted by the Contractor.

PART 2 -- PRODUCTS

2.01 SHOP DRAWINGS

A. GENERAL:

1. Shop drawings shall include data of all forms which have been custom prepared for this project. This includes detail drawings for structural, architectural, mechanical, piping, electrical, logic diagrams, electronic, instrumentation, control, and communication equipment, assemblies, and systems which are installed or fabricated as a part of this project. All shop drawings shall be drawn in CAD format, as specified in this section, at an approved drawing scale. Also included are drawings and data which show fabrication, layout, setting or erection details. This includes any data which is prepared by the Contractor, subcontractors, vendors, suppliers, manufacturers or their representatives, specifically for this project.
2. Shop drawings shall have drawing numbers, scale, revision date and number, Contractor name, subcontractor name, supplier name, name of detailer or engineer who prepared the document, relation to adjacent structures, materials, drawing cross references, standards references, Contractor's certification stamp, and registered engineer's stamp, if required, shown on them. Maximum sheet size shall be 22 inches by 34 inches. Minimum sheet size for drawings shall be 11 inches by 17 inches, except as allowed by the District Representative.
3. Shop drawings specifically prepared for this project shall be created in Computer-Aided Drawing (CAD) format, using the most current AutoCAD[®] software, by Autodesk, Inc.

B. CAD DRAWINGS:

1. All drawings shall be prepared in a CAD format, using the most current AutoCAD® software by Autodesk, Inc. The following drawings are specifically required in CAD format:
 - a. Panel drawings including area control centers (ACC), panel fabrication, layout and point-to-point wiring (connection diagrams).
 - b. Elementary diagrams (control and logic).
 - c. Electronic assembly drawings.
 - d. Terminal panels or terminal boxes.
 - e. Interconnect drawings.
 - f. Loop drawings (digital and discrete).
 - g. Custom created concrete products specifically prepared for this project.
 - h. Shop drawings which are specifically prepared for this project.
2. All CAD drawings shall comply with the United States National CAD Standard® (NCS). All Contractor submissions requiring CAD shall be in accordance with NCS Version 5.0, or the latest release, and the U.S. National BIM Standard (NBIMS). Additional information or clarification can be obtained from the United States National CAD Standard® (NCS) website at www.nationalcadstandard.org/ncs5. The National Institute of Building Sciences owns the copyright to the work known as the United States National CAD Standard® (NCS) and reserves all rights to said work under United States and international law.
 - a. Exceptions to the NCS are as follows:
 - 1) All annotation shall be capitalized.
 - 2) All annotation shall be a minimum 1/8-inch Arial for full size drawings and a minimum 1/16-inch Arial for half size drawings.
 - 3) All arrowheads shall match the font size (1/8-inch) of the annotation in the drawing.
3. The Contractor shall require that the CAD drawings prepared by all subcontractors or vendors meet the requirements of these standards.
4. The Contractor shall submit drawing files (in both native and pdf format) electronically to the Project Manager.

C. ELECTRICAL AND CONTROL DOCUMENT REQUIREMENTS: (NOT USED)

2.02 MANUFACTURER'S PRODUCT DATA

- A. Product data shall include data of all forms which define design, performance and function of manufactured products or materials. This includes all preprinted literature, performance specifications, drawings, instruction manuals, and data which are available from the original equipment manufacturer and/or supplier. Product data shall also include all software and firmware encoded on programmable device readable media. Specific Asset Attribute data related to the product data shall be submitted separately. Product data shall be submitted for all manufactured products and material as specified in this section and in the Technical Specifications, Divisions 03 through 50.

2.03 TEST PROCEDURES AND RESULTS (NOT USED)

2.04 SAMPLES

A. GENERAL:

1. Samples shall include both fabricated and un-fabricated physical examples of materials, products and work, both as complete units and smaller portions of units of work. Mock-ups are special forms of samples. The electronic submittal for these items shall be processed concurrent with the submission of samples and mock-ups.
2. When specified, samples or test specimens of the materials proposed to be used shall be prepared at the expense of the Contractor and furnished in such quantities and sizes as may be required for proper examination and tests, with all freight charges prepaid, and with complete information as to the type, kind, or size of material, and its source. All samples shall be submitted in ample time to permit the making of proper tests, analyses, or examinations before the time at which it is desired to incorporate the materials into the work, and no materials shall be used in the work unless or until the submittal has been reviewed by the District's Representative. All tests of materials shall be made by the Engineer in accordance with recognized standard practice. The Contractor will pay the cost of the second test and any subsequent retest of any area or material which does not meet the specifications. Samples shall be supplied by the Contractor whenever deemed necessary by the District Representative to determine the quality of materials. The Contractor is required to give one working day advance notice for any requested on-site testing or inspection unless the nature of the work mandates shorter notice.
3. Provide units identical with the final condition of the materials or products proposed for the work. Include "range" samples (not less than three units) where variations occur, and identify each unit of each set. Provide a full set of optional samples where the District Representative selection is required. Prepare samples to match the Engineer's sample where so indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and

compliances with standards. Samples are submitted for review and confirmation of color, pattern, texture and kind by the District Representative.

B. SUBMITTAL:

1. The Contractor may choose to provide a preliminary submittal of a single set of samples for review. Otherwise, the initial submittal is the final submittal unless it is rejected and/or requires re-submittal. Submit two sets of samples in the final submittal, one set will be returned.

C. QUALITY CONTROL SET:

1. The Contractor shall maintain the returned final set of samples at the project site, in suitable condition and available for quality control comparisons by the District Representative.

D. REUSABLE SAMPLES:

1. Samples which are intended or permitted to be returned and actually incorporated in the work are so indicated in the individual work sections, but must be in undamaged condition at the time of installation.

2.05 MISCELLANEOUS SUBMITTALS

- A. These include, but are not limited to, stormwater BMP plans and descriptions, warranties, guarantees, certifications, maintenance agreements, quality testing reports and similar information, devices and materials.

2.06 PROJECT RECORD DRAWINGS AND DATA

- A. Refer to the PROJECT RECORD DOCUMENTS Section (01 78 39) for the submittal requirements of as-built drawings and data.

2.07 OPERATION AND MAINTENANCE INSTRUCTIONS (NOT USED)

2.08 BURIED UTILITIES

- A. Plan and profile drawing shall be supplied for all outside underground utilities including, but not limited to, piping, electrical duct banks and cables. All plan and profile drawings shall be submitted for as-built review in accordance with the PROJECT RECORD DOCUMENTS Section (01 78 39).

2.09 SCHEDULE

- A. Refer to the CONSTRUCTION PROGRESS SCHEDULE Section (01 32 16) for submittal requirements for Schedules.

PART 3 -- EXECUTION

3.01 SUBMITTAL REQUIREMENTS

A. GENERAL:

1. Submittals shall be reviewed and coordinated by the Contractor before transmittal to the District Representative. Submittals shall be complete and fully identified by the Contractor.

B. PREPARATION:

1. Each submittal shall contain documents which are related to only one material, product or system. Normally, a separate transmittal form shall be used for each specific item or class of material, equipment or system. Exceptions may be allowed only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates checking or review of the group or "package" as a whole. The Contractor shall mark each submittal document with the submittal number, letter suffix and item number.

C. TRANSMITTAL FORM:

1. The District Representative will define a submittal numbering scheme which the Contractor shall use. Items omitted, or incorrectly or ambiguously listed on the transmittal form will be deemed to be not included in the submittal. Where items listed in the transmittal by equipment number conflicts with other descriptions contained in the submittal, the listed equipment numbers shall be deemed to be the intended scope. The Contractor shall bear all costs and damages sustained to the District attributable to omitted, or incorrectly or ambiguously listed submitted items.
2. Submittals shall be transmitted by utilizing the District-furnished web based Project Controls System. Prior to the first submittal, the Contractor shall attend a submittal transmittal meeting to work out all compatibility requirements. Each transmittal shall contain the following information as a minimum:
 - a. Date
 - b. Submittal or re-submittal number
 - c. Contract title and number
 - d. Contractor's name and address
 - e. List of documents being submitted, by preparer, number and version
 - f. Contract documents references (including specific specification section and drawing numbers) for each submittal document

- g. Plant system references for each submittal document
- h. Previous submittal number and item number for each submittal document
- i. Notification of deviation(s) from contract documents for each submittal document
- j. Complete list of equipment numbers and auxiliaries included with each submittal document
- k. Contractor's certification of having reviewed and coordinated the submittal
- l. Description of intended use in this contract

D. DOCUMENT IDENTIFICATION:

- 1. If multiple items are included within a single submittal, each separate document within the submittal shall contain the following information:
 - a. Document (Item) number within this submittal
 - b. Identification of product or material
 - c. Manufacturer's name
 - d. Equipment number

E. RESUBMITTALS:

- 1. Revise returned submittal documents as indicated and as required. Resubmit using the same submittal procedure as for an initial submittal. All resubmittals shall use the previous submittal number with a letter suffix and shall refer to the previous item number.
- 2. Resubmittals shall address all comments from the District Representative. Partial re-submittals may be returned "REJECTED." The Contractor will be responsible for the District Representative's review costs for each re-submittal in excess of the first resubmittal. These costs will be back charged to the Contractor and will be deducted from progress payments.
- 3. Time extensions will not be granted for delays resulting from the necessity for the Contractor to provide resubmittals due to inaccurate, incomplete or rejected submittals.

F. COORDINATION AND SEQUENCING:

- 1. Review priority will be based on the schedule unless otherwise requested in writing by the Contractor. The Contractor in scheduling submittals shall submit no more

than 10 per week. In the event the Contractor submits more than 10 per week, the District Representative's review time may exceed the review time outlined.

2. The Contractor shall coordinate submittals with the work so that work will not be delayed. Submittals shall be coordinated and scheduled into different categories, so that one will not be delayed for lack of coordination with another. No extension of time will be allowed because of failure to properly schedule submittals. The Contractor shall not proceed with work related to a submittal until the submittal process is complete and the submittal document has been returned to the Contractor stamped "No Exceptions Taken" or "Make Corrections Noted."
3. All submittals, including shop drawings, shall be submitted in sufficient time to allow the District Representative not less than 10 days for review of such submittals.
4. These review periods do not include any time that the District Representative cannot proceed further with the review because of having to wait for further information of clarification from the Contractor.
5. Normally, initial submittals will be returned to the Contractor within 10 days, and resubmittals will be returned within 5 days, exclusive of any time awaiting clarification or further information, and exclusive of "major submittals" as described above. However, the time for return will necessarily vary and may exceed the time described above depending upon the complexity of the submittal, the number of submittals, and the express needs of the Contractor.
6. Submittals for material or equipment which are not specified by name, and which are being submitted as an "or equal" to that specified and submittals for material or equipment with arrangements or requirements that are different than that shown in the contract documents, will normally require 15 days for the review process.

G. CONTRACTOR'S RESPONSIBILITIES:

1. The Contractor shall review submittals before they are transmitted to the District Representative to ensure that there are no conflicts with other submittals. The Contractor shall coordinate submittals from subcontractors and suppliers to ensure that they are complete and that there are no conflicts.
2. The Contractor is responsible for errors and omissions in submittals even though the District's Representative reviews the submittal.
3. The District Representative shall be notified in writing at the time the submittal is transmitted of deviations from the requirements of the contract documents. The Contractor is responsible for correcting deviations from the contract documents even though the District Representative has reviewed the submittal, unless the deviations are clearly described in writing in the submittal transmittal form.

4. The Contractor shall be responsible for distributing submittals which have been returned with the District's Representative's action to subcontractors and suppliers. Installation shall not be started until the submittal data with the "No Exceptions Taken" or "Make Corrections Noted" stamp is in the possession of the installer.
5. No changes shall be made by the Contractor in any submittal after it has been approved. The equipment or materials provided shall not deviate from the submittal documents which are stamped with the "No Exceptions Taken" or "Make Corrections Noted" stamp in any way except with written approval by the District Representative.
6. The Contractor shall certify on each submittal document that the submittal has been reviewed, field conditions have been verified and contract documents have been complied with.
7. The Contractor may authorize a material or equipment supplier to deal directly with the District Representative with regard to such submittals; however, ultimate responsibility for the accuracy and completeness of the information contained in the submittal shall remain with the Contractor.

H. REQUESTS FOR SUBSTITUTION:

1. The Contractor may offer to substitute material or equipment if permitted by the technical specifications. The District will consider offers for substitution only from the Contractor unless the substitution/or equal submission is made pre-bid. Post-bid the District will not acknowledge or consider such offers from suppliers, distributors, manufacturers, or subcontractors.
2. The Contractor's offers of substitution shall be made in writing to the District Representative in ample time to permit review without delaying the work. Until and unless such substitutions are approved by the District Representative, no deviations from the specifications shall be allowed. Time extensions will not be granted for requests for substitution which are subsequently denied by the District Representative. Time extensions will not be granted for substitutions which are not submitted in a timely manner. Any request for substitutions shall include sufficient data to enable the District Representative to assess the acceptability of the material or equipment for the particular application and requirements.
3. The Contractor shall submit a brief description of the proposed substitution prior to preparing a detailed submittal. The brief description shall be submitted on a Request for Substitution/Construction Incentive Change Proposal (CICP) form. Within 15 working days, the District Representative will review the proposal in concept and respond. If the District Representative accepts the concept of the substitution, the Contractor may prepare a detailed submittal conforming to the requirements of this section.

4. Any cost differential associated with a request for substitution must be negotiated with the District Representative. These costs or savings must be covered by a change order which modifies the contract documents.

I. DRAWINGS FOR MODIFIED PANELS AND OTHER CONTROL SYSTEM COMPONENTS:

1. **GENERAL:** Where work is in existing panels, or otherwise interfaces with existing control system components, the Contractor shall prepare new connection, interconnection, loop elementary, CSA schematic and other drawings as necessary in CAD format to show all work and shall provide required submittals. If existing drawings are available in CAD format, the District will provide CAD copies of existing drawings within 14 days of receipt of a written request, except that no more than 75 drawings per week will be provided by the District. The written request must include the drawing numbers of the drawings requested, request date, requestor's name, and any other necessary information.
2. **FORMAT:** Contractor's submittals of modified District provided drawings shall clearly delineate new work as shown in the Example Wiring Diagrams. New items shall be drawn with lines thicker than the existing lines, deletions shall be made by removing the item from the drawing (cross outs are not acceptable). All new work shall be outlined with a "cloud" of connected half circles. Clouds shall be drawn in pencil on the back of the drawings so that they may be easily erased by the District in the future. Entries shall be made in the revision blocks giving the date and a brief description of the revisions.
3. **SIGNAL CIRCUITS:** Modifications to all existing signal circuits shall be shown on existing loop drawings.
4. **EQUIPMENT:** For all equipment requiring modifications to existing control circuits and/or power circuits feeding the equipment, modifications shall be shown on existing interconnection drawings.
5. **ACC PANELS:** Modifications to existing ACC control panels shall be shown on existing panel layout drawings, connection diagrams, and CSA schematics.
6. **OTHER PANELS:** Modifications to all panels except ACC control panels shall be shown on existing panel layout drawings and connection diagrams.

3.02 PROPRIETARY INFORMATION

- A. All of the information required herein shall be provided even though it may be considered to be proprietary.
- B. Not more than 90 percent of all work shall be paid for until all proprietary information has been submitted and approved. Proprietary information shall describe the final as-built work. No part of the work covered by the proprietary agreement shall be

modified after proprietary submittal acceptance until after updated proprietary information has been submitted by the Contractor and accepted by the District. Updated proprietary information shall fully document all modifications to be implemented. All proprietary data shall be marked "PROPRIETARY" by the Contractor.

3.03 MANAGEMENT OF THE SUBMITTAL PROCESS

- A. The Contractor shall develop with assistance of the District Representative and Design Engineer a comprehensive management plan for all submittals required for the project. The intent of the management plan shall be to provide an orderly and timely process for the submission and review of submittals. The submittal management plan shall be developed and implemented within 20 days following Notice to Proceed. The submittal management plan shall incorporate the following elements:
 - 1. The Contractor shall submit a list of submittals which require review within the first 30 days of the project, within 10 days following the Notice to Proceed.
 - 2. The Contractor shall develop a comprehensive Master Submittal List of all specified submittals. The list shall be serially numbered in accordance with the appropriate specification section. The list shall be developed and submitted to the District Representative for review within 14 days following the Notice to Proceed. The District Representative will conduct a meeting to review the Master Submittal List with the Contractor within 3 working days following receipt of the list.

- B. This section shall not supersede or modify any specific requirements for submittals or the submittal process described elsewhere in these specifications, but shall be a supplement to the existing requirements.

****END OF SECTION****

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 -- GENERAL

1.01 GENERAL REQUIREMENTS

- A. Project record documents (commonly known as “as-builts”) shall show the actual as-constructed conditions of installed or modified systems, equipment and material at the time of field acceptance of the related portions of work. The purpose of as-built documents is to provide accurate information for the future modification, expansion, operation and maintenance of the plant.
- B. The project record documents are especially important for recording field conditions of embedded or concealed material and equipment. These embedded or concealed items shall include, but are not limited to, buried structures, thrust restraints, backfill material, piping, cables and raceways.
- C. Work related to Field Instructions (FI), Contract Change Orders (CCO), Clarifications or other agreements between Contractor and the District Representative shall be considered part of the project record process. Contractor shall record conditions and/or changes relating to this work on the project record documents.
- D. Project record documents shall clearly be shown as part of the CPM activity schedule.
- E. Divisions 1 through 26 may contain additional project record document requirements which shall be met in accordance with the requirements of this section.

1.02 VALUES

- A. Project record documents shall have a value of not less than one percent (1%) of the contract value. For additional work, the project record document value shall be determined by Field Instructions, Change Orders and additional work.
- B. All Contract drawings shall have equal weight. The number of drawings completed divided by the number of total drawings shall be used to determine the payments for project record drawings.

PART 2 -- PRODUCTS

2.01 DISTRICT-SUPPLIED DRAWINGS AND CONTRACT DOCUMENTS

- A. The following District-supplied drawings, contract documents, and AutoCAD files are to be submitted in as-built condition for review by the District Representative:
 - 1. Contract drawings and specification schedules.
 - 2. Contract supplemental drawings, existing plant drawings, schedules affected by the work of this contract. These drawings and documents cover electrical distribution systems, electrical control panels, instrumentation panels, control panels, Area Control Centers (ACC), telephone systems, intercom systems, the sound powered telephone system, Process Control Centers (PCC), and terminal panels.
 - 3. Drawings, agreements, tabulations, and schedules supplied by District as a result of Requests for Information (RFIs), Field Instructions (FIs), and Change Orders (COs).

2.02 CONTRACTOR-SUPPLIED DRAWINGS AND OTHER DOCUMENTS

- A. The following Contractor supplied drawings, other contract documents, and AutoCAD files shall be submitted in project record condition for review by the District Representative:
 - 1. Shop drawings generated by Contractor, sub-contractors, vendors or suppliers as defined in the SUBMITTAL PROCEDURES Section (01 33 00).
 - 2. Programmable logic controllers (PLC) and analog controller program documentation with control and logic diagrams which have been submitted for construction.
 - 3. Operation and maintenance manual documents, drawings, and schedules supplied by Contractor, subcontractors, vendors, or suppliers.

PART 3 -- EXECUTION

3.01 GENERAL

- A. An accurate neatly marked complete set of full-size contract drawings, documents and shop drawings (including specifications and schedules) shall be designated as the as-built record set.
- B. Contractor shall immediately start recording project record information upon doing any work.
- C. Contractor shall keep those documents current with changes reflecting as-built status as construction proceeds.

D. Although some drawings are considered diagrammatic with respect to placement of conduit, piping, etc., Contractor must closely follow the routing shown. If there are deviations, Contractor must show the as-built conditions as work progresses and provide all changes to the project record documents with dimensions as outlined below:

1. Buried or embedded items within buildings, tunnels and other structures including but not limited to, piping, thrust restraints, electrical raceways, cables, duct banks, or other related appurtenances, in or under concrete, asphalt or soil, which are not placed as shown on the drawings, shall show as-built dimensions horizontally and vertically from a wall, formed footing, finish floor, ceiling or finish top of curb. Items placed in the center of concrete slabs do not need to have vertical dimensions.
2. All buried or embedded items as described above which are outside of buildings shall be tied to the plant survey grid system both horizontally and vertically with proper stationing, invert elevations and/or top of buried item. Survey data shall show all transition points (changes in direction, change in elevation, etc.). All items which are installed by horizontal or vertical curves shall show as-built curve data.

3.02 PROJECT RECORD KEEPING

- A. All project record documents shall be marked-up copies, with erasable colored pencils using the following color coding:
1. Red - Additions including notes and dimensions.
 2. Green - Deletions (By hash marks or appropriate lines through the deletion.)
 3. Graphite - General comments and notes used by Contractor or District's Representative and not required on the as-built.
 4. Yellow - Work completed as shown and used by District's Representative in field review of the as-built, during the submittal phase.
 5. Blue - District's Representative's office verification and notes required to be added and noted by District's Representative in review of the as-built, during submittal phase.
- B. All work shall be neatly organized and legible using the same standards and symbols as the original drawing.

3.03 MAINTAINING PROJECT RECORD DOCUMENTS

- A. Contractor shall maintain a neatly marked full size set of project record documents. All District-supplied documents shall have shop drawing references clearly marked with clouds around the areas which are detailed on the shop drawing. Shop drawings referenced to other associated shop drawings shall have drawing references clearly marked with clouds around the area representing the shop drawing.

- B. Abbreviation of the drawing Originator (Contractor, subcontractors, vendors or suppliers) referenced on the contract documents is unacceptable.
- C. In areas where detail does not permit showing as-built conditions clearly on contract drawings but a shop drawing depicts actual as-built condition of the area, a cloud with shop drawing reference may be accepted at the District Representative's discretion. Otherwise all as-built conditions shall be shown on the contract drawings.
- D. The project record documents and one copy of all approved shop drawings shall be kept in a central location on the job site providing access for all associated with the contract, for updating of as-built information and for review during normal business hours.
- E. The project record documents shall be kept current using the mark-up procedures described herein. These documents shall be available for inspection by the District Representative at all times.
- F. If project record documents are not kept current based upon weekly review by the District Representative, the current progress payment shall be limited as specified in the PROGRESS PAYMENT PROCEDURES Section (01 29 76).

3.04 PROJECT RECORD SUBMITTAL PROCESS

A. GENERAL:

1. All project record documents shall be submitted electronically in accordance with the SUBMITTAL PROCEDURES Section (01 33 00).
2. Project record documents shall be submitted showing the as-built conditions within 30 working days. Project record documents shall be completed and submitted prior to Substantial completion. Contractor shall compare all as-built documents with the actual field conditions and show the actual field conditions on the as-built documents before submitting them for review.
3. Project record submittals shall be rejected without any part being reviewed for any of the following reasons:
 - a. Work has not been completed, including work related to Field Instructions, Change Orders, clarifications, or other agreements pending.
 - b. Not all components and equipment have been properly labeled on the drawings. All equipment numbers (device and equipment number labeling codes) shall be shown on all drawings depicting the equipment. Equipment numbers must be coordinated with the plans and drawings and shown on all District-supplied and all contractor supplied drawings that depict equipment. The Contractor shall request equipment numbers from the District for all new equipment installed.
 - c. Actual field conditions are not substantially shown on the documents.

- d. Drawing cross references are incomplete. District supplied drawings must be cross referenced to Contractor-supplied drawings and Contractor-supplied drawings must be cross referenced back to the District-supplied drawings.

B. PROJECT RECORD GROUPS AND SYSTEMS:

1. All project record documents shall be submitted together in the following logical groups or systems:
 - a. All site drawings including survey data and data related to an area.
 - b. All mechanical and piping related to an area, or by piping system. Process and Piping Schematics shall be submitted with the mechanical and piping package.
 - c. All structural and architectural data related to an area.
 - d. All electrical and instrumentation data related to an area, including Interconnection and Instrument Loop Drawings, together with all associated shop drawings and connection drawings; process and Instrumentation diagrams.

C. PRELIMINARY REVIEW PROCESS:

1. In order to minimize the number of re-submittals, the following procedure shall be used:
 - a. Upon assembly of a project record submittal, Contractor shall notify the District Representative that the submittal is ready for review. Prior to review, a list of project record documents with all drawing numbers, descriptions and originators listed shall be submitted to District's Representative for review. The District Representative will review the list of project record documents and meet with Contractor to review the submittal for completeness and accuracy. Contractor may be required to add or subtract some documents as directed by the District Representative to ensure a complete and reviewable package.
 - b. Some drawings may show work in several areas or systems. When this occurs, the list shall indicate this type of drawing. The area on this type of drawing which is to be reviewed as part of this submittal shall be clearly outlined by Contractor.
 - c. Documents that represent more than one area of work must be submitted for each area of work it represents and must receive approval for each area of work.
 - d. After the preliminary review, Contractor shall submit the as-built package with the necessary corrections for as-built review.

D. PROJECT RECORD SUBMITTALS FOR REVIEW AND COMMENTS

1. Contractor shall submit the original full size markups, one (1) set of full size copies of all District-supplied documents and two (2) sets of Contractor-supplied as-built record documents for each submittal or re-submittal as outlined in this section. One (1) set of Contractor supplied as-built documents shall be returned after each submittal review.
2. Contractor shall correct the original hard copy drawings once the District Representative has returned the marked up Contractor supplied documents "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED". Contractor shall then supply the mark-ups, as part of the resubmittal package, along with a hard copy of the drawing files.

E. DOCUMENT IDENTIFICATION:

1. Each separately bound document within a submittal shall have the following information shown on it:
 - a. Submittal number.
 - b. Document item number within this submittal.
 - c. Identification of product or material.
 - d. Manufacturer's name.

F. COORDINATION AND SEQUENCE:

1. Contractor shall coordinate the submittals with the work as outlined in this section. No extension of time will be allowed because of failure to properly schedule as-built submittals as outlined in this section. The submittal will be returned to Contractor within forty (40) working days of receipt by the District Representative, exclusive of any time waiting for clarification or further information from Contractor. The time for return will vary and may exceed 40 days depending on the complexity of the submittal and the number of submittals.

G. PROJECT RECORD RE-SUBMITTALS:

1. Returned project record submittal documents shall be revised as indicated by the District Representative's comments as required. Re-submittal shall be done by using the same submittal number with an alpha suffix after the submittal number. Reference to the previous submittal number and item number is required when resubmitting. Re-submittals shall address all comments from the District Representative. Partial re-submittals will not be reviewed and will be returned in their entirety REJECTED. Contractor will be responsible for the District Representative's review cost for each re-submittal in excess of the first re-submittal. These costs will be back-charged to Contractor and will be deducted from the progress payment.

H. SUBMITTAL REVIEW:

1. GENERAL: The following are the four (4) possible Review Codes each document item can receive:
 - a. "A" - NO EXCEPTIONS TAKEN: the as-built document is approved as is.
 - b. "B" - MAKE CORRECTIONS NOTED: limited corrections are required. Copies will be returned with remarks as to corrections required.
 - c. "C" - AMEND AND RESUBMIT: insufficient or incorrect data has been submitted or data is missing to complete the review. Copies will be returned with remarks requiring re-submittal with deficiencies corrected.
 - d. "D" - REJECTED: Submittal is unacceptable and does not meet the requirements of these specifications, the document will be returned with remarks. A complete submittal may be REJECTED for excessive errors.
2. The Review Status and approval of District supplied drawings and documents shall be as follows:
 - a. As-built drawings and documents which receive an "A" Review Status are approved as, as-built. District's Representative will stamp the document As-Built, sign and date it. The document will not be returned to Contractor unless it is a partial or tied to a related document which has not received an "A" status in the submittal.
 - b. As-built drawings and documents which receive a "B," "C" or "D" Review Status will be returned with comments indicating corrections needed.
 - c. Submittals of as-built AutoCAD drawings shall be subject to the same submittal requirements as other as-built documents.
3. The Review Status and approval of Contractor supplied drawings and documents shall be as follows:
 - a. As-built drawings and documents receiving an "A" Review Status are approved as, as-built. District's Representative will stamp the document As-built, sign and date it. This document will be returned for AutoCAD update, as required.
 - b. As-built drawings and documents receiving an "B", "C", or "D" will be returned with comments directed at corrections needed.
 - c. Submittals of as-built AutoCAD drawings shall be subject to the same submittal requirements as other as-built documents.

3.05 PAYMENT

- A. Payment shall be part of the progress payment schedule as outlined in the PROGRESS PAYMENT PROCEDURES Section (01 29 76).
- B. No partial payments shall be made for project record documents.
- C. Only after all the project record documents for a work activity area have been submitted, received, reviewed and approved, will a progress payment be made.
- D. Project record documents that include more than one area of work activity will only receive payment upon submittal and approval at the final area of work they represent.
- E. Progress payments for Contractor supplied project record documents (including shop drawings) shall only be made for approved original documents and plotted AutoCAD drawings together with the electronic copy of the documents.
- F. Progress payments for District-supplied documents shall be given for approved submittal only.

****END OF SECTION****

SECTION 02 83 19.15

LEAD-CONTAINING PAINT ABATEMENT

PART 1 -- GENERAL

1.01 GENERAL REQUIREMENTS

A. SCOPE:

1. These specifications are intended to minimize and control potential lead dust releases during the disturbance of lead-containing coatings in industrial settings. These procedures and precautions apply to the disturbance of lead that may result from the surface preparation of substrates, and may include but not limited to abrasive blast cleaning, water blasting, water jetting, chemical stripping, cutting into, drilling into, sanding, or removal of any structure or its components containing or covered with lead, or the demolition of any structure that contains lead either in or on their surfaces. Examples of surface coatings that may contain lead include paint, varnish, and stains.
2. The scope of the lead-containing coatings removal project is as described herein and/or as noted on the project drawing. The Contractor shall furnish all labor, materials, equipment, services, employee training and testing, insurance, permits and agreements, waste characterization, collection, storage, and decontamination facilities, transport and disposal necessary to perform the work required for lead based paint removal in accordance with these specifications, the drawings and notations, EPA, OSHA, NIOSH, and State of California regulations, and any other applicable federal, state and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable.
3. The District, Certified Industrial Hygienist (CIH) or California Department Public Health (CDPH) Certified Inspector, Coatings Inspector, and Contractor shall perform a site inspection survey with photo documentation prior to the start of any Work performed on site.
4. All work shall be supervised by persons experienced in lead abatement. All work performed by the Contractor shall be performed under the direct supervision of an Industrial Hygienist currently certified by the American Board of Industrial Hygiene or a CDPH Certified Project Monitor. During all phases of work Contractor shall have at least one supervisory employee per work area currently certified by the California Department of Public Health as a Certified Lead Supervisor as specified in CCR Title 17, Section 35008 or C3 Supervisor/Competent 4 day Training – SSPC: the Society for Protective Coatings established training for De-leading Industrial

Structures and includes background information on the hazards of lead and other toxic materials as well as the current local, state and federal regulations.. All reports, correspondence, and documentation shall be reviewed and signed off by the CIH or the CDPH Certified Project Monitor.

5. All work shall be performed by employees currently certified by California Department of Public Health as a Certified Lead Worker as specified in CCR Title 17, Section 35009.
6. These specifications represent the minimum performance standards with which the Contractor must comply. The details indicated herein are suggested methods to be used in order to comply with applicable laws and regulations, though not all required elements are shown. Omissions or mis-descriptions do not relieve the Contractor from his responsibility in performing the work according to all applicable laws and regulations and according to the intent of these specifications.
7. Contractor is responsible for restoring the work area and auxiliary areas, used in the abatement work, to conditions equal or better than original.
8. Treat all existing coated structural surfaces as lead-containing unless testing proves there is no lead detected in the sample. Cal/OSHA 1532.1 lead regulations shall apply if any of these surfaces or materials will be disturbed during the project work.
9. The Contractor and subcontractors shall utilize engineering controls to limit the release of lead dust or debris. These engineering controls may include, but are not limited to; using a containment system, using tools with vacuum recovery systems with Dust Collection per Society for Protective Coatings (SSPC) Standards, using vacuums with HEPA filtration, and by the prompt clean-up of any lead-containing debris that the work might produce.
10. Contractors must confirm all items (i.e. surveys, site conditions, utilities, facility amenities), prior to submission of bids. The Contractor shall verify all dimensions and existing conditions and shall notify the District Representative at once of any discrepancies.
11. The following work methods shall be prohibitive during any work that may loosen, penetrate, cut through or remove lead-based paint: Open flame burning, torching, including propane-fueled heat grids, dry scraping/sanding except for limited areas where electrical hazards create a higher risk than lead, machine sanding or grinding without proper containment or a HEPA local vacuum exhaust tool, uncontained hydroblasting or high-pressure washing, power washing to remove loose and peeling paint, abrasive blasting or sandblasting without proper containment or a HEPA local vacuum exhaust tool, the use of methylene chloride based paint strippers, and heat guns operating above 1,100 °F, without proper ventilation and containment.
12. For any lead related work disturbing lead in excess of 5000 parts per million (ppm) and that is greater than 100 sq. ft. or 100 ln. ft., or torch cutting or welding exceeds duration of 1 hour in any shift; the contractor shall provide a Lead-Work Pre-Job

Notification to Cal-OSHA as required by CCR, Title 8, 1532.1, Lead. An example notification form is included as an attachment to this specification.

1.02 REFERENCES

A. REFERENCE STANDARDS: The publications referred to hereinafter form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only. The latest edition of referenced publications in effect at the time of the bid shall govern. In case of conflict between the requirements of this section and the listed references, the requirements of this section shall prevail.

<u>Reference</u>	<u>Title</u>
Title 8 CCR 1532.1	California Code of Regulations, California Occupational Safety and Health Standards Construction Safety Orders, Lead
Title 8, Division 1, Chapter 4	Division of Industrial Safety
Title 8 CCR 5194	Hazard Communication
Title 22	Hazardous Waste Handling
Title 8, Section 5144	Guide to Respiratory Protection
29 CFR 1910.1025	Occupational Safety and Health Standards General Industry Standards for Lead
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
29 CFR 1910.132 through 1910. 138	Personal Protective Equipment
29 CFR 1910.134	Respiratory Protection Standard
29 CFR 1910.1000	Air Contaminants- Permissible Exposure Limits
29 CFR 1910.1020	Employee Access to Exposure and Medical Records
29 CFR 1926	Occupational Safety and Health Standards Construction Industry Standards
29 CFR 1926.59	Hazard Communication
29 CFR 1926.62	Occupational Safety and Health and Lead Exposure in Construction Interim Final Rule
29 CFR 1910, Section 2	Access of Employee Exposure/Medical Records
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, & Disposal Facilities
40 CFR 268	Land Disposal Restrictions

<u>Reference</u>	<u>Title</u>
40 CFR 745	Lead Based Paint Poisoning Prevention
49 CFR Parts 100-185	Transportation, Hazardous Materials Guide for Shippers, Handlers and Transporters
DHHS (NIOSH) Publication #85-115	U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities
SSPC Guide 6	Society of Protective Coatings, Guide for Containing Surface Preparation Debris
SSPC Guide 7	Society of Protective Coatings, Guide to the Disposal of Lead-Contaminated Surface Preparation Debris
SSPC QP 2	Society of Protective Coatings, Certification of Field Removal of Hazardous Coatings
USEPA Standard Operating Safety Guides	United States Environmental Protection Agency, National Service Center for Environmental Publications, Standard Operating Safety Guides

B. DEFINITIONS

1. **ABATEMENT ACTIVITIES:** All activities from the initiation of work area preparation through successful final detail, and visual clearance activities performed at the conclusion of a lead-containing coating removal project.
2. **BARRIERS, ISOLATION BARRIERS OR CONTAINMENT BARRIERS:** Walls, tunnels, partitions or enclosures erected to separate any section of an abatement area from adjoining areas and to prevent migration of lead particulates from the work area. All lumber and plywood shall be flame retardant and shall bear manufacturer's label.
3. **SPECIAL BLAST WASTE:** Paint residue, chips, dust, decontamination wash-down fluids, and any other debris generated as a result of the abatement operations of painted surfaces containing lead, chromium, or other heavy metal in the existing paint.
4. **CONFINED SPACE:** As defined by Occupational Safety and Health Administration (OSHA).
5. **DISCONTINUITY:** A void, crack, thin spot, foreign inclusion, or contamination in the coating film that significantly lowers the dielectric strength of the coating. This is also referred to as a holiday or pinhole.
6. **DISPOSAL SITE:** An EPA-approved, licensed landfill for the disposal of lead containing waste and/or lead contaminated materials.

7. EXPOSED EXTERIOR SURFACE: A surface that is exposed to weather, whether or not it is exposed to view.
8. CONTAMINATED WASTE: Special blast waste that has been tested and determined to have lead and/or chromium concentrations exceeding TCLP limits.
9. HEPA: High-efficiency particulate air.
10. HOLIDAY: A coating discontinuity.
11. PAINT: For the purposes of this Specification, paint includes fillers, primers, sealers, emulsions, oils, alkyds, latex, enamels, thinners, stains, epoxies, vinyls, chlorinated rubbers, urethanes, shellacs, varnishes, and any other applied coating specified within this Section.
12. SABAR: Steel Abrasive Blasting and Recovery System. Steel abrasive blasting unit with classifier system for cleaning/recycling blast media for lead abatement.
13. SPENT ABRASIVE: Blast abrasive material and spent water used during the abrasive blasting operations.
14. DISTRICT SAFETY REPRESENTATIVE: The individual designated to act as the agent for the District on specific safety matters related to the contract.
15. TCLP: Toxicity Characteristic Leaching Procedure.
16. TTLC: Total Threshold Limit Concentration. Characterization of Lead Waste test to establish whether or not the waste generated is hazardous waste.
17. STLC: Soluble Threshold Lime Concentration. Wet leaching procedure.
18. VOC: Volatile Organic Compounds.
19. WORK AREA: An area where lead-containing coating removal or other abatement procedures are being performed. A work area is considered a contaminated space between the time preparation begins and the time the area is certified clean by the CDPH Certified Project Monitor.

1.03 SUBMITTALS

- A. The following information shall be submitted for review in accordance with SUBMITTAL PROCEDURES Section (01 33 00):
 1. A copy of this specification section, with addenda updates, with each paragraph check marked to show specification compliance or marked to show deviations.
 2. A copy of the contractors written, detailed job specific lead compliance program as required by 29 CFR 1926.62 and as defined in State of California, Title 22.

- a. A site-specific lead work plan.
- b. A sketch of the site with Department of Transportation (DOT) container storage locations and decontamination station.
- c. A hazardous waste spill communication plan.
- d. Method to be used for recycling abrasive blast material and method to be used for reclaiming lead in contaminated waste material.
- e. The proposed waste hauler.
- f. The proposed disposal site.
- g. Contractor's Site Health and Safety Plan including, at a minimum:
 - 1) Project organization chart showing Contractor's Site Safety Officer.
 - 2) Contractor's Injury Illness Prevention Plan as required by Title 8 CCR, Section 3203.
 - 3) Emergency fire and accident response procedures.
 - 4) Location, type and size of all portable fire extinguishers on site during construction.
 - 5) Location of warning signs and labeling of waste containers.
 - 6) Fire Protection systems and procedures.
 - 7) Emergency means of ingress/egress from areas.
 - 8) Entrance to site capable of accommodating local fire response vehicles.
 - 9) Location of portable breathing apparatus.
 - 10) Location of stored combustible and/or explosive materials.
- 3. Physician's written medical opinion, current to within one year that Contractor employees can wear respiratory protection.
- 4. Employee Training Certification meeting 40 CFR 745 (subpart L) for each employee and supervisor working on the project site, signed and dated by authorized training provider.
- 5. Copy of the Contractor's formal written OSHA respirator plan, including a complete description of each respirator type, a fit-testing procedure for passive air filtering type respirators. The respiratory protection program must conform to 29 CFR 1910.134

- a. Air Sampling Written Report of first day air sampling and testing of filters removed from workers' respirators or personal air monitors.
 - b. Documentation of respirator fit-testing for all Contractor employees and agents who are required to wear a respirator. Fit-testing shall be current within one year.
6. Documentation of medical surveillance required in CCR Title 8, Sections 1529 (m) and 1532.1 (j).
- a. Name of the doctor(s) and the organization that maintains the Contractor's health monitoring program.
 - b. Summary of the health monitoring program, including blood chemistry urine analysis or other appropriate reports for heavy metal screening for workers scheduled to work on site.
 - c. Pre-Work Medical Surveillance testing of each employee and supervisor working on the project site prior to any Work.
 - d. Post-construction blood chemistry reports for workers performing work on site for heavy metals.
7. SECURITY PLAN:
- a. Description of personnel and visitor access and egress controls.
8. List of all materials, tools, equipment, and expendable supplies that will be used during the project and applicable product data sheets/MSDS or SDS - Safety Data Sheets.
9. Proposed protective clothing required.
10. Proposed methods of abatement.
11. Decontamination procedures.
12. Method to be used for recycling abrasive blast material {and method to be used for reclaiming lead in contaminated waste material}.
13. Proof that the Contractor or the Contractor's Hazardous Waste Hauler possesses a current Hazardous Waste Hauler License and EPA Transporter's Number. Proposed waste hauler (s) and copies of applicable licenses, including State of California registration number.
14. Waste Manifest System that meets federal, state, and location regulations and accounts for all waste at all times. This shall include written confirmation that the debris shall be treated and disposed of in accordance with requirements of 40 CFR 264 and 40 CFR 268.

15. Waste Disposal Certificates (including Bills of Lading) or Recycle Certificate. Copies (reproductions) shall be submitted with completed original certificates submitted upon receipt from the landfill.
16. Proposed waste hauler(s) and copies of applicable licenses, including State of California registration number.
17. Name, address, telephone number and accreditation of the environmental laboratory that will analyze Contractor's OSHA compliance personnel air samples.
18. SSPC Certification verifying that the Contractor is currently certified as SSPC-QP1 and SSPC-QP2.
19. Contractor shall submit complete statement of Contractor's financial ability to complete work required under this Contract.
20. Contractor's comprehensive schedule of his work which lists for each work space the dates of proposed work, the work shift times, and the projected work accomplishments during that shift.
21. Coordination with other work plan, consisting of a plan to coordinate with work being performed in adjacent areas. Procedures shall describe how the Contractor will prevent lead exposure to other contractors, vendors, delivery personnel or District personnel performing work unrelated to lead removal activities.
22. Written Confirmation of Designated Competent Person. The Competent Person shall be a person trained in the recognition and control of lead hazards in accordance with current federal, state, and local regulations. This person shall be a Certified Industrial Hygienist (CIH) certified for comprehensive practice by the American Board of Industrial Hygiene, a Certified Safety Professional (CSP) certified by the Board of Certified Safety Professionals, CDPH Project Monitor, California Department of Public Health as a Certified Lead Supervisor as specified in CCR Title 17, Section 35008 or C3 Supervisor/Competent 4 day Training – SSPC, or a person with training and experience necessary to meet the requirements of 29 CFR 1926.32(f).
23. MSDS for all new materials on site and all materials being removed from the site. MSDS shall be stored in waterproof containers visible from the direction of fire department access and shall be identified.
24. List of similar project experience with references.

1.04 OPERATION AND MAINTENANCE INSTRUCTIONS (NOT USED)

1.05 DELIVERY AND STORAGE

A. Deliver products in original containers, labeled as follows:

1. Name and type number of material.

2. Manufacturer's name and item stock number.
 3. Manufacturing date.
 4. Contents, by volume, of major constituents.
 5. Warning labels.
 6. VOC content.
- B. All material, painting equipment, etc., shall be stored at appropriate temperatures per manufacturers' printed recommendations, additionally (if stored on site) in accordance with local, state and federal requirements for toxic materials and hazardous materials.
- C. Local includes any/all adjacent "neighborhood" specific covenants.
- D. All materials shall be properly identified using signage in language(s) common to area in which work is being performed and in accordance with 49 CFR.
- E. Signage and placards shall be placed in a conspicuous location visible from the direction of fire department access.
- F. All materials stored on site shall be accompanied by MSDS.

1.06 SITE CONDITIONS

- A. Available project-specific test results are included as an attachment to this specification.
- B. BACKGROUND INFORMATION AVAILABLE:
1. SITE SOIL AND BULK ANALYSIS: The District has conducted soil and bulk sampling and analysis to determine the existing background levels of lead and chromium concentrations in the soils and equipment surrounding the project sites.
 2. AIR MONITORING TESTS: The District has conducted air monitoring to determine the existing background levels of airborne particulates in the immediate vicinity of the project sites.
 3. Copies of the background test reports are available for examination at:

Sacramento Regional Wastewater Treatment Plant
8521 Laguna Station Road
Elk Grove, CA 95758

Copies may be obtained by paying the cost of reproduction.

C. SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION:

1. These Construction Documents are to be governed at all times by applicable provisions of the Federal Law(s) including but not limited to the latest amendment of the following:
 - a. Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 94-596.
 - b. 29 CFR 1910.
 - c. 29 CFR 1926.
 - d. USEPA Standard Operating Safety Guides.
 - e. DHHS (NIOSH) Publication #85-115.

1.07 IMPLEMENTATION OF HEALTH AND SAFETY PLAN

A. NOTIFICATIONS, PERMITS, WARNING SIGNS, LABELS AND POSTERS:

1. Post at the jobsite contact information regarding the local fire department, police department, ambulance companies, and hospitals describing the scope and duration of the project and including the name and phone number of persons to be contacted in case of emergency.
2. Secure any permits required for the work. Deliver all permits to SRCSD for review and approval at least two (2) days prior to the preconstruction meeting.
3. Erect OSHA-specified warning signs around the workspace and at every point of potential entry from the outside including the entrance to the Decontamination Facility' Clean Room. The signs shall conform to OSHA requirements with the words "WARNING LEAD WORK AREA POISON NO SMOKING OR EATING". The warning signs shall be illuminated and easily noticeable. The size of the sign and its lettering shall be no less than OSHA requirements.
4. Label all waste containers in accordance with OSHA, DOT and NESHAPs regulations prior to removing contaminated material from the work areas for transport to the disposal landfill.
5. Provide any other labels, warnings, and posted instructions that are necessary to protect, inform, and warn workers, visitors of the hazards of lead exposure.
6. Post in a prominent and convenient place a copy of the latest applicable regulations of OSHA, EPA, and NIOSH; and a copy of these specifications and the applicable drawings.

B. EMERGENCY PRECAUTIONS:

1. Establish emergency and fire exits from all work areas accessible to both workers and building occupants.
2. Be prepared to administer appropriate first aid to injured personnel at the site after decontamination.
3. Before the actual removal of any material, notify the District Representative as to the danger of entering the work area, and invite the District Representative and others that will be involved in the project to attend an informal training program (or tailgate safety meeting) to be conducted by the Contractor to provide information regarding abatement activities, decontamination practices, waste disposal plan, etc. Make every effort to help the District Representative, outline contingency plans should their personnel need to enter a regulated area.

C. PERSONAL PROTECTIVE EQUIPMENT:

1. Determination of the appropriate level of personal protective equipment and procedures during this Project shall be made as a result of initial site survey, review of existing data, and a continued safety and health monitoring program performed by the Contractor's Site Health and Safety Officer for the Project.
2. Level D and/or Level C protection is anticipated.
3. Provide to all workers, foremen, superintendents and authorized visitors and inspectors protective disposable clothing consisting of full body coveralls, head covers, gloves, respiratory protection, and eye protection in accordance with 29 CFR 1926.1101(3)(g)(ii)(e).?
4. Provide hard hats, safety shoes and eye protection and any other safety equipment as needed due to job conditions or as required by safety regulations.
5. All disposable protective clothing and respiratory filters shall be discarded and disposed of as lead waste every time the wearer exits from the workspace to the outside through the decontamination facilities.

D. EQUIPMENT DECONTAMINATION:

1. All vehicles and equipment entering the limits of construction and used for work onsite shall be decontaminated prior to leaving the site.
2. The Contractor shall be responsible for monitoring all vehicle activity.

E. Decontamination area and fluid management shall be identified in the Contractor's Health and Safety Plan.

- F. Air Monitoring and Soil Confirmation Sampling conducted by the District to be reimbursed by Contractor as required.
1. AIR MONITORING: Make adjustments in fugitive dust containment based on results of air monitoring conducted by the District.
 2. SOIL CONFIRMATION SAMPLING: Sampling conducted by the District within five (5) days of notification by the Contractor that site cleanup operations are complete. Soil confirmation sampling test results will be available within 30 days of date of sample:
 - a. TEST RESULTS PASSING (NO ELEVATION OF BACKGROUND LEVELS): Release final payment.
 - b. TEST RESULTS FAILING: Contractor return within 10 days to correct the deficiencies in cleanup.
 - 1) Soil confirmation sampling cycle repeated until positive test results.
 - 2) Contractor pays for failing tests.
 3. RESPIRATORY PROTECTION SYSTEMS:
 - a. Provide all workers, foremen, superintendents, authorized visitors, and authorized inspectors personally issued and marked respiratory protective equipment approved by NIOSH and OSHA. When respirators with disposable filters are employed, the Contractor shall provide sufficient filters for replacement for each and every time any personnel or authorized visitor passes through a decontamination facility. Filters shall be disposed of as contaminated waste.
 4. WASTE DISPOSAL PROCEDURES:
 - a. It is the responsibility of the Contractor to determine current waste handling, transportation, and disposal regulations for the work site and for each type of waste disposal landfill. Comply fully with these regulations and all OSHA, U.S. Department of Transportation, EPA requirements, and state and local regulations.

1.08 SEQUENCING AND SCHEDULING

- A. PRE-CONSTRUCTION MEETING: After the notice of intent to award has been made, the District Representative shall arrange for a Pre-Construction Meeting, to be attended by the appropriate District personnel, CIH or the CDPH Certified Project Monitor, the General Contractor and the Lead Abatement Contractor. At this conference, a preliminary construction schedule, sequence of work, methods of access to the construction site, and temporary facilities shall be presented for discussion. Not more than (5) days after this conference, the General Contractor and the Abatement Contractor shall identify his Supervisor(s) and Foreman, and present the required submittals in this

specification in accordance with the SUBMITTAL PROCEDURES Specification Section. Two approved submittal sets will be returned to the Contractor.

- B. Provide health and safety training of all workers assigned to Project.
 - 1. Submit written agenda of items discussed during health and safety training.
- C. Provide written notice minimum of two (2) days advance of intent to begin work on tank(s).
 - 1. This time is required to allow District personnel adequate time to isolate the tank(s) involved and to adjust system operation to allow for tank to be out of service.
- D. Provide written notice to District Representative a minimum of seven (7) days in advance of any schedule changes as work progresses.
- E. Authorized District personnel shall be present at the site when Contractor first enters each site.
- F. Any operational or control functions at the site shall be performed by authorized District personnel only.

1.09 AUTHORITY TO STOP WORK

- A. The CDPH Certified Project Monitor and/or District Representative has the authority to stop work at any time he/she determines that conditions or procedures pose a threat to the health and safety of the District's Safety Representative(s) or Contractors' employees. By no means does this authority relieve the Contractor from the full fiduciary duty of safety. Where possible, the stoppage of work shall be approved by the District Representative and shall continue until conditions have been corrected or corrective steps have been taken to the satisfaction of the CDPH Certified Project Monitor. Standby time and testing costs required to resolve violations shall be at the Contractor's expense. Stop Work Orders may be issued for, but shall not be limited to the following:
 - 1. Failure to properly and continuously apply specified removal work procedures;
 - 2. Failure to maintain specified work area isolation and protection systems;
 - 3. Loss of specified flows of filtration air through the work area with dust collection device per SSPC standards;
 - 4. Failure to use specified personal protective equipment;
 - 5. Failure to maintain any specified records or to conduct specified personal exposure air monitoring tests and to make results promptly available to the CDPH Certified Project Monitor;

6. Detection of airborne lead dust levels outside the contained areas above normal background levels as defined by the CDPH Certified Project Monitor from previous test results or exceeding the OSHA Action Level of 30 microns per cubic meter (μ/m^3), measured as an 8-hour TWA.
7. Failure to comply with the specifications or any applicable federal, state, or local law, regulation or ordinance.

PART 2 -- PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer, and details for proper storage and usage.
- B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the work area in a manner that shall not interfere with the District's operations.
- C. Unloading and temporary storage sites and transfer routes must be approved in advance by the CDPH Certified Project Monitor.
- D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material that becomes contaminated with lead material shall be packaged as lead waste and legally transported and disposed of in an approved landfill.
- E. For disposal of lead-contaminated waste, Contractor shall furnish DOT 17H/55- gallon, open-top, steel drums with polyethylene liners and locking ring lids.
- F. Stick-on hazardous waste labels as per EPA or Cal/OSHA regulations.
- G. Supply and post warning signs as required by applicable Cal/OSHA regulations. Signs should be printed in English and Spanish.
- H. Provide all materials, equipment, facilities, and permitting to comply with applicable federal, state, and local regulations for all Work activities described herein.

2.02 MATERIALS, TOOLS, AND EQUIPMENT

- A. All materials, tools, and equipment must comply, at minimum, with this specification, and relevant federal, state, and local codes.
- B. **DUST COLLECTION FILTERED EXHAUST(S):** Air inside each lead removal work area shall be exhausted to the atmosphere (building containment exterior) through dust collection system. See SSPC Guidelines.
- C. **PLASTIC SHEETING AND BAGS:** Shall be polyethylene or equivalent with a thickness of at least 6-mil for all applications.

- D. TAPE AND GLUE: Shall be capable of sealing plastic joints, and attaching plastic to finished surfaces without damage when they are removed.
- E. WARNING SIGNS AND LABELS: Shall comply with 29 CFR 1926-62 and all other federal, state, or local codes and regulations.
- F. WASTE CONTAINERS TRANSPORTATION: Shall be DOT-approved metal drums or other DOT-approved closed containers. The containers shall be suitable for loading, temporary storage, transit, and unloading of contaminated waste without rupture, or otherwise causing spillage or exposure to persons or emissions to the atmosphere.
- G. RESPIRATORY PROTECTION DEVICES: Shall be NIOSH and MSHA-approved, and shall comply with all provisions of 29 CFR 1926.62.
- H. ELECTRICAL EQUIPMENT: Shall be Underwriters Laboratory listed and approved, and shall have ground fault circuit interrupt protection that has been installed by a licensed, bonded electrician.
- I. LADDERS OR SCAFFOLDS: Shall be OSHA-approved, and be of sufficient dimensions and quantities so that all work surfaces can be easily and safely accessed by the CIH or CDPH Certified Project Monitor, workers, and other inspectors. Scaffold joints and ends shall be sealed with tape to prevent incursion of dust and debris.

PART 3 -- EXECUTION

3.01 GENERAL

- A. All removal activities shall be performed using appropriate engineering controls including wiping methods and decontamination facilities, and meeting the intent of all applicable federal, state, and local health and safety regulations.
- B. All abatement work shall be scheduled, planned, and coordinated to cause the least amount of impact, disruption or potential disruption possible.
- C. Completion of each general stage of work requires written approval of successful completion, and written notice to proceed to the next general stage of work, from the CDPH Certified Project Monitor.
- D. Remove all specified materials. All materials shall be considered accessible for removal. As necessary, the Contractor shall be required to access materials for removal by temporarily disconnecting and moving obstructing equipment or structures. The cost for relocation and reinstallation to original condition shall be included in the Contractor's original bid price.
- E. As existing paints have been determined by laboratory analysis to be toxic or hazardous, coating/paint and coating/paint media residue mixture shall be tested to assure conformance with hazardous material tolerances have been met. Provide adequate

containers on the job site to retain spent media and removed coating and paint until tests have been completed or approval for disposal from a landfill has been obtained. Disposal of hazardous or toxic waste at other than government-regulated landfills shall not be permitted unless approved by the District in Contractor's plan of action for the project. Documentation of all hazardous or toxic waste disposal shall be required and a copy supplied to the District Representative.

- F. All regulations related to safety, worker protection and handling of lead-based coating materials shall be strictly followed.

3.02 INSTALLATION (NOT USED)

3.03 TESTING

A. INITIAL PERSONAL EXPOSURE SURVEILLANCE:

1. On first day of any lead-based coating or paint removal, work environment must be tested by or under the supervision of the Competent Person to determine levels of protection required to protect workers and the environment from lead and other heavy metal contamination. All costs related to testing by the Competent Person shall be borne by the Contractor.
2. Testing shall include personal air sampling and testing of filters removed from the workers' respirators or personal air monitors to determine the level of lead exposure. Upon completion of testing, the Competent Person shall file a written report on the results of the testing. Level of exposure shall then determine the type respiratory protection, clothing, housekeeping, hygiene facilities, medical surveillance, medical removal protection, employee information and training, signs, record keeping, and observation of monitoring required for the project.
3. No Work shall re-commence until the report from the Competent Person is filed and worker and environmental protection required is in place. Costs for the time delay shall be included in the Contractor's original bid.

3.04 TRAINING (NOT USED)

3.05 PREPARATION

A. INITIATION AND MAINTENANCE OF WORK PRACTICE CONTROLS:

1. Implement and maintain engineering and work practice controls based on the approved Air Sampling Written Report. This includes the type respiratory protection, clothing, housekeeping, hygiene facilities, medical surveillance, medical removal protection, employee information and training, signs, record keeping, and observation of monitoring required for the project.

B. PRE-WORK PRACTICE CONTROLS INSPECTION:

1. The Contractor and the District Representative shall conduct a pre-abatement inspection prior to active lead removal to evaluate containment, decontamination, barrier systems, negative air pressure systems (where applicable), and protective coverings. Work shall not proceed until the District has approved the site conditions.

C. VERIFICATION OF WORK PRACTICE CONTROLS:

1. Prior to the beginning of each day's cleaning operations, the site shall be inspected by the Competent Person and confirmed that all barriers and engineering controls are in affect and that no changes have occurred in site conditions while Contractor was not on site.
2. At the conclusion of each day's cleaning operations, the site shall be inspected by the Competent Person and confirmed that all barriers and engineering controls are in affect at the end of the work shift and prior to securing the site.

D. WORK PRACTICE CONTROLS INSPECTION:

1. Full time or part-time inspection may be performed by District personnel over the course of the project to provide the District Representative the ability to stop work as necessary should the Contractor violate applicable regulations, engage in activities that spread lead contamination or endanger human health, or fail to maintain the required controls or barriers. The following conditions and prohibited activities may warrant project shut down:
 - a. Breakdown of existing barriers or engineering controls.
 - b. Elevated perimeter sample results.
 - c. Visible emissions from work area.
 - d. Violation of Cal/OSHA, EPA, DOT, or other regulations.
 - e. Poor personal decontamination practices.
 - f. Poor work practices such as removal of lead based paint with a torch or flame, abrasive blast method removal without dust collection, dry scraping, dry sanding, sweeping, or cleaning with compressed air.

E. SURFACE PREPARATION:

1. At a minimum prepare the work areas as described in this section. Preparation work shall be performed according to the following general sequence of steps and procedures to ensure that proper protection systems are installed prior to starting work.

- a. Post access restriction signs;
 - b. Demarcate work area boundary and decontamination zone;
 - c. Install containment system;
 - d. Install portable decontamination facilities, staging areas, and waste storage facilities;
2. Obtain CDPH Certified Project Monitor's approval notated and signed on daily report of all preparation work before starting subsequent phases of abatement.
 3. Maintain dust emissions within the legal level and that level which would not create a nuisance. Contain dust emissions, abrasive deflection and removed paint particles where abrasive blasting is being accomplished, unless vacuum blasting or other means of cleaning are approved by the District. No water, abrasive deflection or paint particles shall be allowed to accumulate on the ground.
 4. After approval by the District Representative, surface preparation methods that may be used to accomplish the specified degree of cleanliness results while containing all paint and media include vacuum blasting, conventional blasting with containment, SABAR method with containment, power tool cleaning with vacuum attachment, chemical stripping, Torbo method, and high pressure water jetting.
 5. As paints have been determined by laboratory analyses to contain excessive levels of lead under Title 22, all cleaning operations shall be conducted to ensure removed paint particles or water are contained and not allowed to fall onto the site beyond the controlled containment area.

F. SURFACE PREPARATION INSPECTION:

1. Clean surfaces with a vacuum equipped with a high-efficiency particulate apparatus (HEPA) filter and furnish scaffolding and lighting (including moving of same) to permit inspection as requested by District and to allow the District the opportunity to inspect each abated area.

G. REMOVAL PROCEDURES:

1. This section applies to removal of any and all materials containing, contaminated or potentially contaminated with lead and/or lead-containing debris or particulate as stated herein or as otherwise indicated by the CDPH Certified Project Monitor.
2. All removal work shall be performed using negative air differential dust collection per SSPC guidelines in such a way as to minimize the release of dust or particulate into the air. All removal methods must be in accord with all Federal, State and Local regulations and these specifications, and must be pre-approved by the CDPH Certified Project Monitor.

3. The Contractor is responsible for thoroughly cleaning one or more representative area(s) inside each contained area to the satisfaction of the CIH or CDPH Certified Project Monitor to be used by the CDPH Certified Project Monitor to establish a standard of cleanliness.
4. Completion of each stage of abatement must be approved by the CDPH Certified Project Monitor verbally to progressing to the next.
5. Remove paint using only methods and equipment pre-approved in the submittals by the CDPH Certified Project Monitor. Do not generate airborne dust, particulate or other emissions during removal. Chemical strippers may be used for paint removal which are not classified as carcinogens by the State of California, are not highly volatile, may be used by personnel dressed in protective equipment described herein, and which may be treated and disposed of in a burial landfill.
6. Collect and pump wastewater through a one (1) micron filter (gray lead) filtration system. Dispose of according to waste disposal profile.
7. Collect resultant solid debris including, but not limited to, sludge, slurry, gloves, and rags, place in fiber drums or other suitable containers and dispose of as lead-containing solid waste according to waste disposal profile.
8. Metal may be disposed by metal recycling.
9. Removal is complete only when the lead-containing paint has been removed to the satisfaction of the CDPH Certified Project Monitor.
10. Specific removal requirements.
11. Remove paint from substrate using methods designed to minimizing generation of airborne of dust and debris.
12. Remove paint from substrate using hand held tools, chemical strippers, or other method pre-approved by the CDPH Certified Project Monitor. Power tools such as drills, sanders, or coring devices must be fitted with a local, HEPA-filtered collection device. Any preparation of painted surface shall be performed in adherence with manufacturer's requirements for re-painting if applicable.
13. Immediately clean debris from drop cloth and all other surfaces by wiping and/or HEPA vacuuming. Place debris in waste container, seal and place in lockable waste storage facility.

3.06 CDPH CERTIFIED PROJECT MONITOR'S APPROVAL OF REMOVAL WORK:

- A. Upon completion of removal work, but prior to commencing final cleaning of the work area, request the CDPH Certified Project Monitor to conduct an inspection and obtain written approval of the removal work.

- B. Remove all materials, clean up gross debris, collect wastewater, and remove filtered and waste bags from the work areas prior to the inspection.
- C. Any encapsulation or lock down performed prior to the CDPH Certified Project Monitors approval shall mandate Contractor to re-clean the entire work area to the satisfaction of the CDPH Certified Project Monitor.

3.07 CLEAN-UP AND DECONTAMINATION

- A. After all lead-containing (or contaminated) materials have been removed; remove all wastes and perform a thorough multi-stage final cleanup and decontamination of the work area per the methods indicated below. Completion of this stage of work must be approved by the CDPH Certified Project Monitor in writing.
- B. Final cleaning of the abatement work areas shall be performed only after all waste is packaged and removed, but prior to dismantling any barrier, decontamination facility, or protective coverings. Cleaning shall be subject to the CDPH Certified Project Monitor's approval based on visual inspections performed in general accord, as recommended and outlined, in the U.S. Department of Housing and Urban Development's document, Guidelines for the Evaluation and Control of Lead-Based Pain hazards in Housing. Notify the CDPH Certified Project Monitor in writing at least 24 hours in advance of the expected completion time of final Site cleaning.

C. WASTE TRANSPORTATION AND DISPOSAL

1. Arrange to have the debris transported from the site in accordance with the requirements of 40 CFR 263, and disposed of properly in accordance with 40 CFR 265 and 40 CFR 268. Signed manifests shall be returned to the District Representative to verify that all steps of the handling and disposal process have been completed properly.
2. Written confirmation that the debris shall be treated and disposed of in accordance with requirements of 40 CFR 264 and 40 CFR 268 shall be received by the District Representative prior to start of the work. The programs shall provide assurance that the debris is handled properly from cradle to grave, and include the necessary notifications and certifications on shipments, provide the name of the disposal facility, and include a schedule for the submittal of the completed manifests to the District Representative.
3. The cost for processing and disposing of hazardous wastes shall be included in the various bid items set forth in these documents and no additional compensation shall be granted therefore.
4. All hazardous materials shall be removed from the project site prior to the post-site inspection between the Contractor and the District Representative.

3.08 SITE SECURITY

- A. The Work Area is restricted to authorized, trained, and protected personnel. A list of authorized personnel shall be established and posted at the entrance of the Work Area by the District Representative prior to commencement of the Work.
- B. Report to the District Representative any unauthorized entry into the Work Area. Following notification, a written report of the incident shall be provided to the District Representative.
- C. A logbook shall be maintained at the entrance of the Work Area. All persons entering the Work Area shall record name, company affiliation, time in, and time out for each entry and exit.
- D. Access to the Abatement Work Area shall be through the Decontamination Enclosure System only. All other means of access shall be blocked or locked so as to prevent entry to or exit from the Work Area. Emergency exits shall be operable from inside the Work Area.

3.09 QUALITY ASSURANCE AND INSPECTION

- A. The CDPH Certified Project Monitor shall conduct visual clearance of all work surfaces.
- B. If all lead surfaces do not meet the visual clearance criteria, perform a thorough cleaning and/or HEPA-vacuuming and the visual inspection shall then be repeated by the CDPH Certified Project Monitor until visual clearance criteria is met. The additional cleaning and air testing services shall be paid by the Contractor.
- C. The Contractor and District Representative shall conduct a post-abatement inspection after the Contractor has removed all hazardous materials, demobilized all abatement equipment, and performed final cleanup. Work shall not be considered completed until the District Representative has approved the site conditions.

3.10 AIR MONITORING BY CONTRACTOR

- A. The Contractor shall be responsible for personal air-monitoring as required by 8 CCR 1532.1 to document compliance of his workers as recommended by 8 CCR 5216 using the methods specified below.
- B. Laboratories analyzing lead samples shall be accredited for inorganic analysis.
- C. Air sampling materials and equipment requirements are as follows:
 - 1. Sampling for lead shall be performed using a mixed cellulose ester filter 0.8-micrometer pore size, 37-millimeter diameter in a 2- or 3-piece cassette filter holder. Assemble the filter in the cassette with a cellulose support pad. Sampling technique shall be closed-face sampling.

2. The filter assembly shall be upstream of all other components in the sampling train. An airflow-measuring device (when used) shall be downstream of the filter and the pump assembly, or integral with the pump assembly.
 3. Sampling for lead shall be performed using a flow rate of 2.0 to 4.0 liters per minute.
 4. An airflow measuring/metering device shall be used, and shall be a high quality rotometer, mass flow, dry gas meter or critical orifice. Measuring devices shall have a range of at least 1.5 times the desired flow rate and be readable to at least $\pm 5\%$ of the desired flow rate. They shall be calibrated against standards of higher accuracy before and after sampling. The calibrations shall be recorded.
- D. Quantity and frequency of personal air sampling for lead shall be as recommended in 8 CCR 5216 and OSHA 29 CFR 1926.62. Perform initial monitoring for lead exposure and additional testing dependent upon sample results.
 - E. Post the results of sample analysis in the clean room of the decontamination facility and provide them to the CDPH Certified Project Monitor within twenty-four (24) hours of collection.
 - F. Use a pre-approved “chain-of-custody” form for all personal air samples collected.
 - G. Personal sampling for lead shall be performed pursuant to NIOSH Method 7082 (AAS).
 - H. At no additional charge, install and provide AC power for the CDPH Certified Project Monitor to collect the area air samples.
 - I. All other sampling for compliance with the Specifications shall be performed by Consultant at no cost to the Contractor except where the Contractor fails specified tests.

3.11 RESTORATION AND REPAIRS

- A. Remove all equipment and materials to restore worksite to a neat and orderly condition as directed by the CDPH Certified Project Monitor and approved by the District Representative.

****END OF SECTION****

ATTACHMENT A

- 1. EXAMPLE LEAD-WORK PRE-JOB NOTIFICATION FORM**
- 2. AVAILABLE LEAD TEST RESULTS**



Annual Notification for Steel Structures

(Note: items marked * are required)

*Name of employer doing 'Lead Work'	*Address	*Zipcode	*Phone
Calif. Cont. Lic. No. (if applicable)			Pager/cellular phone No.

Supervisor:	*Number of lead-job workers: (check one below)
* Supervisor name:	<input type="checkbox"/> 1 - 5 <input type="checkbox"/> 31 - 40
California Department of Health Services Lead Cert. No. (if applicable)	<input type="checkbox"/> 6 - 10 <input type="checkbox"/> 41 - 50
	<input type="checkbox"/> 11 - 20 <input type="checkbox"/> > 50
	<input type="checkbox"/> 21 - 30

*Job start date/time	*Job completion date/time	Shift	*Approximate duration of 'Lead Work' in days
		<input type="checkbox"/> Day <input type="checkbox"/> Swing <input type="checkbox"/> Graveyard <input type="checkbox"/> Other	

*Street address or location of job	City	Nearest cross street
	County	Zipcode

*Precise Location of work (building no., room no., etc.)

Entity contracting the lead-work	Address	Zipcode	Phone
<input type="checkbox"/> Premises Owner <input type="checkbox"/> Lessee (check one)			Pager/cellular phone No.

Type of structure and use:

<input type="checkbox"/> Office Building	<input type="checkbox"/> Residence	<input type="checkbox"/> Steel Structure/Type _____
<input type="checkbox"/> Public Access/Commercial	<input type="checkbox"/> School	<input type="checkbox"/> Other _____

Scope of work and work practices:

*Describe lead-related work to be done (check all that apply)

<input type="checkbox"/> Surface Preparation	<input type="checkbox"/> Wall Repair	<input type="checkbox"/> Other _____
<input type="checkbox"/> Water/Moisture Damage Repair	<input type="checkbox"/> Paint Removal	
<input type="checkbox"/> Window/Door Repair/Replacement	<input type="checkbox"/> Demolition	

*Describe paint removal methods (check all that apply):

<input type="checkbox"/> Manual Scraping/Sanding	<input type="checkbox"/> Demolition	<input type="checkbox"/> Hydroblasting	<input type="checkbox"/> Other work practices disturbing lead: _____
<input type="checkbox"/> Power Sanding/Grinding	<input type="checkbox"/> Heat Guns	<input type="checkbox"/> Torch Cutting	
<input type="checkbox"/> Chemical Stripping	<input type="checkbox"/> Abrasive Blasting	<input type="checkbox"/> Welding	

*Amount of area to be disturbed: (check one per column)

<input type="checkbox"/> < 10 square feet	<input type="checkbox"/> < 10 linear feet
<input type="checkbox"/> 10 - 100 square feet	<input type="checkbox"/> 10 - 100 linear feet
<input type="checkbox"/> 101 - 1000 square feet	<input type="checkbox"/> 100 - 1000 linear feet
<input type="checkbox"/> > 1000 square feet	<input type="checkbox"/> > 1000 linear feet

Torch Cutting/Welding
Duration of work: _____

Concentration of lead in disturbed materials:

_____ parts per million (ppm)	_____ % percent by weight
_____ mg/cm ²	Assumed to be lead-containing: <input type="checkbox"/> YES

*Name of notifier	Title:	*Date signed: