CONFORMED SET

CONTRACT DOCUMENTS

FOR

D- 1215

Art Gallery Building Demolition

AT

Diablo Valley College
321 Golf Club Road, Pleasant Hill, CA 94523

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

Consists of:

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120803 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 5/18/2023

VOLUME 0

May 24, 2023

LICENSED ARCHITECT
JEFFREY KEITH LUNEY
C 30493
EXP. 1/31/2025
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
BRIAN M. SHEN
NO. 4961
STRUCTURAL
STATE OF CALIFORNIA
signed 05/17/2023

SECTION 00 01 10

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Section 00 11 16
NOTICE INVITING BIDS

D-1215
Art Gallery Building Demolition

Diablo Valley College
321 Golf Club Road
Pleasant HIll, CA 94523

NOTICE IS HEREBY GIVEN that the Governing Board of the Contra Costa Community College District (District), Martinez, California, will receive sealed bid proposals for the furnishing of all labor, materials, equipment, transportation and services for the construction of the project entitled **D-1215 Art Gallery Building Demolition**

Construction Cost Estimate (Range): **$150,000 to $200,000**
California License Required: **B - General Building License or C21 - Demolition, and C-22 - Asbestos Abatement**

This bid the demolition of the Art Gallery Building. The Art Gallery Building is part of the existing Art Buildings on Campus, but only the Art Gallery itself will be demolished.

The District does not provide hardcopies of bid documents or reimburse cost of printing, delivery, or any expenses related to the bidding process.

For information directly from the Contra Costa Community College District, you may log in to the District Website: https://webapps.4cd.edu/apps/purchasingviewbids/default.aspx. Project documents available include, but are not limited to plans, specifications, addenda, bidders lists, bid results, etc., and can be viewed on this District webpage.

All questions related to this project must be submitted, via email, to:

Ben M. Cayabyab, Contracts Manager
Contra Costa Community College District
500 Court St., Martinez, CA 94553
Email: bcayabyab@4cd.edu

Each bid shall be made on the bid form, which is included in the Bid Documents and when submitted, shall be accompanied by a Bid Bond or Certified Cashier's Check in the amount of 10% of bid (made payable to the Contra Costa Community College District). The District reserves the right to forfeit Bid Bond submitted for failure of the successful bidder to secure Payment & Performance Bonds.

IMPORTANT INFORMATION:
Pre-Bid Meeting and Job Walk, Date/Time: .....Wednesday, June 7, 2023 at 10:00 AM (Mandatory)
Pre-Bid Meeting Location: .....Diablo Valley College - 321 Golf Club Road, Pleasant Hill, CA 94523. Parking Lot #8 at Art Gallery Building.
Last Date / Time for Bidder's
Requests for Information: .....Monday, June 12, 2023 (prior to 2:00pm)
Bids Due No Later Than, Date / Time: .....Thursday, June 22, 2023 (prior to 2:00PM)

Bids Must Be Received at: .....Contra Costa Community College District (Lobby)
500 Court St, Martinez, CA 94553
Attn: Ben M. Cayabyab, Contracts Manager

Bids must be received by the District prior to the time and by the date noted above. Bids that are not received by the District prior to the time and by the date noted above will not be accepted, and will be returned to the Bidder, unopened. The District is not responsible for lost or misplaced proposals delivered by a 3rd party carrier.

The successful bidder will be required to furnish a labor and material bond in an amount equal to one hundred percent (100%) of the contract price and a faithful performance bond in an amount equal to one hundred percent (100%) of the contract price, said bonds to be secured from a surety company acceptable to the Contra Costa Community College District and authorized to execute such surety in the State of California.

This project is a public works project and is subject to prevailing wage rate laws. A copy of the prevailing rates of wages is on file with the Contracts & Purchasing Office of the Contra Costa Community College District, available at the DIR website at https://www.dir.ca.gov/oprl/pwappwage/PWAppWageStart.asp. Said rates of wages shall be included in the contract for the work by this reference.

Attention is directed to Section 4100 through 4113 of the Public Contract Code concerning Subcontractors, with emphasis on Section 4104, known as the "Subletting and Subcontracting Fair Practices Act, effective July 1, 2014.

Attention is directed to Labor Code Section 1725.5 regarding Department of Industrial Relations (DIR) contractor registration process including registration criteria and implementation of DIR registration requirements. Labor Code Section 1771.7 establishes contractor's obligation to submit Certified Pay Roll (CPR) to the Department of Labor and Standards Enforcement (DLSE) and public works monitoring and enforcement. Labor Code Section 1773.3 requires the District to submit a PWC-100 to DIR for all public works contract awarded effective January 1, 2015.

Attention is directed to Section 005213, Construction Agreement, Article 4, regarding liquidated damages. Liquidated Damages shall be set for **$500 Dollars** for each calendar day the work is delayed beyond the Contract Substantial Completion date. The Governing Board of the Contra Costa Community College District reserves the right to reject any and all bids and/or waive any informality or irregularity in any bid received. No bidder may withdraw their Bid for a period of ninety (90) days after the date set for opening thereof.

END OF SECTION 00 11 16

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 ISSUING OF DOCUMENTS

A. Bidding Documents may be examined at the Contra Costa Community College District, 500 Court Street, Martinez, CA 94553. By Appointment: Kathleen Halaszynski, Facilities Department, phone (925) 229-6846.

1.2 QUALIFICATIONS OF BIDDERS

A. Bidders may be required to furnish additional evidence satisfactory to the District that they have sufficient means and sufficient experience in the class of work called for to enable them to complete the Contract in a satisfactory manner.

B. Bidders shall be Contractors properly licensed in accordance with the laws of the State of California.

C. The successful Bidder shall furnish satisfactory Certificates of Insurance coverage as specified in the Contract Documents.

1.3 RECEIPT AND OPENING OF BIDS

A. Contra Costa Community College District hereinafter referred to as the District, will receive Bids at the same time and place specified in the Notice inviting Bids.

B. Complete the Bid Form included in the Project Manual.

C. The envelopes containing the Bids shall be sealed, addressed to the District, and designated as “D-1215 Art Gallery Building Demolition”. The envelope shall contain the name and address of the Bidder.

D. Bids that are mailed shall have the previously described envelope placed inside an envelope addressed to: CONTRA COSTA COMMUNITY COLLEGE DISTRICT, 500 Court Street, Martinez, CA 94553 ATTENTION: Ben Cayabyab, Contracts Manager. Bids should be mailed in time to be received prior to the time set forth in the Advertisement for Bids.

E. Bids which are conditional (or which make alterations, omissions, or reservations to the terms of the Bidding Documents) may be rejected as non-responsive.

F. All monetary figures are required, both in writing and in numerals. In event of conflict between written quotations and numerical quotations, written quotations shall govern.

G. Type or print all bid data legibly in ink except signatures which shall be in script. Mistakes may be crossed out and corrections inserted if each is initialed in ink by signer of Bid.

H. Bidder's business address and signature shall be on the Bid. A Bid by a partnership shall furnish the full names of partners and be signed in the partnership name by one member of the partnership, or by authorized representative, followed by the signature and designation of the

person signing. Bids by corporations, with corporate seal affixed, shall be signed with the legal name of the corporation followed by the name of the state of incorporation and by the signature and designation of the person authorized to bind it to the matter. The name of each person signing shall also be typed or printed below the respective signatures. When required by the District, satisfactory evidence of authority of the office signing in behalf of the corporation shall be furnished.

I. No Bids will be received after the date and time set forth in the Notice Inviting Bids

1.4 BID SECURITY

A. Submit with the Bid a Bid Security in the amount of 10 percent (10%) of the Bid.

B. The District reserves the right to forfeit the Bid Bond submitted for failure of the successful bidder to secure Payment & Performance Bonds.

1.5 SURITY BONDS

A. The successful Bidder shall furnish a Labor and Material Payment Bond in the amount equal to one hundred percent (100%) of the Contract Price and a faithful Performance Bond in the amount equal to 100 percent (100%) of the Contract Price as security for the successful performance of the work and payment of persons performing labor and furnishing materials. The Bonds shall be executed by a surety company or companies acceptable to the District and authorized to execute such in the State in which the Project is located and shall be furnished within 10 days after Notice of Acceptance of said Bid. Surety shall be made in favor of the District and shall cover the guarantee periods as well as the construction period.

1.6 WITHDRAWAL OF REVISIONS OF BID

A. This Bid may be withdrawn or revised prior to the scheduled time for receipt. Bids not withdrawn prior to the scheduled time for receipt may not be withdrawn for a period of 90 days.

1.7 BID PROTESTS

A. Inquiries or questions based on alleged patent ambiguity of the plans, specifications or estimate must be communicated as a bidder inquiry prior to bid opening. Any such inquiries or questions, submitted after bid opening, will not be treated as a bid protest.

B. Bidder may file a protest with the District against the Bid of other Bidder or Bidders (“Bid Protest”) subject to the provisions of this Article. The procedures and time limits set forth in this Article are mandatory and are a Bidder’s sole and exclusive remedy in protesting other Bidders’ bids. Failure to comply with these procedures shall constitute a waiver of any right to pursue a Bid Protest, or to contest the District’s award of the contract for the work that is the subject of the Bid, in any legal proceeding before any authority with jurisdiction.

C. Bid Protests and Responses shall be governed by the following time limitations:

1. Bidder must deliver any Bid Protest to the District in writing before 2:00PM, three (3) working days after the date of bid opening. The District will reject any Bid Protest not received by the District by this deadline. Bidder must concurrently deliver a copy of its Bid Protest to all Bidders against whose Bids the Bid Protest is directed. The Bidder must include with its Bid Protest written proof to the District’s satisfaction that Bidder has delivered a copy of its Bid Protest to the other Bidder whose bid is the subject of the Bid Protest.

2. A Bidder whose Bid is the subject of a Bid Protest must deliver its written response, if any, ("Response") to the District, before 2:00PM, eight (8) working days after the date of bid opening. The District will reject any Response not received by the District by this deadline.

D. Delivery of Bid Protest or Response

1. Bidder may deliver a Bid Protest to the District by personal delivery or electronic transmission such as by facsimile. Bidder is solely responsible for ensuring that the District receives any Bid Protest or Response by the deadlines set forth herein.
2. The District will not consider Bid Protests or Responses by telephone conversation or any other non-written communication.
3. Bidder shall submit any Bid Protest or Response to: Amy Sterry, Director of Purchasing and Contract Services, Contra Costa Community College District, 500 Court Street, Martinez, CA 94553, asterrry@4cd.edu, Facsimile: 925-370-7512.

DI. Content of Bid Protest

1. A Bid Protest must state the basis for the protest and provide supporting evidence.
2. A Bid Protest must refer to the specific portion of the Bid that forms the basis of the protest.
3. A Bid Protest must include the name, address, and telephone number of the person representing the protesting Bidder.
4. A Bid Protest must be clearly identified as a Bid Protest.

1.8 AWARD AND REJECTION OF BIDS

A. In awarding or rejecting Bids, the District reserves the following rights:

1. Identification of successful Bidder will not be determined at time of opening Bids.
2. To obtain opinion of counsel on legality and sufficiency of bids.
3. To reject all Bids, to re-bid, or waive irregularities or informalities in a Bid, and to accept or reject alternates.
4. Request proof that the successful Bidder can provide performance and payment bonds as required.

1.9 EXAMINE DOCUMENTS AND VISIT SITE

A. Before submitting a Bid, the Bidder shall examine the Bidding Documents, visit the site of the work, attend the required site visit arranged by the District and obtain Certification of Attendance signed by the District, ascertain existing conditions and limitations, including those of labor, and include in the Bid a sum to cover the cost of all items described in the Contract Documents.

B. No consideration will be granted for alleged misunderstanding of the materials to be furnished or work to be done. The tender of a Bid carries with it the agreement to terms and conditions referred to in the Contract Documents.

1.10 DISCREPANCIES, AMBIGUITIES, OR CONFLICTS

A. If the Bidder is in doubt as to the true meaning of any part of the Contract Documents; finds discrepancies, errors or omissions therein; or finds variances in any of the Contract Documents with applicable rules, regulations, ordinances and/or laws, a written request for

an interpretation or correction thereof must be submitted to the District's Contract Manager. Bidders are solely responsible for submitting to District's Contract Manager such request. Ambiguities or inconsistencies arising as a result of separation of sections or portions of the drawings or specifications by or for subcontractor bidding shall not relieve the Contractor for providing the complete Work without increase to or adjustment in the Contract Price or the Time for performance. Interpretations or corrections of the Contract Documents will be by written addendum issued by the Architect. No person is authorized to render an oral interpretation or correction of any portion of the Contract Documents to any Bidder, and no Bidder is authorized to rely on any such oral interpretation or correction. Failure to request interpretation or clarification of any portion of the Contract Documents pursuant to the foregoing is a waiver of any discrepancy, defect, or conflict therein.

1.11 ADDENDA

A. Cost for work included in any Addenda issued during the time of bidding shall be included in the Bid and will become a part of the Contract. List Addenda received as indicated on the Bid Form.

1.12 FORM OF AGREEMENT

A. The form of agreement to be used for the Contract is provided by the District and is included in the Project Manual.

1.13 AWARD OF CONTRACT

A. The District will be allowed a period of ninety (90) days after Bid Opening Date for evaluating the Bids.

B. Bidders of record will be notified of the results of the District's evaluation of bids and Award of Contract, if any.

C. The Contractor shall begin work within ten (10) calendar days of receipt of Notice to Proceed.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION 00 21 13

SECTION 00 41 00

BID PROPOSAL FORM

PROJECT NUMBER / NAME: **D-1215 Art Gallery Building Demolition**

CONTRACTOR NAME: _____

CAMPUS / LOCATION: **Diablo Valley College/ Pleasant Hill**

DISTRICT: **CONTRA COSTA COMMUNITY COLLEGE DISTRICT**
500 Court St., Martinez, CA 94553

Herein Referred to as "District"

1. INTRODUCTION

A. The Bidder proposes to perform the Work for the Contract Price and within the proposed Contract Time, based upon an examination of the site and the Bid and Contract Documents.

B. The Bidder certifies this Bid is submitted in good faith.

C. The Bidder agrees that the Contract Price and other proposed terms will be considered in evaluating Bids and may be negotiated and adjusted before awarding of Contract.

D. A fully executed Statement of Bidder's Qualifications signed by an authorized officer of the Bidder submitting the Bid shall be attached to the Bid Form.

E. A fully executed Non-Collusion Affidavit signed by an authorized officer of the Bidder submitting Bid shall be attached to the Bid Form.

F. The District shall award the contract to the lowest responsive and responsible Bidder.

2. CONTRACT PRICE

A. **BASE BID (D-1215 Art Gallery Building Demolition)**

For labor, materials, bonds, equipment, tools, transportation, services, sales taxes and other costs necessary to complete the general construction in accordance with the Contract Documents, for a stipulated Contract Price in the amount of:

_____**Dollars ($_____)**

_____

B. **ALTERNATES:** N/A at this time.

4. COMPLETION TIME

A. For establishing the Date of Substantial Completion, and the Contract Time for the Base Bid and Alternates (If any) is as listed in the Construction Agreement. For Final Completion add 30 Calendar days to the Substantial Completion Date. This time may be subject to modification to facilitate the work as mutually agreed upon at a later date.

B. The Bidder certifies that the Bid is based on the Contract Time for completion as stated above and in the Contract Documents. Bidder further certifies that the Base Bid amount is sufficient to cover all labor, materials, central office and construction site overhead, profit, and all other costs related to the completion of the Project for the entire Project construction time for both the General Contractor and all Subcontractors, as stated above in paragraphs 2 and 3.

5. ADDENDA

A. The Bidder acknowledges receipt of the following Addenda and certifies the Bid has provided for all modifications and considerations required therein.

None [ ]

Addendum No.:_____ dated _____

Addendum No.:_____ dated _____

Addendum No.:_____ dated _____

Addendum No.:_____ dated _____

Addendum No.:_____ dated _____

B. List of Additional Addenda Attached: Yes [ ] No. [ ].

6. DESIGNATION OF SUBCONTRACTORS

A. The Bidder has set forth a complete list indicating the type of work, name, and business address of each Subcontractor who will perform work in excess of one-half of one percent of the Contract Price.

B. Any portion of the work in excess of the specified amount having no designated Subcontractor shall be performed by the Bidder.

C. Substitution of listed Subcontractors will not be permitted unless approved in advance by the District.

D. Prior to signing the Contract, the District reserves the right to reject any listed Subcontractor.

E. The Bidder and all Subcontractors, at any and all tiers, shall be required to sign and submit to the District an Agreement to be Bound to the Project Stabilization Agreement that is a part of these Contract Documents.

7. SUBCONTRACTOR TYPE OF WORK

Name	Type of Work	Address	CSLB	DIR Reg #
1.				
2.				
3.				
4.				
5.				

F. Complete list of Subcontractors is attached: Yes [ ] No [ ]

G. Continuation list of Subcontractors is attached: Yes [ ] No [ ]

H. Within 24 hours after the deadline for submission of Bids, Bidders shall submit each subcontractor's License Number, Business Address, and percentage of contract work to be performed by each listed subcontractor.

8. ACCEPTANCE AND AWARD

A. The District reserves the right to reject this Bid and to negotiate changes before or after execution of the Contract. This Bid shall remain open and shall not be withdrawn for a period of 90 days after Bid Opening date.

B. If written Notice of Award of this Bid is mailed or delivered to the Bidder within 90 days after the date set for the receipt of this Bid, or other time before it is withdrawn, the Bidder will execute and deliver to the District a Contract prepared by District with the required Surety Bonds and Certificates of Insurance, within 10 days after personal delivery or deposit in the mail of the Notice of Award.

C. Notice of Award or request for additional information may be addressed to the Bidder at the address provided.

9. BID SECURITY

A. The required 10 percent (10%) Bid Security for this Bid is attached in the form of:

( ) Bid Bond Issued By: _____

( ) Certified or Cashier's Check No._____

Issued by: _____

10. BIDDER'S BUSINESS INFORMATION

A. **Individual [ ]:**_____

Personal Name:_____

Business Name:_____

Address: _____

_____ Zip Code: _____

Telephone: _____

Fax Number: _____

B. Partnership [ ]: _____

Co-partners' Names: _____

Business Name: _____

Address: _____

_____ Zip Code: _____

Telephone: _____

Fax Number: _____

C. **Corporation [ ]:** _____

Firm Name: _____

Address: _____

_____ Zip Code: _____

Telephone: _____

Fax Number: _____

State of Incorporation: _____

President: _____

Secretary: _____

Treasurer: _____

Manager: _____

D. **Power of Attorney:**

Name: _____

Title: _____

E. **Contractor License No.** _____ State of _____

F. Bidder is submitting this proposal on behalf of a Joint Venture. Names, license numbers, and relevant information are given on a separate attachment:

Yes [ ] No [ ].

G. Upon request, furnish appropriate documentation to substantiate and/or support the data given.

H. The undersigned hereby certifies under penalty of perjury under the laws of the State of California that all the information submitted by the Bidder in connection with this Bid and all the representations herein made are true and correct.

Executed this_____day of _____

_____

Contractor's License No. Expiration Date DIR Registration #

_____

Firm Name

_____

Signature

_____

By (Print or Type Name)

_____

Title

END OF SECTION 00 41 00

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Section 00 45 19

NONCOLLUSION AFFIDAVIT

(TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID)

State of California

County of Contra Costa

_____, being first duly sworn, deposes and says that he or she is of _____, the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

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

Date: _____ Signature: _____

State of California
County of Contra Costa

On _____, before me, _____, Notary Public, personally appeared

_____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing is true and correct.

WITNESS my hand and official seal.

Date: _____ Signature: _____

[SEAL]

END OF SECTION 00 45 19

SECTION 00 51 00

NOTICE OF AWARD

DATE: _____

TO: _____

ADDRESS: _____

PROJECT: _____

The Contract Sum of your contract is_____Dollars, ($_____).

You must comply with the following conditions within **ten (10)** calendar days of the date of this Notice of Award, that is, by_____.

1. You must deliver to the District two fully executed counterparts of Section 00 52 13, "Contract Agreement."

2. You must deliver to the District the "Contract Performance Bond," and "Payment Bond," executed by you and your surety, which are included in Section 00 61 13.

3. You must deliver to District the insurance certificates required in Section 00 52 13, "Contract Agreement."

Failure to comply with these conditions within the time specified will entitle District to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited. Within **ten (10)** calendar days after you comply with these conditions, the District will return to you one fully signed counterpart of the Contract Agreement.

Contra Costa Community College District

By: _____

Title: _____

END OF DOCUMENT

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CONTRACT NO. _____
(Construction Agreement)

==========

1. SPECIAL TERMS. These special terms are incorporated below by reference.

(§1.1)	Parties:	(Public Agency)	**CONTRA COSTA COMMUNITY COLLEGE DISTRICT** 500 Court St, Martinez, CA 94553
		(Contractor)	_____
		Address:	_____ _____
(§1.2)	Effective Date:		**TBD, 2023**
(§1.3)	The Work:		**D-1215 Art Gallery Building Demolition**
(§1.4)	Completion Time:		**40** Calendar Days from the Notice to Proceed referred to in Section 4 below.
(§1.5)	Liquidated Damages:		**$500 /** per calendar day work is delayed
(§1.6)	Public Agency's Agent:		**CONTRA COSTA COMMUNITY COLLEGE DISTRICT (The District)**
(§1.7)	Contract Price:		**THOUSAND, HUNDRED DOLLARS and NO CENTS ($000,000.00)**

2. SCOPE OF WORK:

A. Under this Application, demolition activity will occur at the Art Gallery Building and the associated pedestrian bridge of DVC Pleasant Hill, CA Campus, using the sequences listed in the drawings. The Art Gallery Building will be fully demolished to subgrade. The existing foundations shall be left in place and below grade portions of the structure shall be backfilled to match the existing grade. Add minimum 2% slope at final Backfill. The final condition includes the construction of a new guardrail and restoration of the grade conditions after the demolition of the Art Gallery Building. See Drawings and Specs.

WORK CONTRACT, CHANGES

(a) By their signatures below, effective on the above date, these parties promise and agree as set forth in this Agreement, incorporating by these references labor and materials contained in Section 2, Scope of Work.

(b) Contractor shall, at Contractor's own cost and expense, and in a workmanlike manner, fully and faithfully perform and complete the work; and will furnish all materials, labor, services, equipment, and transportation necessary, convenient and proper in order fairly to perform the requirements of this contract, all strictly in accordance with the Scope of Work in Section 2 above, and the Public Agency's plans, drawings and specifications, and with Supplementary General Conditions, if any.

(c) The work can be changed only with Public Agency's prior written order specifying such change and its cost agreed to by the parties; and the Public Agency shall never have to pay more than specified in Section 7 without such an order.

3. TIME: NOTICE TO PROCEED

Contractor shall start this work as directed in Section 1.4 Completion Time above or as directed by the Notice to Proceed, if any, and shall complete it as specified in Section 1.4, Completion Time.

4. LIQUIDATED DAMAGES

If the Contractor fails to complete this contract and this work within the time fixed therefore, allowance being made for contingencies as provided herein, he becomes liable to the Public Agency for all its loss and damage there from; and because, from the nature of the case, it is and will be impracticable and extremely difficult to ascertain and fix the Public Agency's actual damage from any delay in performance hereof, it is agreed that Contractor will pay as liquidated damages to the Public Agency the reasonable sum specified in Section 1, the result of the parties' reasonable endeavor to estimate fair average compensation therefore, for each calendar day's delay in finishing said work; and if the same be not paid, Public Agency may, in addition to its other remedies, deduct the same from any money due or to become due Contractor under this contract. If the Public Agency for any cause authorizes or contributes to a delay, suspension of work or extension of time, its duration shall be added to the time allowed for completion, but it shall not be deemed a waiver nor be used to defeat any right of the Agency to damages for non-completion or delay hereunder. Pursuant to Government Code Section 4215, the Contractor shall not be assessed liquidated damages for delay in completion of the work, when such delay was caused by the failure of the Public Agency or the owner of a utility to provide for removal or relocation of existing utility facilities.

5. INTEGRATED DOCUMENTS

The plans, drawings and specifications or special provisions of the Public Agency's call for bids, and Contractor's accepted bid for this work are hereby incorporated into this contract; and they are intended to cooperate, so that anything exhibited in the plans or drawings and not mentioned in the specifications or special provisions, or vice versa, is to be executed as if exhibited, mentioned and set forth in both, to the true intent and meaning thereof when taken all together; and differences of opinion concerning these shall be finally determined by the Public Agency.

6. PAYMENT

(a) For strict and literal fulfillment of these promises and conditions, and full compensation for all this work, the Public Agency shall pay the Contractor the sum specified in Section 1, except that in unit price contracts the payment shall be for finished quantities at unit bid prices.

(b) On or about the first day of each calendar month, the Contractor shall submit to the Public Agency a verified application for payment, supported by a statement showing all materials actually installed during the preceding month, the labor expended thereon, and the cost thereof; whereupon, after checking, the Public Agency shall issue to Contractor a certificate for the amount determined to be due, minus five (5%) percent thereof, but not until defective work and materials have been removed, replaced and made good. Payment of the approved amount will be made to the Contractor within 30 calendar days from the date the Public Agency approves in writing the Contractor’s application for payment.

7. PAYMENTS WITHHELD

(a) The Public Agency or its agent may withhold any payment, or because of later discovered evidence nullify all or any certificate for payment, to such extent and period of time only as may be necessary to protect the Public Agency from loss because of:
   (1) Defective work not remedied, or work not completed, or
   (2) Claims filed or reasonable evidence indicating probable filing, or
   (3) Failure to properly pay subcontractors or for material or labor, or
   (4) Reasonable doubt that the work can be completed for the balance then unpaid, or
   (5) Damage to another contractor, or

(6) Damage to the Public Agency, other than damage due to delays.

(b) The Public Agency shall use reasonable diligence to discover and report to the Contractor, as the work progresses, the materials and labor which are not satisfactory to it, so as to avoid unnecessary trouble or cost to the Contractor in making good any defective work or parts.

(c) Thirty-five (35) calendar days after Public Agency files its notice of completion of the entire work, it shall issue a certificate to the Contractor and pay the balance of the contract price after deducting all amounts withheld under this contract, provided the Contractor shows that all claims for labor and materials have been paid, no claims have been presented to the Public Agency based on acts or omissions of the Contractor, and no liens or withhold notices have been filed against the work or site, and provided there are not reasonable indications of defective or missing work or of late-recorded notices of liens or claims against Contractor.

8. INSURANCE

Before the commencement of the Work, the Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in California as admitted carriers, or a District approved equal, with a financial rating of at least A status as rated in the most recent edition of Best's Insurance Reports or as amended by the Supplementary General Conditions, such insurance as will protect the Public Agency from claims set forth below, which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations are by the Contractor, by a Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

(a) Claims for damages because of bodily injury, sickness, disease, or death of any person District would require indemnification and coverage for employee claim;
(b) Claims for damages insured by usual personal injury liability coverage, which are sustained by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor or by another person;
(c) Claims for damages because of injury or destruction of tangible property, including loss of use resulting therefrom, arising from operations under the Contract Documents;
(d) Claims for damages because of bodily injury, death of a person, or property damage arising out of the ownership, maintenance, or use of a motor vehicle, all mobile equipment, and vehicles moving under their own power and engaged in the Work;
(e) Claims involving contractual liability applicable to the Contractor's obligations under the Contract Documents, including liability assumed by and the indemnity and defense obligations of the Contractor and the Subcontractors; and
(f) Claims involving Completed Operations, Independent Contractors' coverage, and Broad Form property damage, without any exclusions for collapse, explosion, demolition, underground coverage, and excavating. (XCU)
(g) Claims involving sudden or accidental discharge of contaminants or pollutants.

Additional Insured Endorsement Requirement: The Contractor shall name, on any policy of insurance, the District, Architect, Inspector, the State of California, their officers, employees, agents and independent contractors as Additional Insured. Subcontractors shall name the Contractor, the District, Architect, Inspector, the State of California, their officers, employees, agents and independent contractors as Additional Insured. The Additional Insured Endorsement included on all such insurance policies shall state that coverage is afforded the additional insured with respect to claims arising out of operations performed by or on behalf of the insured. If the Additional Insured, have other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis. The insurance provided by the Contractor must be designated in the policy as primary to any insurance obtained by the Public Agency. The amount of the insurer's liability shall not be reduced by the existence of such other insurance.

Specific Insurance Requirement: Contractor shall take out and maintain and shall require all subcontractors, if any, whether primary or secondary, to take out and maintain:

(a) Comprehensive General Liability Insurance with an aggregate of not less than $2,000,000.00; Per occurrence, $1,000,000.00
(b) Automotive (any auto) where operated in amounts $1,000,000.00
(c) Workers' Compensation Insurance: $1,000,000.00; Contractor is aware of and complies with Labor Code Section 3700 and the Worker's Compensation Law.

9. BONDS

(Not Required for Public Projects below $25,000; Civil Code 9550; Public Contract Code 7103.)

Bond Requirements: Prior to commencing any portion of the Work, the Contractor shall furnish separate payment and performance bonds for its portion of the Work which shall cover 100% faithful performance of and payment of all obligations arising under the Contract Documents and/or guaranteeing the payment in full of all claims for labor performed and materials supplied for the Work. All bonds shall be provided by a corporate surety authorized and admitted to transact business in California as sureties.

To the extent, if any, that the Contract Price is increased in accordance with the Contract Documents, the Contractor shall, upon request of the Public Agency, cause the amount of the bonds to be increased accordingly and shall promptly deliver satisfactory evidence of such increase to the Public Agency. To the extent available, the bonds shall further provide that no change or alteration of the Contract Documents (including, without limitation, an increase in the Contract Price, as referred to above), extensions of time, or modifications of the time, terms, or conditions of payment to the Contractor will release the surety. If the Contractor fails to furnish the required bonds, the Public Agency may terminate the Contract for cause.

On signing this contract, Contractor shall deliver to Public Agency for approval good and sufficient bonds with sureties, in amount(s), specified in the specifications or special provisions, guaranteeing faithful performance of this contract and payment for all labor and materials hereunder.

10. FAILURE TO PERFORM

If the Contractor at any time refuses or neglects, without fault of the Public Agency or its agent(s), to supply sufficient materials or workers to complete this agreement and work as provided herein, for a period of ten days or more after written notice thereof by the Public Agency, the Public Agency may furnish same and deduct the reasonable expenses thereof from the contract price.

11. LAWS APPLY: General

Both parties recognize the applicability of various federal, state and local laws and regulations, especially Chapter 1 of Part 7 of the California Labor Code (beginning with Section 1720, and including Sections 1735, 1777.5, 1777.6, forbidding discrimination) and intend that this agreement complies therewith. The parties specifically stipulate that the relevant penalties and forfeitures provided in the Labor Code, especially in Sections 1775, 17776, and 1813, concerning prevailing wages and hours, shall apply to this agreement as though fully stipulated herein.

12. REGISTRATION WITH DEPARTMENT OF INDUSTRIAL RELATIONS

Contractor shall be registered pursuant to Section 1725.5 of the California Labor Code to be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any public work contract that is subject to the requirements of Section 1725.5. For the purposes of this requirement, "contractor" includes a subcontractor as defined by Labor Code Section 1722.1.

The requirement to list only registered contractors and subcontractors on bids becomes effective on March 1, 2015. The requirement to only use registered contractors and subcontractors on public works projects applies to all projects awarded on or after April 1, 2015.

13. SUBCONTRACTORS

Public Contract Code Sections 4100-4113 are incorporated herein.

14. WAGE RATES

(a) Pursuant to Labor Code Section 1773, the Director of the Department of Industrial Relations has ascertained the general prevailing rates of wages per diem, and for holiday and overtime work, in the locality in which this work is to be performed, for each craft, specified in the call for bids for this work and are on file with the Public Agency, and are hereby incorporated herein.

(b) This schedule of wages is based on a working day of eight (8) hours unless otherwise specified; and the daily rate is the hourly rate multiplied by the number of hours constituting the working day. When less than that number of hours are worked, the daily wage rage is proportionately reduced, but the hourly rate remains as stated.

(c) The Contractor, and all subcontractors, must pay at least these rates to all persons on this work, including all travel, subsistence, and fringe benefit payments provided for by applicable collective bargaining agreements. All skilled labor not listed above must be paid at least the wage scale established by collective bargaining agreement for such labor in the locality where such work is being performed. If it becomes necessary for the Contractor or any subcontractor to employ any person in a craft, classification or type of work (except executive, supervisory, administrative, clerical or other non-manual workers as such) for which no minimum wage rate is specified, the contractor shall immediately notify the Public Agency which shall promptly determine the prevailing wage rate therefore and furnish the Contractor with the minimum rate based thereon, which shall apply from the time of the initial employment of the person affected and during the continuance of such employment.

15. HOURS OF LABOR

Eight hours of labor in one calendar day constitutes a legal day's work, and no worker employed at any time on this work by the Contractor or by any subcontractor shall be required or permitted to work longer thereon except as provided in Labor Code Sections 1810-1815.

16. APPRENTICES

Properly indentured apprentices may be employed on this work in accordance with Labor Code Sections 1777.5 and 1777.6, forbidding discrimination.

17. SUBMISSION OF CERTIFIED PAYROLL RECORDS

Contractors and subcontractors on all public works projects will be required to submit certified payroll records (CPRs) to the Labor Commissioner unless excused from this requirement. This requirement will be phased in as follows:

(a) Applies immediately to public works projects that have already been under CMU monitoring, i.e. contractors on ongoing projects that have been submitting CPRs to the CMU will continue doing so.

(b) Will apply to any new projects awarded on or after April 1, 2015.

(c) May apply to other projects as determined by Labor Commissioner.

(d) Will apply to all public works projects, new or ongoing, on and after January 1, 2016.

18. PREFERENCE FOR MATERIALS

The Public Agency desires to promote the industries and economy of Contra Costa County, and the Contractor therefore promises to use the products, workers, laborers and mechanics of this County in every case where the price, fitness and quality are equal.

19. ASSIGNMENT

This agreement binds the heirs, successors, assigns, and representatives of the Contractor; but Contractor cannot assign it in whole or in part, nor any monies due or to become due under it, without the prior written consent of the Public Agency and the Contractor's surety or sureties, unless they have waived notice of assignment.

20. NO WAIVER BY PUBLIC AGENCY

Inspection of the work and/or materials, or approval of work and/or materials inspected, or statement by any officer, agent or employee of the Public Agency indicating the work or any part thereof complies with the requirements of this contract, or acceptance of the whole or any part of said work and/or materials, or payments therefore, or any combination of these acts, shall not relieve the Contractor of Contractor's obligation to fulfill this contract as prescribed; nor shall the Public Agency be thereby stopped from bringing any action for damages or enforcement arising from the failure to comply with any of the terms and conditions hereof.

21. HOLD HARMLESS AND INDEMNITY

(a) Contractor promises to and shall hold harmless and indemnify from the liabilities as defined in this section.

(b) The indemnities benefited and protected by this promise are the Public Agency and its elective and appointive boards, commissions, officers, agents and employees.

(c) The liabilities protected against are any liability or claim for damage of any kind allegedly suffered, incurred or threatened because of actions defined below, including personal injury, death, property damage, inverse condemnation, or any combination of these, regardless of whether or not such liability, claim or damage was unforeseeable at any time before the Public Agency approved the improvement plan or accepted the improvements as completed, and including the defense of any suit(s) or action(s) at law or equity concerning these.

(d) The actions causing liability are any act or omission (negligent or non-negligent) in connection with the matters covered by this contract and attributable to the contractor, subcontractor(s), or any officer(s), agent(s), or employee(s) of one or more of them.

(e) Non-conditions: The promise and agreement in this section is not conditioned or dependent on whether or not any Indemnities has prepared, supplied, or approved any plan(s), drawing(s), specifications(s) or special provision(s) in connection with this work, has insurance or other indemnification covering any of these matters, or that the alleged damage resulted partly from any negligent or willful misconduct of any Indemnities.

22. EXCAVATION

Contractor shall comply with the provisions of Labor Code Section 6705, if applicable, by submitting to Public Agency a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during trench excavation.

23. GOVERNMENT CODE SECTION 10532

Contractor shall be subject to the examination and audit of the Auditor General for a period of three years after final payment under the contract.

24. WARRANTY

The Contractor warrants to the Public Agency that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contractor Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work shall conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage.

25. CONSEQUENTIAL DAMAGES

The Contractor and Public Agency waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes:

(a) Damages incurred by the Public Agency for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

(b) Damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

(c) This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination. Nothing contained in this subparagraph shall be deemed to preclude an award of liquidated direct damages, when applicable, in accordance with the requirements of the Contract Documents.

26. HAZARDOUS MATERIALS

(a) If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos, lead or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Public Agency in writing.

(b) The Public Agency shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been rendered harmless. The Public Agency shall furnish in writing to the Contractor the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written notification from the Public Agency and Contractor. The Contract Time shall be extended appropriately.

27. SAFETY:

(a) **Safety Programs.** The Contractor shall be solely responsible for initiating, maintaining and supervising all safety programs required by applicable law, ordinance, regulation or governmental orders in connection with the performance of the Contract, or otherwise required by the type or nature of the Work. The Contractor's safety program shall include all actions and programs necessary for compliance with California or federally statutorily mandated workplace safety programs, including without limitation, compliance with the California Drug Free Workplace Act of 1990 (California Government Code §§8350 et seq.). Without

limiting or relieving the Contractor of its obligations hereunder, the Contractor shall require that its Subcontractors similarly initiate and maintain all appropriate or required safety programs. Prior to commencement of Work, the Contractor shall meet with the campus Buildings and Grounds Manager, Project Manager, and Construction Manager to review Contractor's safety precautions and implementation of safety programs during the Work.

(b) **Safety Precautions.** The Contractor shall be solely responsible for initiating and maintaining reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to: (i) employees on the Work and other persons who may be affected thereby; (ii) the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and (iii) other property or items at the site of the Work, or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The Contractor shall take adequate precautions and measures to protect existing roads, sidewalks, curbs, pavement, utilities, adjoining property and improvements thereon (including without limitation, protection from settlement or loss of lateral support) and to avoid damage thereto. Without adjustment of the Contract Price or the Contract Time, the Contractor shall repair, replace or restore any damage or destruction of the foregoing items as a result of performance or installation of the Work.

(c) **Safety Signs, Barricades.** The Contractor shall erect and maintain, as required by existing conditions and conditions resulting from performance of the Contract, reasonable safeguards for safety and protection of property and persons, including, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Districts and users of adjacent sites and utilities.

(d) **Safety Notices.** The Contractor shall give or post all notices required by applicable law and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

(e) **Safety Coordinator.** The Contractor shall designate a responsible member of the Contractor's organization at the Site whose duty shall be the prevention of accidents and the implementation and maintenance safety precautions and programs. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Project Inspector and the Architect.

28. SIGNATURES AND ACKNOWLEDGEMENT

Public Agency:

By: _____
Assistant Secretary, Governing Board
DAVID S. WETMORE, Director of Purchasing & Contracts

Note to Contractor: (1) Execute acknowledgement form below, and (2) if a corporation, affix Corporate Seal.

Contractor hereby also acknowledging awareness of and compliance with Labor Code S1861 concerning Worker's Compensation Law.

Contractor:

By: _____ (CORPORATE SEAL)
(Designate Official Capacity – **NAME)**

_____
Print NAME and TITLE

_____ _____
License Number Federal ID Number

NOTARY PUBLIC

==========

STATE OF CALIFORNIA)
) ss.
COUNTY OF CONTRA COSTA)

On _____, before me, _____, Notary Public,

personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing is true and correct.

Witness my hand and official seal.

_____

Notary Public

[SEAL]

==========

SECTION 00 55 00

NOTICE TO PROCEED

Date: _____

TO: _____

ADDRESS: _____

PROJECT: _____

You are notified that the Contract Time under the above contract will commence to run on June x, 2023. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Section 00 52 13, Contract Agreement, the date of Substantial Completion is xx/xx/2023, and the date for Final Completion is xx/xx/2023.

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

By :_____
Ines Zildzic

Title: Vice Chancellor of Facilities Planning and Construction

END OF DOCUMENT 00 55 00

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PAYMENT BOND
(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the Contra Costa Community College District (sometimes referred to hereinafter as "Obligee") has awarded to _____ (hereinafter designated as the "Principal" or "Contractor"), an agreement for the work described as follows: _____ (hereinafter referred to as the "Public Work"); and

WHEREAS, said Contractor is required to furnish a bond in connection with said Contract, and pursuant to California Civil Code Section 9550;

NOW, THEREFORE, We, _____, the undersigned Contractor, as Principal; and _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the Contra Costa Community College District and to any and all persons, companies, or corporations entitled by law to file stop notices under California Civil Code Section 9100, or any person, company, or corporation entitled to make a claim on this bond, in the sum of _____ Dollars ($_____), said sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which payment will and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, its heirs, executors, administrators, successors, or assigns, or subcontractor, shall fail to pay any person or persons named in Civil Code Section 9100; or fail to pay for any materials, provisions, or other supplies, used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code, with respect to work or labor thereon of any kind; or shall fail to deduct, withhold, and pay over to the Employment Development Department, any amounts required to be deducted, withheld, and paid over by Unemployment Insurance Code Section 13020 with respect to work and labor thereon of any kind, then said Surety will pay for the same, in an amount not exceeding the amount herein above set forth, and in the event suit is brought upon this bond, also will pay such reasonable attorneys' fees as shall be fixed by the court, awarded and taxed as provided in California Civil Code Sections 9550 et seq.

This bond shall inure to the benefit of any person named in Civil Code Section 9100 giving such person or his/her assigns a right of action in any suit brought upon this bond.

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation of the bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, or specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described; or pertaining or relating to the furnishing of labor, materials, or equipment therefor; nor by any change or modification of any terms of payment or extension of time for payment pertaining or

relating to any scheme or work of improvement herein above described; nor by any rescission or attempted rescission of the contract, agreement or bond; nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond; nor by any fraud practiced by any person other than the claimant seeking to recover on the bond; and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given; and under no circumstances shall the Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the Obligee and the Contractor or on the part of any obligee named in such bond; that the sole condition of recovery shall be that the claimant is a person described in California Civil Code Sections 9100, and who has not been paid the full amount of his or her claim; and that the Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of _____, 20____.

PRINCIPAL/CONTRACTOR:

_____

By: _____

SURETY:

_____

By: _____

Attorney-in-Fact

IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety's name must also appear on the Treasury Department's most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety)	(Name and Address of agent or representative for service for service of process in California)
_____	_____
_____	_____
Telephone:_____	Telephone: _____

STATE OF CALIFORNIA)
) ss.
COUNTY OF)

On _____ before me, _____,
(insert name and title of the officer)
a Notary Public in and for said State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument as the Attorney-in-Fact of the _____ (Surety) and acknowledged to me that he/she/they subscribed the name of the _____ (Surety) thereto and his own name as Attorney-in-Fact on the executed instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ (SEAL)
Notary Public in and for said State

Commission expires:_____

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.

CONTRACT PERFORMANCE BOND
(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, Contra Costa Community College District (sometimes referred to hereinafter as "Obligee") has awarded to _____ (hereinafter designated as the "Principal" or "Contractor"), an agreement for the work described as follows: _____ (hereinafter referred to as the "Public Work"); and

WHEREAS, the work to be performed by the Contractor is more particularly set forth in that certain contract for said Public Work dated _____ _____, (hereinafter referred to as the "Contract"), which Contract is incorporated herein by this reference; and

WHEREAS, the Contractor is required by said Contract to perform the terms thereof and to provide a bond both for the performance and guaranty thereof.

NOW, THEREFORE, we, _____, the undersigned Contractor, as Principal, and _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the Contra Costa Community College District in the sum of _____ Dollars ($_____), said sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the bounded Contractor, his or her heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in said Contract and any alteration thereof made as therein provided, on his or her part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill guarantees of all materials and workmanship; and indemnify, defend and save harmless the Obligee, its officers and agents, as stipulated in said Contract, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any change, extension of time, alteration in or addition to the terms of the contract or to the work to be performed there under or the specifications accompanying the same, nor by any change or modification to any terms of payment or extension of time for any payment pertaining or relating to any scheme of work of improvement under the contract. Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any overpayment or underpayment by the Obligee that is based upon estimates

approved by the Architect. The Surety stipulates and agrees that none of the aforementioned changes, modifications, alterations, additions, extension of time or actions shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, modifications, alterations, additions or extension of time to the terms of the contract, or to the work, or the specifications as well notice of any other actions that result in the foregoing.

Whenever Principal shall be, and is declared by the Obligee to be, in default under the Contract, the Surety shall promptly either remedy the default, or shall promptly complete the Contract through its agents or independent contractors, subject to acceptance and approval of such agents or independent contractors by Obligee as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages; or, at Obligee's sole discretion and election, Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Obligee of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee and make available as Work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the "balance of the Contract price" (as hereinafter defined), and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term "balance of the Contract price," as used in this paragraph, shall mean the total amount payable to Principal by the Obligee under the Contract and any modifications thereto, less the amount previously paid by the Obligee to the Principal, less any withholdings by the Obligee allowed under the Contract.

Surety expressly agrees that the Obligee may reject any agent or contractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal. Unless otherwise agreed by Obligee, in its sole discretion, Surety shall not utilize Principal in completing the Contract nor shall Surety accept a bid from Principal for completion of the work in the event of default by the Principal.

No final settlement between the Obligee and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

The Contractor and Surety shall remain responsible and liable for all patent and latent defects that arise out of or are related to the Contractor's failure and/or inability to properly complete the Public Work as required by the Contract and the Contract Documents. The obligation of the Surety hereunder shall continue so long as any obligation of the Contractor remains.

Contractor and Surety agree that if the Obligee is required to engage the services of an attorney in connection with enforcement of the bond, Contractor and Surety shall pay Obligee's reasonable attorneys' fees incurred, with or without suit, in addition to the above sum.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including reasonable attorneys' fees to be fixed by the Court.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 2010.

PRINCIPAL/CONTRACTOR:

_____

By: _____

SURETY:

_____

By: _____

Attorney-in-Fact

The rate of premium on this bond is _____ per thousand.

The total amount of premium charged: $_____ (This must be filled in by a corporate surety).

IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety's name must also appear on the Treasury Department's most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety)	(Name and Address of agent or representative for service for service of process in California)
_____	_____
_____	_____
Telephone:_____	Telephone: _____

STATE OF CALIFORNIA)
) ss.
COUNTY OF)

On _____ before me, _____
(insert name and title of the officer)

On _____, before me, _____, a Notary

Public in and for said State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument as the Attorney-in-Fact of the _____ (Surety) and acknowledged to me that he/she/they subscribed the name of the _____ (Surety) thereto and his own name as Attorney-in-Fact on the executed instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ (SEAL)
Notary Public in and for said State

Commission expires:_____

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.

SECTION 00 62 23

CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

A. Divisions 2 through 33 Sections for Construction and Demolition Waste Management requirements for the work in those Sections

1.3 SUMMARY

A. The District has established that this Project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.

B. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.

C. The existing buildings that are shown to be demolished by the Contractor in the Contract Documents currently contain furniture, fixtures and equipment (FF&E)-both fixed and movable. The District has determined said FF&E has zero salvageable value. Therefore, for bidding purposes, the Contractor shall bid removing and disposing of said FF&E assuming and allocating zero-dollar value to whatever FF&E remains when the Contractor takes possession of the Site. Contractor shall include said FF&E in its Waste Management Plan that is submitted to the District. The Contractor is also advised that the District is in the process of removing some, but not all, of the movable FF&E through its normal Purchasing Department process by the anticipated Notice of Award date.

1.4 WASTE MANAGEMENT GOALS FOR THE PROJECT

A. The District has established that this Project shall minimize the creation of construction and demolition waste, and shall divert a minimum of 75% of Project generated waste from landfills. Factors that contribute to waste such as over packaging, improper storage, ordering error, poor planning, breakage, mishandling, and contamination, shall be minimized. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized. Both recycled and waste need to be logged and documented by volume and weight.

B. Diversion Goals: A minimum 75% of total Project waste shall be diverted from landfill. The following waste categories, at a minimum, shall be diverted from landfill. The Contractor's Waste Management Plan shall establish a program for reusing or recycling materials which are recyclable. These materials include, but not limited to:
   1. Landscape and land clearing debris (green wood materials)
   2. Asphalt pavement

3. Gravel and aggregate products
4. Concrete
5. Masonry scrap and rubble (brick, concrete, masonry, stone)
6. Metals (ferrous and nonferrous)
7. Clean wood (dimensional lumber, sheet goods, millwork, scrap, pallets)
8. Plastics (films, containers, PVC products, polyethylene products)
9. Asphalt/Bituminous roofing
10. Insulation Materials
11. Glass (un-tempered)
12. Door and window assemblies
13. Carpet and carpet pad
14. Fibrous acoustic materials
15. Ceiling Tiles
16. Plumbing fixtures and equipment
17. Mechanical equipment
18. Lighting fixtures and electrical components
19. Cardboard packing and packaging
20. Furniture
21. Sheet Rock
22. Electronic Waste
23. Universal Waste
24. Paper

1.5 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, grease solvents, caulk, no Freon with air-conditioning units or similar products.

B. Class III Landfill: A landfill that accepts non-hazardous waste such as household, commercial, and industrial waste, including construction, remodeling, repair, and demolition operations.

C. Commingled or Off-site Separation: Collecting all material types into a single bin or mixed collection system and separating the waste materials into recyclable material types in an off-site facility.

D. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash debris and rubble resulting from construction, remodeling repair and demolition operations. Hazardous materials are not included.

E. Debris: Including both combustible and noncombustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work.

F. Deconstruction: The process of removing existing building materials from renovation and demolition projects for the purposes of reuse, and recycling, in an efficient and safe manner possible.

G. Divert or Diversion from Landfill: To remove, or have removed, from the site for recycling, reuse or salvage material that might otherwise be sent to a landfill. Diversion from Landfill does not include using the material as alternative daily cover at a landfill site, nor does it include burning, incinerating, transformation processing or thermally destroying waste.

H. Inert Fill: A permitted facility that accepts inert waste such as asphalt and concrete exclusively.

I. Recovery: Any process that reclaims materials, substances, energy, or other products contained within or derived from waste on-site. It includes waste-to-energy, composting, and other processes.

J. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product.

K. Recycle (recycling): To sort, separate, process, treat or reconstitute solid waste and other discarded materials for the purpose of redirecting such materials into the manufacture of useful products. The process of collecting and preparing recyclable materials in their original form, or in manufacturing processes, that do not cause the destruction/contamination of recyclable materials in a manner that precludes further use. Recycling does not include burning, incinerating, transforming or thermally destroying waste.

L. Return: To give back reusable items or unused products to vendors.

M. Reuse: Using a material or product that is recovered from construction, renovation, or demolition activities.

N. Reuse on Site: To reuse excess of discarded construction material in some manner on the Project site.

O. Rubbish: Including both combustible and noncombustible wastes, such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans, and bones.

P. Salvage: to remove a waste material from the Project site for resale or reuse.

Q. Sources Separation: Sorting the recovered materials into specific material types with no or a minimum amount of contamination on site.

R. Time-Based Separation: Collecting waste during each phase of construction or deconstruction which results in primarily one major type of recovered material. The material is removed before it becomes mixed with the material from the next phase of construction.

S. Waste Materials: Large and small pieces of listed materials which are excess to contract requirements and generally include materials to be recycled and/or recovered from existing construction and items of trimmings, cuttings, and damaged goods resulting from new installations, which can be effectively used in the Work. Extra material or material that has reached the end of its useful life in its intended use

1.6 REFERENCES AND RESOURCES

A. This information is provided for Contractor's convenience only, and the District does not warrant its accuracy. County specific information is available on the Contra Costa County Waste Reduction and Recycling web page at http://www.co.contra-costa.ca.us/depart/cd/recycle/index.html. . Additional information may also be found at the Contra Costa County Department of Conservation and Development web page at: http://www.cccounty.us/index.aspx?NID=285, and CalGreen / Construction & Demolition Debris Recovery Program: http://www.cccounty.us/4746/CalGreen-Construction-Demolition-Debris. Refer to the Contra Costa County Builder's Guide to Reuse & Recycling and the Contra Costa County Reuse and Recycling Guide. Both are available from Contra Costa County: http://www.co.contra-costa.ca.us/4911/Recycling; Lorna Thomson at 925-674-8823 (lorna.thomson@dcd.cccounty.us) for assistance in the management of construction & demolition debris.

B. The recyclers listed below provided for the convenience of Contractor. No preference is given to the recyclers listed below. Contractor shall contact any additional resources as required to complete the work. Some of the names and numbers may be out of date, and Contractor shall not rely on the information presented in this Section in preparing its Bid or its Waste Management Plan.

1. Cardboard:
   Contact: National Recycling Corporation (510) 268-1022; California Waste Solutions (510) 836-6200; Community Conservation Centers (510) 524-0113. May find the public will remove if made available.
2. Clean, untreated, dimensional wood and pallet wood.
   Contact: California Waste Solutions (510) 836-6200, Waste Management, Inc. (916) 374-2711
3. Usable Palettes:
   Contact: Check with manufacturer or installer for take-back programs.
4. Beverage Containers:
   Contact: California Waste Solutions (510) 836-6200
5. Metals from banding, ductwork, piping, rebar, roofing, steel studs, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
   Contact: Aaron Metals (510) 569-6767; DC Metals (510) 569-2255; Lakeside Non-Ferrous Metals, (510) 444-5466.
6. Carpet and pad.
   Contact: Return to manufacturer; donate large remnants to Habitat for Humanity (510) 251-6304 or other non-profit.
7. Paint:
   Contact, paint recycles: E-Coat, Kelly Moore (925)-687-3006.
   Contact: Alameda County, https://www.acgov.org/sustain/what/greenbuilding/cdd.htm
   Safety Clean (408) 294-8778
8. Insulation:
   Check with manufacturer or installer for take-back programs
9. Brick:
   Contact, (whole bricks): A Bygone Era; Ohmega Salvage (510) 843-7368.
10. Gypsum Board:
    Contact: Zanker Recycling 408 263-2385.

C. The following sources provided for references:

1. BuildingGreen.com
2. CalRecycle
3. Office of Land and Emergency Management (OLEM)
4. Construction Waste Management Handbook

1.7 WASTE MANAGEMENT PLAN

A. Waste Management Plan: Within 10 calendar days after receipt of Notice of Award, or prior to any waste removal, whichever occurs sooner, Contractor shall submit to the District and District's Representative a Waste Management Plan, tailored to this project and Site, for review and acceptance. The Waste Management Plan shall include, but not limited to, the following:

1. The Contractor shall designate an on-site party (or parties) as the Waste Management Plan Program Manager responsible for instructing workers and overseeing and documenting results of implementation of the Waste Management Plan for the Project.
2. Indicate how the Contractor proposes to recover at least 75% of the wastes for reuse and recycling.

3. The Waste Management Plan should coordinate the recovery effort with the construction, and renovation / demolition schedule.
4. Indicate compliance with this specification's section on Quality Assurance.
5. Description of the regular meetings to address waste management.
6. Include a list of reuse facilities, recycling facilities and processing facilities that will be receiving the recovered materials (including take back by District or on-site auctions.)
7. If some of the materials will be donated or sold on-site auctions, describe the process and identify the organizations that may receive the materials.
8. Identify materials that are not recyclable or not recovered which will be disposed of in a landfill (or other means acceptable by the State of California and local ordinance and regulations) and explain why the materials are not recovered.
9. List the permitted landfill, or other permitted disposal facilities, that will be accepting the disposed waste materials.
10. Indicate instances or situations where compliance with the requirements of this specification do not apply or do not appear to be possible.
11. Identify each type of waste material to be reused or recycled and estimate the amount, by weight.
12. Provide estimate of time requirements for demolition and for the removal of valuable reusable items and materials.

B. Revise and resubmit the Waste Management Plan as required by District.

C. Acceptance of Contractor's Waste Management Plan will not relieve Contractor of responsibility for compliance with applicable environmental regulations.

1.8 QUALITY ASSURANCE

A. Regulatory Requirements. Comply with applicable requirements of the State of California, local ordinances and regulations concerning management of construction, clearing, and inert materials.

B. Disposal Site, Recyclers and Waste Materials Processors. Use only facilities properly permitted by the State of California, and/or by local authorities where applicable.

C. Pre-Work Waste Management Plan Meeting.
1. Prior to beginning work at the Site, schedule and conduct a meeting to review the Waste Management Plan and discuss procedures, schedules, coordination and specific requirements for waste materials recycling and disposal. Discuss coordination and interface between Contractor, sub-contractors, architect, engineers, project manager, District, and other waste management activities. Identify and resolve problems of compliance with requirements. Record minutes of the meeting, identifying conclusions reached and matters requiring further resolution. Maintain waste management as an agenda item at future construction meetings.
2. Attendees: Contractor and related contractor personnel associated with work of this section, including personnel in charge of the waste management program; Waste Management Plan Program Manager; architect; engineers; material and equipment suppliers where appropriate; and such additional District personnel as District deems appropriate.
3. Waste Management Plan Revision: Make revisions to Waste Management Plan agreed upon during the meeting and incorporate resolutions agreed to be made subsequent to the meeting. Submit revised Waste Management Plan to the District as District deems appropriate for acceptance.

1.9 RECYCLING PROGRAM

A. The recycling program could utilize one or a combination of any of the following common waste diversion strategies.
   1. Sources Separation
   2. Time-Based Separation
   3. Commingled or Off-site Separation
   4. Back haul of packaging
   5. On-site sales auctions and removal

1.10 WASTE MANAGEMENT PLAN PMPLEMENTATION

A. Plan Distribution:
   1. Contractor shall provide copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, job site Superintendent, Project Inspector, District, , and Architect or Engineer.
   2. Contractor shall provide Waste Management Plan to comply with this Section 00 62 23, “Construction Waste Management”.

B. Instruction: Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages and/or phases of the Project.

C. Meetings: Contractor shall conduct Construction Waste Management Plan meetings. Meetings shall include all subcontractors affected by the Waste Management Plan. At a minimum, waste management goals and issues shall be discussed at the following meetings:
   1. Pre-bid meetings.
   2. Pre-construction meeting; (including pre-construction meeting for the Project)
   3. Regularly scheduled job-site meetings.

D. Separation Facilities: Contractor shall designate a specific area or areas to facilitate separation of materials for potential reuse, salvage, recycling, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid co-mingling of materials. Bins shall be protected during non-working hours from offsite contamination. Secure waste collection areas to protect from wind, access, rain, run off, ground contamination, etc.

E. Materials Handling Procedures: Materials to be recycled shall be protected from contamination, and shall be handled, stored and transported in a manner that meets the requirements set by the designated facilities for acceptance.

1.11 PROGRESS DOCUMENTATION

A. Provide the Contractor’s Waste Program Manager with delivery receipts for the recovered materials and waste materials sent to the permitted recycling facilities, processing facilities, or landfill with the following information on a form to be approved by the District.
   1. Name of firm accepting the recovered materials or waste materials
   2. Specify type of facility (e.g. retail facility, recycler, processor, Class III landfill, MRF)
   3. Location of the facility
   4. Type of materials
   5. Net weights (or volume) of each type of material
   6. Date of delivery
   7. Value of the materials or tipping fee paid.

B. Document on form shall be reviewed and approved by District.

C. Application for Progress Payments: Contractor shall submit with each Application for Progress Payment a Summary of the project waste generated. Failure to submit this information shall render the Application for Payment incomplete and shall delay Progress Payment. The District and its representatives shall not be responsible for delay Progress Payment. With each Application for Payment, submit required Progress Documentation, including:
   1. Manifest;
   2. Weight tickets;
   3. Receipts
   4. Invoices specifically identifying the project and waste material

D. Record Submittals: With Record Submittals as specified in Section 01330, submit the following:
   1. Summary of solid waste disposal and diversion. Submit on form preapproved by District.
   2. Estimate of total Project waste to be generated; name of the landfill(s) where Project waste would normally be disposed of.
   3. Estimate of amounts (weight, feet, square yards, gallons, etc.) All waste categories listed.
   4. Estimate of net cost revenue or additional costs resulting from separating and recycling, (versus land filling), each material. Net means that the following have been subtracted from the cost of separating and recycling.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 STORAGE AND HANDLING

A. Site Storage.
   1. Remove materials for recycling and recovery from the work locations to approved containers or storage area as required. Failure to remove waste or recovered materials will be considered cause for withholding payment and termination of Contract.
   2. Position containers for recyclable and recoverable waste materials at a designated location on the Site. If materials are sorted on Site, also provide a sorting area and necessary storage containers.
   3. Change-out loaded containers for empty containers, as demand requires.
   4. If recovered materials are stored on-site for project duration, provide adequate security from pilferage.

B. Handling.
   1. Deposit indicated recyclable, and recoverable materials in storage areas or containers in a clean (no mud, adhesive, solvents, petroleum contamination), debris-free condition. Do not deposit contaminated materials into the containers until such time as such materials have been cleaned.
   2. Insure all recovered materials are made safe for handling and storage.
   3. If the contamination chemically combines with the material so that it cannot be cleaned, do not deposit into the recycle containers. In such case, request resolution by the District for disposal of the contaminated material. Directions from the District do not relieve the Contractor of responsibility for compliance with all legal and regulatory requirements for disposal, nor shall such directions cause a request for modification of the Contract.

3.2 PROJECT CONDITIONS

A. Site Condition.
   1. Signs and instructions should be clear, and easy to understand. All recycling containers should be clearly labeled and lists of acceptable and unacceptable materials will be posted throughout the site. Whenever possible, they should be in multiple-languages, especially in Spanish, and in graphic symbols.
   2. The Contractor shall ensure the safety of all personnel involved in the waste management process.
   3. As a part of the Waste Management Plan, a site management plan shall be created including: work areas, materials processing areas, materials storage and disposal areas, worker hand-washing and changing stations, first aid and medical information.

END OF SECTION 00 62 23

SECTION 00 73 00

SUPPLEMENTARY GENERAL CONDITIONS

PART 1 - PART 1- GENERAL REQUIREMENTS

1.1 SCOPE OF WORK

A. Under this Application, demolition activity will occur at the Art Gallery Building and the associated pedestrian bridge of DVC Pleasant Hill, CA Campus, using the sequences listed in the drawings. The Art Gallery Building will be fully demolished to subgrade. The existing foundations shall be left in place and below grade portions of the structure shall be backfilled to match the existing grade. Minimum 2% slope at final Backfill condition. All Finishes in basement area (Subgrade) to be removed to the Retaining Walls and Slab on Grade. The final condition includes the construction of a new guardrail and restoration of the grade conditions after the demolition of the Art Gallery Building.

B. Include hazmat abatement required for demolition. Remove wood paneling in basement area. Prior to backfilling, protect wall with 10 Mil Visqueen. Protect Visqueen while backfilling.

C. Thornton Tomasetti has observed the existing conditions of the Art Gallery Building and has determined that it is stable for demolition activity. TT has confirmed that removal of the connecting pedestrian bridge will have a negligible impact on the lateral stability of the remaining pedestrian bridge.

D. Include all capping of existing utilities as shown on the drawings.

E. Expedite all long lead items to meet the project schedule, including contracts, insurance, submittals, etc.

F. Protect all existing areas to remain from damage.

G. Include all temporary fencing for the project as needed.

H. Include temp safety railing around Subgrade area until area is backfilled.

I. Provide your own temporary restrooms, and temporary lighting.

J. Contractor can use water and power on site after coordinating with Maintenance & Operations.

K. Remove all construction debris from the Project. Provide Dumpster or haul off weekly. Daily Clean-up is required.

L. Coordinate all power shut downs with Kitchell and DVC 72-Hours in advance.

1.2 REFERENCES:

A. The publications listed below form a part of this specification by reference:

1. Current California Occupational Safety and Health Act Regulations
2. Current California Occupational Safety and Health Construction Safety Orders

1.3 SUBMITTALS:

A. Provide submittals in the format, and as described below:

1. Submittals shall be submitted electronically to the District within ten (10) calendar days from the Notice to Proceed.
2. Submit three (3) original (not less than 8-1/2" x 11", nor more than 30" x 42") wet-signed, and one (1) color PDF file for submittals that require shop drawings, unless otherwise directed or approved by District.
3. Submittals that require local and State agency approval, shall conform to this Specification and the requirements of the local or State agency.
4. District will review and provide a response to submittals within seven (7) calendar days. Submittals that include design documents prepared by a licensed California Engineer, if any, will be submitted for the District's records. Any District review and response to the Contractor's design documents by a licensed California Engineer will be for format and general compliance only. Contractor and Contractor's licensed California Engineer are responsible for compliance with all applicable State of California codes, laws and regulations applicable to this project.

B. Provide submittals as required on the Drawings or in the technical specifications.

C. The Schedule of Values shall be submitted to the District within 7 (seven) calendar days from the Notice to Proceed. The Schedule of Values shall include the following minimum categories:

1. Mobilization (maximum 5% of contract price). Includes temporary items such as fencing, safety signage, bathrooms, and related requirements.
2. Site Utility capping
3. Temporary Utlities
4. Demolition
5. New Rail
6. Sitework
7. Final Clean
8. O&M and Warranties
9. As-Built Drawings

The District will only pay for Work installed at the Site.

D. CPM construction schedule using Microsoft Project shall be submitted (PDF and electronic file) within 5 work days from the Contract Award date. District and Contractor shall meet and review the schedule. The Notice to Proceed will not be issued until the District accepts the schedule, or accepts it with conditional changes. Below are the minimum activity types that shall be included in the schedule:

1. Contractor Submittals
2. Submittal Reviews by District
3. Procurement and Fabrication

4. Construction activities corresponding to the Schedule of Values
5. Project closeout activities.
6. Final Completion Milestone

E. Submittals are for review to confirm conformance with the requirements of the drawings and technical specifications.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Contractor Provided Materials: The Contractor provided materials shall include any associated equipment and appurtenances required for performing the contract properly and in accordance with the equipment manufacturer's literature.

B. All materials shall be new, unless otherwise authorized or specified in the technical specifications or required by the drawings.

2.2 SUBSTITUTIONS:

A. *One Product Specified.* Unless the Specifications state that no substitution is permitted, whenever the Contract Documents indicate any specific material, product, thing or service, or any specific name, make, trade name, or catalog number, with or without the words "or equal," such specification shall be deemed to be used for the purpose of facilitating description of the material, product, thing or service desired and shall be deemed to be followed by the words "or equal" unless the Contract Documents specify "no substitution allowed", "no equal", "no equivalent", or other language with similar meaning, in which case no substitutions will be allowed. The Contractor may, unless otherwise stated, within three (3) work days after the bid opening, submit a substitution request for any material, product, thing or service, which shall be materially equal or better in every respect to that so indicated or specified ("Specified Item") and will completely accomplish the purpose of the Contract Documents.

1. *Products Specified Which are Commercially Unavailable*. If the Contractor fails to make a request for substitutions for products, within three (3) work days after bid opening, and such products subsequently become commercially unavailable, the Contractor may request a substitution for such commercially unavailable item. The decision to grant this request is solely at the District's discretion. The written approval of the District, consistent with the procedure for Change Orders, shall be required for the use of a proposed substitute material. The District may condition its approval of the substitution upon the delivery to District of an extended warranty or guaranty or other assurances of adequate performance of the substitution as well as an equitable deduction in the contract price should the substituted item cost less than the Specified Item. All risks of delay due the approval of a requested substitution by the District, DSA, or any other governmental agency having jurisdiction, shall be on the requesting party. All additional costs, all procurement and construction delays, and all costs for review by the Architect or its consultants shall be the responsibility of the Contractor and will be deducted from Contractor's pay request.
2. *Substitution Request Form*. Requests for substitutions of materials, products, things or services in place of a Specified Item must be submitted to the District in writing on

the District's Substitution Request Form ("Request Form") within three (3) work days after bid opening, except as provided for above.

The Request Form must be accompanied by evidence as to whether the proposed substitution:

(a) Is equal in quality/service/ability to the Specified Item;
(b) Will entail no changes in detail, construction, and scheduling of related work;
(c) Will be acceptable in consideration of the required design and artistic effect;
(d) Will provide no cost disadvantage to the District;
(e) Will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; and
(f) Will required no change of the construction schedule.

3. In completing the Request Form, the bidder shall state, with respect to each requested substitution, that the bidder will agree to provide the Specified Item in the event that the District denies the bidder's request for such requested substitution. In the event the District denies the bidder's requested substitution for a Specified Item, the bidder shall provide the Specified Item without any additional cost or charge to the District, and waives all rights to submit a claim.

4. After bids are opened, the apparent lowest bidder shall provide, within three (3) days of opening such bids, any and all Drawing, Specifications, samples, performance data, calculations, and other information, as may be required to assist the Architect and the District in determining whether the proposed substitution is acceptable. The burden of establishing these facts shall be upon the bidder.

5. After the District's receipt of such evidence by the bidder, the District will make its final decision as to whether the bidder's request for substitution for any Specified Items will be granted. The decision as to whether a proposed request for substitution is equal to a Specified Item shall be at the sole discretion of the District. Any request for substitution that is granted by the District shall be documented and processed through a Change Order. The District may condition its approval of any substitution upon delivery to the District of an extended warranty or guaranty or other assurances of adequate performance of the substitution. Any and all risks of delay due to approval by the District, DSA or any other governmental agency having jurisdiction shall be on the bidder.

6. If the Architect and District accept a proposed substitution, the Contractor agrees to pay for all District expenses, including but not limited to Division of the State Architect fees, engineering and design services, compensation to the Architect and affected engineers for their required time to process such substitution through the Division of the State Architect, if required, and to make all changes and adjustments in materials or the work of all trades directly or indirectly affected by the substituted item or items at no cost to the District.

PART 3 - EXECUTION AND RELATED REQUIREMENTS

3.1 GENERAL

A. Work Restrictions:

1. Contractor shall only work during normal business hours during the week (7:00 am to 7:00 pm), unless written approval is received by the District. Work on Federal holidays is not allowed.
2. Contractor shall control all dust during demolition and other activities that can generate dust. Contractor shall cover all trucks removing debris from the site with tarpaulins, and as otherwise required by local and state ordinances.
3. Contractor will be allowed to have access and use Campus utilities for temporary water and electricity, but Contractor shall be responsible to investigate prior to bid, and for all work necessary to connect to existing utilities for temporary use.
4. Contractor shall provide temporary sanitary facilities for use of all workers throughout the course of the contract duration. Contractor shall comply with the minimum requirements of the Contra Costa Health Department. Contractor is not permitted to use any Campus toilet facilities.

B. Scheduling and Coordination: Before commencing work at the site, the Contractor shall confirm that all requirements have been met pertaining to scheduling of the work. The Contractor shall further determine that all required notices have been given. See Article 1.3, Submittals above for CPM scheduling requirements.
C. Scheduling and Sequence of Work: The work shall be prosecuted in such a manner as to cause the least interference with the normal functions of the campus activity. Certain areas will be vacated for period of time as necessary for the Contractor to perform certain work.
D. Interruption of Utilities Services: Utility interruptions, if any are required, shall be kept to a minimum, and shall be at such times and duration as approved ahead of time by the District. No interruption shall occur unless scheduled with the District, and approved in advance as to time and duration of such interruption.
E. Material, equipment, tools and workmen shall be scheduled and delivered to the Site in a timely manner to avoid delay in the work. Materials provided shall be inspected by the Contractor to make certain they are in compliance with the specifications and are free from defects and damage.
F. Measurements: Before fabrication, obtain necessary field measurements and verify all measurements.
G. Protection required to prevent damage to adjacent areas, equipment, fixtures and finishes shall be provided. Damage to items while accomplishing the work shall be repaired or replaced with new items at no additional cost to the District.
H. Existing Work: Protect existing work which is to remain in place, be reused, or remain the property of the District. Repair items that are to remain and are damaged during performance of the work to their original condition, or replace with new.
I. Facilities: Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities.
J. Dust and Debris Control: Prevent the spread of dust and debris to surrounding areas and occupied portions of the buildings to avoid the creation of a nuisance or hazard in the

surrounding area. Waste and debris resulting from the work being performed shall be cleaned up daily and promptly removed from the site.

3.2 PERFORMANCE:

A. Workmanship: Skilled personnel shall execute in a careful, neat, and proficient manner and in compliance with accepted trade practices all work. All work shall be executed in accordance with Cal/OSHA standards and safety orders. And all work on this contract shall comply with all Local, State, and Federal Environmental Laws.

B. As used herein, "replace" means provide new materials to replace existing or missing materials.

C. The Contractor shall field verify all measurements for existing conditions.

D. Minor Materials and Work: Minor materials and work not specifically mentioned herein, but necessary for the proper completion of the specified work, shall be furnished without additional cost to the District.

E. Unforeseen Major Repairs: Should deteriorated materials of a major nature be uncovered in the course of the work, or suspected hazardous materials discovered, it shall be brought to the immediate attention of the Project Inspector and District. Repairs, if any, shall be made as directed in writing, and an adjustment will be made in the contract price in accordance with the terms of the contract.

F. Existing Work: Where existing work is changed or removed, or where new work adjoins, connects to, or abuts existing work, the existing work shall be altered as necessary and connected in a substantial and workmanlike manner. All new work shall match, as nearly as practicable, existing, adjoining, and/or adjacent similar work. Operations affecting existing work shall be conducted with care not to damage work in place, and all existing work damaged by such operations shall be rectified or replaced without additional expense to the District.

3.3 PROJECT CLOSEOUT REQUIREMENTS

A. Refer to the Drawings and Technical Specifications for O&M and As-Built requirements.

B. Provide final clean-up of Site prior to Final Completion.

C. Warranty

1. The Contractor warrants to the District that material and equipment furnished under the Contract will be of the highest quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Contractor's warranty and guaranty to District includes, but is not limited to the following representations:

    a. In addition to any other warranties and guaranties provided elsewhere, Contractor shall, and hereby does, warrant all Work from the date the District files its Notice of Completion of the entire work with the County, or as agreed with the District, and shall repair or replace any or all such work, together with any other work, which may be displaced in so doing that may prove defective in workmanship or materials within a one (1) year period from date of completion

as defined in Public Contract Code Section 7107(c) without expense whatsoever to District, ordinary wear and tear, unusual abuse or neglect excepted. District will give notice of observed defects with reasonable promptness. Contractor shall notify District upon completion of repairs.

b. In the event of failure of Contractor to comply with above mentioned conditions within one week after being notified in writing, District is hereby authorized to proceed to have defects repaired and made good at expense of Contractor who hereby agrees to pay costs and charges therefore immediately on demand.

c. If, in the opinion of the District, defective Work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the District, the District will attempt to give the notice required by this Article. If the Contractor cannot be contacted or does not comply with the District's requirements for correction within a reasonable time as determined by the District, the District may, notwithstanding the provisions of this article, proceed to make such correction or attention which shall be charged against Contractor. Such action by the District will not relieve the Contractor of the guarantee provided in this Article or elsewhere in this Contract.

d. This Article does not in any way limit the guarantee on any items for which a longer warranty or guaranty is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish District all appropriate guaranty or warranty certificates upon completion of the project.

2. Format - All Warranties/Guaranties and shall include:

   a. Contractor, subcontractor, and equipment supplier shall provide Warranties and Guaranties on their original company letterhead with original signature.

   b. Contractor shall provide original Warranties and Guaranties. Photocopies, fax and e-mail copies are not acceptable.

3. Preparation

   a. Contractor shall obtain warranties and guaranties, executed in duplicate by each applicable and/or responsible subcontractor(s)**,** supplier(s), and manufacturer(s), prior to the Final Completion date of the contract. Except for items put into use with District's permission, Contractor shall leave date of beginning of time of warranty or guaranty blank until the date of completion is determined by District.

   b. Contractor's Response to Construction Warranty and Guaranty Service Requirements: Following oral or written notification by the District, respond to construction warranty and guaranty service requirements within 24 hours, or earlier in case of emergency.

4. Warranty and/or Guaranty Tags.

   a. At the time of installation of mechanical equipment or other major system elements, tag each warranted or guaranteed item with a durable, oil and water resistant tag approved by the District. Attached each tag with a copper wire and spray with a silicone waterproof coating. The date of Final Completion and the Contractor Authorized signature must remain blank until the date the District makes a determination of Final Completion. Show the following information on the tag:

WARRANTY/GUARANTY INFORMATION – [insert project number and name on actual tag]

1. Type of product/material _____
2. Model number_____
3. Serial number_____
4. Contract number_____
5. Warranty/Guaranty period _____ (months) from_____ to_____
6. Inspector's signature_____
7. Construction Contractor _____
8. Address _____
9. Telephone number _____
10. Warranty or Guaranty contact _____
11. Address _____
12. Telephone number _____
13. WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE DURING THE WARRANTY PERIOD.

3.4 PROJECT AS-BUILT

A. Contractor shall dedicate one (1) complete full-size set of the Contract Drawings and one (1) complete Project Manual for use in documenting as-built conditions, including but not limited to; RFIs, ASIs, PCOs and Change Orders.

B. Contractor shall submit to District in hard copy one (1) original and two (2) copies of all Project As-Built Documents. In addition, one (1) electronic copy shall be submitted to District. District reserves the right to require re-submittal in accordance with these Supplementary General Conditions if the documents are inaccurate or incomplete, or otherwise fail to meet the requirements of these Contract Documents.

1. Electronic Media Format: Electronic media format for all Project As-Built Documents shall be Adobe PDF, with chapter markers and/or bookmarks inserted in place of the equivalent hard-copy section tabs. Electronic copy shall include all tables, charts, drawings, codes and all other matters reflected in hard copies. Electronic media files shall be delivered on a unique CD-ROM or flash drive.

END OF DOCUMENT

SECTION 01 14 00

WORK RESTRICTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 SUMMARY OF WORK RESTRICTION REQUIREMENTS

A. Prior to the start of Work, Contractor shall familiarize itself with the Work Restrictions as they relate to all Work required by the Contract Documents"

B. Temporary Work Activity Plan shall include:
   1. Full size drawing (36"x42") of site plan showing the proposed locations and dimensions of temporary facilities and activities, including but not limited to, all proposed office trailers, equipment and material storage areas on the Project Site; safe and ADA complaint access (ingress/egress) for pedestrians and vehicles around the construction areas; proposed haul routes; all temporary construction, and way-finding signage; temporary fenced area(s), noise and safety barriers, and dust partitions; and temporary measures to maintain continuous and uninterrupted code compliant use of all occupied and surrounding areas impacted by construction activities. Identify any areas that require temporary paving for stabilization or prevention of tracking of mud, and for ADA complaint ingress and egress. Indicate if the use of supplemental or other staging areas might be required.
   2. Contractor shall submit two (2) hard copies at the pre-construction meeting (For Each Phase), and email PDF Format, of the initial submittal of the Temporary Work Activity Plan for review by the District, Architect, and by personnel from the Campus (e.g., Buildings & Grounds, Police Services, and other representatives

C. Contractor shall perform and complete all Temporary Work Activities to ensure the following Sections.
   1. The work areas, roads, parking lots, and streets are to be kept clear, clean, and free of loose debris, construction materials and partially installed work which would create a safety hazard or interfere with subcontractor and personnel duties and traffic. The Contractor shall sweep the areas clean at the end of each work day and make every effort to keep dust and noise to a minimum at all times.

1.3 SUMMARY OF WORK RESTRICTIONS

A. General: All Temporary Work Activities must be completed within the timelines, work shift times, and the scheduled time period as required by the Contract Documents. Comply with the following:
   1. The Temporary Work Activity Plan shall be approved by the District prior to any Work starting on the Project Site.
   2. Contractor shall have all temporary fencing, signage, ADA compliant pathways and other temporary measures described in Paragraph 1.2 above installed, operational and accepted by the District prior to starting Work as applicable.

B. Time Related Work Restrictions within the Contract Time.

1. Although the Contract Time is a total of 40 calendar days between the Notice to Proceed and Substantial Completion, as articulated in Section 05 52 13, Construction Agreement, Work by the Contactor is restricted and limited to specific time periods at specific locations during this contract duration as follows:
    a. Restrict noise-producing construction activities Monday through Friday between the hours of 7:00am to 3:30pm, or until 5:30pm with city engineer's approval. Sunday Work: Contractor CANNOT work on Sundays or Holidays.
2. The Contractor is responsible for its own means and methods to comply with these work restrictions, and to submit a schedule in accordance with Section 00 73 00, "Supplementary General Conditions".

C. Other Project Requirements and Restrictions:
1. The Contractor's staging area for trailers, construction vehicles, construction equipment and materials are restricted within the temporary construction fencing of the project site and the area shown on the attached Phasing Plans at the end of this Section. Contractor shall not block the fire access road at any time within the project site or utilize for parking, staging or locating trailers. Contractor must always allow Fire District access into the project site and unobstructed use of the fire access road to other buildings on the west side of the project site. Contractor is responsible for obtaining parking passes from the Police Services.
2. Contractor must maintain egress pathway for students and staff.
3. Truck traffic, material deliveries and equipment deliveries on this road to the project site shall be closely monitored and controlled by the Contractor to avoid any delays to other vehicles using this road by faculty and students. The Contractor shall include delivery milestones in its Baseline P-6 CPM Schedule and provide written notice at least two (2) work days to the District and to the Police Services for all deliveries. Any material or equipment deliveries that could potentially delay traffic on this one-way road will have to be delivered after normal business hours, unless otherwise approved by the District. Contractor truck deliveries that stop traffic on this road or other roads on Campus will be subjected to being ticketed by the Police Services.
4. Truck Hauling Routes. Obtain City of Pleasant Hill approval for preferred construction traffic routing over public streets and/or other construction truck access and egress from public streets to the Site. Contractor shall avoid routing trucks through residential areas. Prohibit mobilization and demobilization of heavy construction equipment and trucks on residential streets.

PART 2 - PRODUCTS

2.1 MATERIALS

A. All labor, equipment, materials, and all other requirements shall be provided and will be the sole responsibility of the Contractor for execution of entire work described in this specification section.

PART 3 - EXECUTION

3.1 MEANS AND METHODS OF CONSTRUCTION

A. Contractor to provide and shall be responsible for any and all means and methods that will be constructed, implemented and/or maintained on the site for all work described above.

END OF SECTION 01 14 00

SECTION 02 41 16

STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
1. Demolition and removal of buildings and site improvements as indicated.
2. Disconnecting, capping or sealing, and abandonment in place, of indicated site and building utilities serving the demolished portions.
3. Salvaging items for reuse by owner.

B. Related Requirements:
1. Section 02 41 19 Selective Demolition

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse. Include fasteners or brackets needed for reattachment elsewhere.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 PREDEMOLITION MEETINGS

A. Pre-demolition Conference: Conduct conference at Project site.
1. Inspect and discuss condition of construction to be demolished.
2. Review structural load limitations of existing structures.
3. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review and finalize protection requirements.
5. Review procedures for noise control and dust control.
6. Review procedures for protection of adjacent buildings.
7. Review items to be salvaged and returned to Owner.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For refrigerant recovery technician.

B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.
   1. Adjacent Buildings: Detail special measures proposed to protect adjacent buildings to remain including means of egress from those buildings.

C. Schedule of Building Demolition Activities: Indicate the following:
   1. Detailed sequence of demolition work, with starting and ending dates for each activity.
   2. Temporary interruption of utility services.
   3. Shutoff and capping or re-routing of utility services.

D. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by salvage and demolition operations. Submit before the Work begins.

E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

F. Hazardous Materials Remediation Plan: Contractor shall prepare and submit a remediation protocol for asbestos-containing materials (ACM) and other hazardous materials present.

1.7 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

1.8 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

1.9 FIELD CONDITIONS

A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.

B. Buildings immediately adjacent to demolition area will be unoccupied while other buildings on campus will be in use. Conduct building demolition so operations of occupied buildings will not be disrupted.
   1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
   2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.
      a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.

C. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

D. Hazardous Materials: Present in buildings and structures to be demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.

1. Hazardous materials are identified in the Limited Hazardous Materials Survey titled “Pre-Demolition Hazardous Materials Survey, Diablo Valley College Art Gallery Structure, Pleasant Hill, California” dated December 8, 2022 by Terracon Consultants, Inc.
2. Contractor shall prepare and submit a remediation protocol.
3. Do not disturb hazardous materials or items suspected of containing hazardous materials except in accordance with the prepared remediation protocol.
4. Owner will provide material safety data sheets for materials that are known to be present in buildings and structures to be demolished because of building operations or processes performed there.

E. On-site storage or sale of removed items or materials is not permitted.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

D. Inventory and record the condition of items to be removed and salvaged.

3.2 PREPARATION

A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

B. Salvaged Items: Comply with the following:
1. Clean salvaged items of dirt and demolition debris.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to storage area designated by Owner.
5. Protect items from damage during transport and storage.

3.3 UTILITY SERVICES, MEP, FIRE ALARM AND SPRINKLERS

A. Existing Utilities to be Disconnected: Locate, identify, disconnect, and seal or cap off utilities serving buildings and structures to be demolished.
   1. Owner will arrange to shut off utilities when requested by Contractor.

END OF SECTION 02 41 16

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
   1. Demolition and removal of selected elements of the existing construction as noted.

B. Related Requirements:
   1. Section 02 41 16 Structure Demolition

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse. Include fasteners or brackets needed for reattachment elsewhere.

C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 PREINSTALLATION MEETINGS

A. Pre-demolition Conference: Conduct conference at Project site.
   1. Inspect and discuss condition of construction to be demolished.
   2. Review structural load limitations of existing structures.
   3. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
   4. Review and finalize protection requirements.
   5. Review procedures for noise control and dust control.
   6. Review procedures for protection of adjacent buildings.
   7. Review items to be salvaged and returned to Owner.

1.6 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers.

B. Schedule of Selective Demolition Activities: Indicate the following:
   1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
   2. Interruption of utility services. Indicate how long utility services will be interrupted.
   3. Coordination for shutoff, capping, and continuation of utility services.
   4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

C. Pre-demolition Photographs or Video: Submit before Work begins:

1.7 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: Present in buildings and structures to be demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
   1. Hazardous material remediation is specified elsewhere in the Contract Documents.
   2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
   3. Owner will provide material safety data sheets for materials that are known to be present in buildings and structures to be demolished because of building operations or processes performed there.

E. On-site storage or sale of removed items or materials on-site is not permitted.

F. Utility Service: Maintain existing utilities and protect them against damage during selective demolition operations.
   1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Owner.

E. Inventory and record the condition of items to be removed and salvaged.

3.2 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   1. Comply with requirements for access and protection specified in Section 00 73 00 Supplemental General Conditions.

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain:
   1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
   2. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations, including adjacent plaza and stairs.
   3. Cover and protect furniture, furnishings, and equipment that have not been removed.

3.3 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.4 SELECTIVE DEMOLITION, PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.

B. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. Except for items or materials indicated to be recycled**,** reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
   1. Do not allow demolished materials to accumulate on-site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
   3. Comply with requirements specified in Section 00 62 23 "Construction Waste Management".

B. Do not burn demolished materials.

C. Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 41 19

SECTION 02 82 00
ASBESTOS ABATEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The General Conditions and Division I General Requirements shall be included in and made part of this Section.

B. Examine all project drawings and documents including other Sections of the Specifications for requirements therein affecting the work of this Section of the Specifications.

1.2 COMPLIANCE AND INTENT

A. The Contractor is responsible for repair, to the satisfaction of the Contra Costa Community College District (District), of surfaces not scheduled for abatement or demolition that become damaged as a result of the work.

B. Contractor shall coordinate removal with all site requirements related to protection of existing site building and utilities. Water and encapsulants used during abatement work must not migrate beyond established regulated work area barriers. Additional precautions must be followed when working adjacent to existing structures.

C. This project deals with abatement of asbestos-containing materials (ACMs) and materials with asbestos content associated with the Art Galley demolition. It is necessary for the Contractor to coordinate all abatement work with the project drawings and specifications. During all work, provide monitoring and worker protective equipment in accordance with the California Occupational Safety and Health Administration (Cal-OSHA) and as required by this specification. Where there is conflict, the most stringent requirement shall apply.

D. The work covered by this specification includes the handling, removal, and proper disposal of ACMs and materials with asbestos content. All hazardous materials shall be removed and disposed of according to all federal, state, and local regulations. The Contractor shall determine if additional hazardous materials will be impacted by the scope of the abatement work. The cleanup of any incidental asbestos found in areas undergoing abatement of asbestos that become separated from the buildings during the dismantling process are part of the work.

E. The abatement workers shall have received Cal-OSHA and Asbestos Hazard Emergency Response Act (AHERA) accredited training and be certified for asbestos abatement work.

F. Any work that is likely to disturb ACMs remaining in the building must be completed by workers trained at minimum for Class II Asbestos Work.

G. Furnish all labor, materials, facilities, equipment, services, employee training, medical monitoring, permits and agreements necessary to perform the work required for asbestos abatement in accordance with this specification.

H. Comply with all federal, state, and local regulations pertaining to asbestos removal, storage, transportation and disposal; employee health and safety; Contractor certifications; and all licenses, permits, and training.

I. Work on the premises shall be confined to areas designated in the Project Documents. Materials and equipment shall be stored within areas designated by the District. Should additional space be required, the Contractor shall request permission for additional space.

J. Perform all work specified herein with competent persons trained, knowledgeable, and qualified in state-of-the-art techniques relating to asbestos abatement, handling, and the subsequent cleaning of contaminated areas.

K. During removal activities, the Contractor shall protect against contamination of soil, water, plant life, sensitive building finishes, and adjacent building areas. Contractor shall ensure that there is no airborne release of asbestos fibers or visible dusts. The District may collect air samples in the buildings and in adjacent areas to evaluate the Contractor's performance. Evidence of airborne levels of contaminants above background will require the implementation of additional controls.

L. It is the Contractor's responsibility to determine the quantities of ACMs that will require removal prior to commencement of the project. The Contractor shall conduct a site visit to determine exact locations of materials that will require abatement. This section provides appropriate protocols for handling and disposal of ACMs and materials with asbestos content. All ACMs and materials with asbestos content shall be removed according to the requirements outlined in this specification. If additional suspect ACMs are discovered during the abatement work, immediately notify the District and the consultant.

M. The work of this section shall be performed by an entity that holds a current, valid C-22 license issued by the California Contractor's State License Board (CSLB) and a current valid Certificate of Registration for Asbestos-Related Work issued by the California Department of Industrial Relations-Division of Occupational Safety and Health (Cal-OSHA), unless other specified. Display copies of CSLB license and Cal-OSHA Registration in a visible place at the job-site.

N. ACMs and materials with asbestos content removed during the abatement activities shall be disposed of in an approved manner complying with all applicable federal, state, and local regulations. Appropriate waste manifests or letters of salvage shall be furnished to the District thereby limiting the District's liability for improperly salvaged items. Materials are conveyed to the Contractor "as is," without any warranty, expressed or implied, including but not limited to, any warranty to marketability or fitness for a particular purpose, or any purpose. The District or the District's Environmental Consultant shall approve the hazardous waste disposal site(s) prior to disposal for materials that may be disposed of in that manner.

O. All interior asbestos abatement work shall be conducted using a negative pressure enclosure and three stage decontamination unit unless otherwise specified. Evidence of the release of asbestos above the background level will necessitate additional controls including but not limited to an enclosure.

1.3 DEFINITIONS

The following definitions pertain to work of this section.

1. Abatement: Process of controlling fiber release from ACMs including encapsulation, enclosure, controlled renovation procedures, removal, clean-up and disposal.
2. ACM: Asbestos-containing material
3. Aggressive Sampling: Air sampling either during or following the agitation of the air.
4. AHERA: Asbestos Hazard Emergency Response Act (40 CFR Part 763).
5. Airlock: A system for permitting ingress and egress with minimum air movement between a contaminated area and uncontaminated areas. Typically consists of two curtained or gasketed doorways separated by a distance of at least six feet such that one passes through one doorway into the airlock, allowing the doorway to close off the opening. This airlock must be maintained in uncontaminated condition at all times.
6. Ambient Air Quality: The quality of air (in terms of airborne fiber content) that is present in a given space.
7. Area Monitoring: Sampling of airborne asbestos fiber concentrations within the work area and outside the work area. Sampling shall represent airborne concentrations that may reach the breathing zone.
8. Asbestos Fibers: Refers to asbestos fibers having an aspect ratio of 3:1, and those fibers longer than five (5) microns.
9. Asbestos Permissible Exposure Limit (PEL): A level of airborne fibers specified by OSHA as an occupational exposure standard for asbestos. This level represents the 8-hour time-

weighted average of 0.1 fibers per cubic centimeter of air as measured by Phase Contrast Microscopy (PCM) analytical method.

10. Asbestos-Containing Material (ACM): Those manufactured products and construction materials including structural and mechanical building materials, as well as packings and gaskets that contain more than one percent (1.0%) asbestos by weight.
11. Asbestos: Asbestos includes asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-gunerite (amosite), anthophylite, tremolite, and actinolite. For the purposes of determining worker respiratory protection, both the asbestiform and non-asbestiform of the above minerals, and any chemically treated or altered materials shall be considered as asbestos.
12. Authorized Visitor: Designated employees or consultants for the District and representatives of any federal, state or local regulatory or other agency having jurisdiction over the project.
13. Baseline: Refers to the background levels of asbestos monitored before abatement.
14. Breathing Zone: A hemisphere forward of the shoulders and head with a radius of approximately six to nine inches.
15. Breach: A rift or gap in the critical or secondary barriers that allow egress of air from the containment to outside, or vice versa.
16. Bridging Encapsulant: An encapsulant that forms a discrete layer on the surface of an in-situ asbestos matrix.
17. Cal-OSHA: State of California, Department of Occupational Safety and Health (DOSH).
18. Chain-of-Custody: A legal concept involving documentation of the physical possession of a sample(s) from the moment it is collected, transported, analyzed, and ultimately stored in an archive.
19. Change Rooms: Refers to the two chambers in the decontamination area used to change into and out of protective clothing.
20. Certified Industrial Hygienist (CIH): A person certified by the American Board of Industrial Hygiene.
21. Clean Room: An uncontaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of workers' street clothes and protective equipment.
22. Clearance Level: Clearance level for samples analyzed by PCM will be less than 0.01 fibers per cubic centimeter of air and for TEM will be less than 70 structures per square millimeter (<70 s/mm2). Samples may be collected by aggressive or non-aggressive sampling methods and the minimum air volume shall be 1,200 liters.
23. Competent Person: One who is capable of identifying existing and predictable hazards and who has the authority to take prompt corrective measures to eliminate them.
24. Critical Barrier: A unit of temporary construction that provides the only separation between asbestos work area and an adjacent potential occupied space. This includes the decontamination unit, perimeter walls, ceilings, penetrations and any temporary critical barriers between the work area and the uncontaminated environment.
25. CSLB: Contractors State Licensing Board
26. Decontamination Area: Area which is constructed to provide the means for workers to store clothing, equipment and other articles, and to properly remove contamination upon concluding work activities that result in exposure to these hazardous materials.
27. DOP: Dioctylphthalate, the challenge aerosol used to perform on-site leak testing of HEPA filtration equipment.
28. DOT: Federal Department of Transportation.
29. DOSH: Division of Occupational Safety & Health (see also Cal-OSHA)
30. Decontamination Unit: Refers to system of airlocks used to decontaminate personnel, waste bags, equipment, etc. when exiting the work area. A decontamination unit shall be set up for each containment area.
31. Demolition: The wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.
32. Disposal Bag: Minimum six (6) mil thick leak-tight plastic bags used for transporting asbestos waste from a work area to disposal or shipping container. Each disposal bag must have

required labels according to Title 8 CCR 1529 (Cal-OSHA asbestos rule), 5194 (HAZCOM). RACM waste must be additionally labeled according to 49 CFR 171-179 (USDOT), and 40 CFR 61 Subpart M (NESHAP). Hazardous waste disposal bags must be labeled with generator's name, address, site location, generator number, and the following information:

CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST
RQ WASTE ASBESTOS, 9 NA 2212 PG III
(Class 9 placard)
HAZARDOUS WASTE
STATE AND FEDERAL LAW
PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST
POLICE OR PUBLIC SAFETY
AUTHORITY OR THE CALIFORNIA
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

33. District: Contra Costa Community College District.
34. Encapsulant: A liquid material that can be applied to ACMs that controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging) or by penetrating into the material and binding its components together (penetrating encapsulant).
35. Encapsulation: A specified procedure necessary to coat ACMs or asbestos contaminated surfaces with an encapsulant to control the possible release of asbestos fibers into the ambient air.
36. Enclosure: The construction of an airtight, impermeable, permanent barrier surrounding the ACM to prevent the release of asbestos fibers into the air.
37. Environmental Consultant: CIH, Certified Asbestos Consultant (CAC), and/or Certified Site Surveillance Technician (CSST) retained by the District.
38. Equipment Decontamination Enclosure System: A decontamination enclosure system for materials and equipment, typically in a designated area of the work area, and including a washroom, a holding area, and an uncontaminated area.
39. Equipment Room: A contaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment. The equipment room shall be kept clean from asbestos-containing debris at all times.
40. Excursion Limit: A California Code of Regulations (Title 8 CCR 1529) requirement that ensures no employee exposed to airborne concentrations of asbestos in excess of 1.0 fibers per cubic centimeter of air as averaged over a sampling period of thirty (30) minutes.
41. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.
42. Fixed Object: A unit of equipment or furniture in the work area that cannot be removed from the work area.
43. Friable Asbestos-Containing Material: Material that contains more than 1.0% asbestos by weight, and that can be crumbled, pulverized or reduced to powder by hand pressure when dry.
44. Foreman: An individual who typically fulfills the duties of "competent person" as defined by Title 8 CCR 1529. This individual must supply documentation of a passing grade in a Cal-OSHA accredited course in Asbestos Contractor/Supervisor training. The foreman must be on-site during all abatement work.
45. Glove Bag: A polyethylene bag with two inward projecting long sleeve gloves, designed to enclose an object from which an ACM is to be removed. Bags shall be seamless at the bottom, have a minimum thickness of 6 mils, and shall be labeled appropriately.

46. Glove Bag Technique: A method for removing ACM from heating, ventilation and air conditioning (HVAC) ducts, piping runs, valves, joints, elbows, and other non-planar surfaces. The glove bag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process. Secondary containment shall be provided for all glove bag work unless otherwise noted.
47. Gross or Full Abatement: Designated rooms, spaces, or areas of the project that have been totally sealed, contained in polyethylene, equipped with decontamination enclosure systems, and placed under negative pressure.
48. HEPA: High Efficiency Particulate Air filter capable of filtering out airborne particulate 0.3 microns or greater in diameter at 99.97 percent efficiency.
49. Manifest: The document authorized by both Federal and State authorities for tracking the movement of ACMs.
50. Movable Object: A unit of equipment or furniture in the work area that can be removed from the work area.
51. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere, and negative during inhalation in relation to the air pressure of the outside atmosphere.
52. Negative Pressure: Air pressure lower than surrounding areas, generally caused by exhausting air from a sealed space (work area).
53. NESHAP: National Emission Standard for Hazardous Air Pollutants – EPA Regulation 40 CFR Subpart M, Part 61.
54. NIOSH: National Institute for Occupational Safety and Health: Sets test standards, analytical methods, and certifies performance of various respirator designs (research institute within Federal OSHA).
55. NIST: National Institute of Standards and Technology: Administers the NVLAP Program.
56. NOA – Naturally Occurring Asbestos. Found in soil, fill and concrete.
57. NVLAP: National Voluntary Laboratory Accreditation Program – evaluates and certifies laboratories doing PLM and TEM analyses.
58. Passive Sampling: Refers to air sampling with no air agitation.
59. Permissible Exposure Limits (PEL): A level of airborne fibers specified by OSHA as an occupational exposure standard for asbestos. This level represents the 8-hour time-weighted average of 0.1 fibers per cubic centimeter of air and 30-minute excursion limit of 1.0 fibers per cubic centimeter of air as measured by Phase Contrast Microscopy (PCM) analytical method.
60. Phase Contrast Microscopy (PCM): Technique using a light microscope equipped to provide enhanced contrast between the fibers and the background. Filters are cleared with a chemical solution and viewed through the microscope at a magnification of approximately 400X. This method does not distinguish between fiber types and only counts those fibers longer than 5 microns and wider than approximately 0.25 microns. Because of these limitations, fiber counts by PCM typically provide only an index of the total concentration of airborne asbestos in the environment monitored.
61. Polarized Light Microscopy (PLM): An optical microscope technique used to identify asbestos content and distinguish between different types of asbestos fibers by their shape and unique optical properties.
62. Powered Air Purifying Respirator (PAPR): A full facepiece respirator that has the breathing air powered to the wearer after it has been purified through a filter.
63. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
64. Remodel: Replacement or improvement of an existing building or potion thereof where exposure to airborne asbestos may result. Remodel includes, but is not limited to, installation of materials, demolition, cutting, patching, and removal of building materials.
65. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

66. Shower Room: A room between the clean room and the equipment room in the work decontamination enclosure system. This room contains hot and cold or warm running water and soap suitably arranged for complete showering during decontamination. The shower room comprises an airlock between contaminated and clean areas.
67. Surfactant: A chemical wetting agent added to water to improve penetration, this reducing the quantity of water required for a given operation or area.
68. Transmission Electron Microscopy (TEM): Asbestos structure analysis for a specified volume of air. TEM is a technique that focuses an electron beam onto a thin sample. As the beams transmits through certain areas of the sample, an image resulting from varying densities of the sample is projected onto a fluorescent screen. TEM is the state-of-the-art analytical method for identifying asbestos fibers collected in air samples in non-industrial settings. TEM microscopes equipped with selected area electron diffraction (SAED) capabilities also can provide information on the crystal structure of an individual particle.
69. TSI – Thermal Systems Insulation
70. Visible Emissions: Any emission containing particulate material that is visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
71. Visual Inspection: A visual inspection by Environmental Consultant, of the work area under adequate lighting to ensure that the work area is free of visible ACM, debris, and dust.
72. Washroom: A room between the work area and the holding area in the equipment decontamination enclosure system equipped with water for decontamination of equipment and sealed waste containers. The washroom or shower room comprises one airlock.
73. Water Filtration: Refers to water filtration to as small a particulate size as technically feasible, but not more than 5 microns.
74. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, HEPA vacuuming, or other cleaning utensils dampened with amended water and afterward thoroughly decontaminated or disposed of as asbestos contaminated waste.
75. Work Area: The area where asbestos removal is performed and that is defined or isolated to prevent the spread of asbestos fibers, dust or debris, and entry by unauthorized personnel. Work area is a regulated area as defined by Title 8 CCR 1529.

1.4 SCOPE OF WORK

A. Provide the removal of ACMs and materials with asbestos content as specified in this section. Reference all other sections of the Specifications and other sections included in the contract documents for information and requirements that affect the work of this Section.

B. All workers that contact ACM shall be trained at minimum in accordance with Title 8 CCR 1529 for Class IV Work. Workers that will perform work that may disturb remaining ACMs shall be trained in accordance with Title 8 CCR 1529 for Class III Work. Construction work that will create debris during removal of architectural components or attachments to existing finishes with ACM is considered Class III work. Any limited abatement required to complete required construction must be coordinated with the construction documents.

C. Table 1 attached provides estimated quantities of ACMs and materials with asbestos content requiring removal. Also, reference the attached floor plans and photo. The Contractor is responsible for field verifying quantities of these materials and difficulty in abating the same. Coordination and defined areas of abatement is required where ACMs and materials with asbestos content will remain.

D. The following materials can be disposed of as Category II Non-friable ACMs if they are not rendered friable during removal: Wooden wall paneling mastic (tan), Drywall wall systems, Residual board adhesive (tan), Sink undercoating (white). *<u>NOTES:</u> (1) Disposal of the Drywall wall systems (<1.0% as a composite system) will be as a Category II Non-Friable ACM due to the material being contaminated with Wooden Wall Paneling Mastic, and (2) The **Black Moisture Barrier Mastic** on the lower portions of the concrete perimeter walls on the ground level of the building is not*

scheduled for removal during this phase of demolition work. HOWEVER, the material will be disturbed during removal of overlying wall materials and is included the abatement scope of work.

E. Note some asbestos containing materials are associated with lead containing paint. Coordinate removal and disposal with Section 02 87 00 – Lead-Containing Paint Removal and Lead-Related Construction.

1.5 REFERENCES

The publications listed below form a part of this specification by reference. The publications are referred to in the text by basic designation only. If there is a conflict between any of the listed regulations or standards, then the most stringent or restrictive shall apply.

A. American National Standards Institute (ANSI) and American Society for Testing and Materials (ASTM)

1. ANSI Z9.2, 1979 (R 1991), Fundamentals Governing the Design and Operation of Local Exhaust Systems
2. ANSI Z87.1, 2003, Occupational and Educational Eye and Face Protection
3. ANSI Z88.2 1992, Respiratory Protection
4. ANSI Z89.1, 1986, Requirements for Protective Headgear for Industrial Workers
5. ANSI Z41, 1999, Personal Protection – Protective Footwear
6. ANSI Z88.6, 1984, Respiratory Protection – Respiratory Use Physical Qualifications for Personnel
7. ASTM C 732, 1982 (R 1987) Aging Effects of Artificial Weathering on Latex Sealants
8. ASTM D 522, 1993 (Rev. A) Mandrel Bend Test of Attached Organic Coatings
9. ASTM D 1331, Solutions of Surface-Active Agents
10. ASTM D 2794, 1993 Resistance of Coatings to the Effects of Rapid Deformation (Impact)
11. ASTM E 84, 1991 (Rev. A) Surface Burning Characteristics of Building Materials
12. ASTM E 96, 1994 Water Vapor Transmission of Materials
13. ASTM E 119, 1988 Fire Tests of Building Construction and Materials
14. ASTM E 736, 1992 Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
15. ASTM E849, 1986 Safety and Health Requirement Relating to Occupational Exposure to Asbestos
16. ASTM E 1368, 1990 Visual Inspection of Asbestos Abatement Projects
17. ASTM E1494, 1992 Specifications for Encapsulants for Friable Asbestos-Containing Building Materials

B. California Assembly Bills (CAB)

1. CAB 040, Yearly Registration of Contractors

C. California Code of Regulations (CCR)

1. Title 8 CCR 5208, General Industry - Asbestos
2. CCR CARS, Carcinogen and Asbestos Registration Sections 340-344.53, 341.6 Amended, and 341.9 Amended Through 341.14
3. CCR ESO, Electrical Safety Orders, Chapter 4, Subchapter 5
4. CCR 1523, Illumination
5. CCR 1529, Asbestos in the Construction Industry
6. CCR 1531, Construction Respiratory Protective Equipment
7. CCR 3203, Injury and Illness Prevention Program
8. CCR 3204, Access to Employee Exposure and Medical Records
9. CCR 3220, Emergency Action Plan
10. CCR 3221, Fire Prevention Plan
11. CCR 5144, Respiratory Protection Equipment Standard
12. CCR 5194, Hazard Communication Standard
13. CCR 6003, Accident Prevention Signs

14. Title 22, Division 4, Minimum Standards for Management of Hazardous and Extremely Hazardous Waste

D. California Health Services (CHS) Titles 22 and 23, California Administrative Code Disposal Requirements
   1. CHS 25123, Section 25123
   2. CHS 25124, Section 25124
   3. CHS 25143, Section 25143
   4. CHS 25163, Section 25163
   5. CHS 66508, Section 66508
   6. CHS 66510, Section 66510
   7. CHS DIV 4, Division 4, Commencing with Section 66000, "Disposal"

E. California Health and Safety Code (CHSC)

   CHSC 20
   1. Division 20, Commencing with Section 24200

F. California Labor Code (CLC)
   1. CLC DIVISION 5, Part 1, commencing with 6300

G. California Propositions (CP)
   1. CP 65, Proposition 65

H. California State Board of Equalization (CSBE)
   1. CSBE ETU, Excise Tax Unit

I. California State License Board (CSLB)
   1. CSLB CBPC, California Business and Professional Code Sections 7058.5 and 7058.7, "Certification"

J. Code of Federal Regulations (CFR)
   1. 29 CFR 1910.134, Respiratory Protection
   2. 29 CFR 1910.141, Sanitation
   3. 29 CFR 1910.145, Accident Prevention Signs and Tags
   4. 29 CFR 1926.21, Safety Training and Education
   5. 29 CFR 1926.55, Gases, Vapors, Fumes, Dusts, and Mists
   6. 29 CFR 1926.65, Hazardous Waste Operations and Emergency Response
   7. 29 CFR 1926.59, Hazard Communication
   8. 29CFR 1910.1000, Air Contaminants
   9. 29 CFR 1926.1101, Asbestos
   10. 40 CFR 61-SUBPART A, General Provisions
   11. 40 CFR 61-SUBPART M, National Emission Standard for Asbestos
   12. 40 CFR 260, Hazardous Waste Management Systems: General
   13. 40 CFR 745, Lead; Requirements for Lead-Based Paint Activities
   14. 40 CFR 763, Asbestos Containing Material in Schools

K. State and Local Regulations
   1. Regulation 11, Rule 2, Bay Area Air Quality Management District

L. Underwriters Laboratories, Inc. (UL)
   1. UL 586-96, 1996 Test Performance of High-Efficiency Particulate Air Filter Units

1.6 SUBMITTALS PRIOR TO START OF WORK

A. The reviews by the District or District's designated representative are intended to be only for general conformance with the requirements. The District or the District's designated representative assumes no responsibility for permits, licenses, notices, materials and methods, equipment or

temporary construction required to execute the work described in this Section of the Specification or in other Sections of the Specification or in other documents included in the contract documents.

B. Before commencing work involving the abatement of asbestos, submit the following for review by the District or District's designated representative:

1. Provide a detailed asbestos abatement work plan that is specific for the materials to be removed in each structure.
2. Provide an asbestos site safety plan prior to project initiation. The site safety plan shall deal with the following, at a minimum: site safety and health hazards; fiber release incidents; control of water leakage or discharge within and/or from the work area; medical emergency; asbestos handling procedures; fall protection; electrical safety; Contractor's internal administrative and inspection procedures; earthquakes and/or fire emergency procedures; protocol for responding to complaints or questions from interested parties; 24-hour emergency telephone numbers for individuals with authority to respond to emergencies.
3. Competent Person (as defined by Title 8 CCR 1529): Demonstrate education and specialized training with successful completion of examination of a Cal-OSHA accredited asbestos training course.
4. Workers: Demonstrate education and specialized training with successful completion of a Cal-OSHA accredited asbestos training course.
5. Submit current certificates (less than 11 months) signed by each employee and trainer that the employee has received proper training in the handling of materials that contain asbestos. Include documentation showing that the worker understands the following; health implications and risks involved (including the illnesses possible from exposure to airborne asbestos fibers), the use and limits of the respiratory equipment to be used, and the results of monitoring of airborne quantities of asbestos concerning health and respiratory equipment.
6. Proof of Respirator Fit Testing: Provide proof of respirator fit testing. Fit testing records must be less than eleven (11) months old and document testing on each type of respiratory protective equipment used for this project. Fit testing records must be signed by the Competent Person.
7. Foreman Training: Submit evidence that the foreman to be used on the job fulfills the qualifications detailed in this specification and has experience in similar jobs.
8. Medical Examinations: Submit evidence signed by a physician that each employee used on the job has received an appropriate medical examination as detailed in Title 8 CCR 1529. The submitted document must be less than eleven (11) months old.
9. Written Notification to Fire and Police Departments: Provide documentation showing notification to local fire and police departments of the abatement three (3) days before commencement.
10. Certificates of Compliance: Submit manufacturer's certification that vacuums, ventilation equipment, and other equipment required to contain airborne asbestos fibers conform to ANSI Z9.2. Submit results of onsite DOP testing of all HEPA-filtered ventilation equipment.
11. Satisfactory proof that written notification and subsequent updates have been provided to the Bay Area Air Quality Management District, in accordance with Regulation 11, Rule 2, Cal-OSHA, and Title 40 CFR Part 61 Subparts A&M, National Emission Standards for hazardous Air Pollutant, U.S. EPA as needed for any friable removal.
12. Licenses: Submit copies of state and local licenses, evidence of Cal-OSHA registration and permits necessary to carry out the work of this contract.
13. Notification of Other Contractors: If other contractors are working at the job site, before beginning any work the Contractor must inform all other contractors in writing regarding the location, nature, and requirements of the work areas.
14. Safety Data Sheets (SDSs)/Specification Sheets: The Contractor shall submit SDSs and Specification Sheets for all chemicals, encapsulants, etc. to be used for this project.

1.7 SUBMITTALS AT THE COMPLETION OF THE PROJECT

A. Upon completion of on-site work, the Contractor shall provide a detailed project summary that will include each of the items listed below. The project summary shall be submitted and approved by the District's representative and shall include the following:

1. Copies of the Security and Safety Logs showing names of persons entering the workspace. The logs shall include date and time of entry and exit, supervisor's record of any accident (detailed description of accident).
2. Chain of custody documentation and laboratory reports for all analyses performed.
3. Emergency evacuations and any other safety or health incident.
4. Submit uniform hazardous and non-hazardous waste manifests prepared, signed and dated by an agent of the landfill. The manifest must certify the amount of hazardous materials delivered to the landfill. The manifest must be provided to the District or District's designated representative within ten working days after delivery.
5. Personal air sample results.
6. Pressure differential readings for each differential recording device on the site.
7. Project Summary:
    a. Abatement contractor's name and address, certification number (CSLB), registration number (DOSH) and Tax ID number.
    b. Hazardous waste hauler certifications (DHS, DOT).
    c. Name, address, and registration number of hazardous waste hauler.
    d. Laboratory performing analyses (NVLAP).
    e. Name of project and project reference number.
    f. Specific inventory (including locations and approximate quantities) of the hazardous materials which were removed or handled.
    g. Number of employees working on the project.
    h. Dates of commencement and completion of on-site work.
    i. Work method(s) employed (i.e., glove bag, mini-containment, full containment with negative air and decontamination enclosure system, etc.)
    j. Name, location, telephone number and EPA registration of waste disposal site(s) used.
    k. DOP testing results.

1.8 CONTRACTOR MONITORING

A. The District or District's designated representative reserves the right to perform air sampling in selected areas during the project. District or District's designated representative reserves the right to stop work within an area if while performing monitoring, instances of substantial non-conformance with this Section or other Sections of the Specification presenting health hazards to workers, the general public or the surrounding areas are observed. Work shall not resume until the corrective measures have been enforced. Instances of substantial non-conformance shall include, but not be limited to, the following:
    1. Activities or misconduct imperiling worker's safety and health.
    2. Airborne fiber concentrations as measured by PCM outside of the containment area exceeding background or 0.01 fibers per cubic centimeter of air (f/cc) whichever is greater. Airborne concentrations as measured by TEM outside of the containment area exceeding background or 70 asbestos structures per square millimeter (S/mm^2), whichever is greater.
    3. Loss of negative pressurization for more than two minutes.
    4. Breaches in containment resulting in potential release of asbestos to non-work areas.

B. The consultant shall perform visual inspections of each regulated area prior to abatement to verify proper containment and controls. A visual inspection(s) will be performed at the conclusion of the abatement to verify complete removal. The consultant will perform air sampling inside and outside the regulated work areas during all phases of the work to verify air quality beyond the work areas during abatement and air quality inside the work areas following abatement.

C. The District or District's designated CAC may perform visual inspections and air testing as requested to verify performance.

PART 2 - PRODUCTS

2.1 SIGNS AND LABELS:

A. Provide labeling in accordance with state and federal EPA requirements. Provide the required signs, labels, warnings, placards, or posted instructions for containers used to transport hazardous material to the landfill.

B. Location of Caution Signs and Labels: Provide bilingual caution signs at all approaches to work areas in languages used by the Contractor's employees. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide labels and affix to all asbestos-containing materials, scrap, waste, debris, and other products contaminated with hazardous materials.

C. Warning Sign Format: Vertical format conforming to Title 8 CCR 1529:

DANGER
ASBESTOS
MAY CAUSE CANCER
CAUSES DAMAGED TO LUNGS
AUTHORIZED PERSONNEL ONLY
WEAR RESPIRATORS AND
PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

D. Warning Label Format: Provide labels that comply with Title 8 CCR 1529 of sufficient size to be clearly legible, displaying the following legend:

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

2.2 ENCAPSULANTS

A. Encapsulants shall be U.L. Listed, in full-scale E-119 fire test.

B. Average depth of penetration shall meet manufacturer's recommendations.

C. Dry mil thickness of bridging encapsulating systems (if used) shall be as indicated in the specific treatment instructions included in this specification, and as recommended by the manufacturer.

D. Performance Requirements: Classification - penetrating encapsulant; spray applied and brushable. Product shall be tested and listed by EPA and possess the following characteristics:

1. Flame resistance/flame spread ~25 (ASTM E162) V6.
2. Fire classification - UL Class A approved in the specific or similar assembly to its intended application.
3. Product shall be tested and rated non-toxic and non-irritating under the Federal Hazardous Substances Control Act and contain no methylene chloride.
4. Material shall be tinted sufficiently to provide a readable contrast to background color to which it is applied.

2.3 PLASTIC SHEETING:

A. Use fire-retardant (FR) polyethylene (poly) film.

1. Thickness - 6-mil, minimum, NO EXCEPTIONS.
2. Flame Resistance/Flame Spread Rate <25.
3. Conforms to NFPA #701 and Tested in accordance with ASTM E-84.

2.4 TAPE, ADHESIVE, SEALANTS:

A. Tape, 2" or wider, shall be capable of sealing joints of adjacent sheet of polyethylene and shall attach polyethylene sheet to finished or unfinished surfaces or similar materials. Tape shall be capable of adhering under dry and wet conditions, including use of amended water. Taping to critical or sensitive surfaces shall be completed using preservation sealing tape.

B. Spray adhesive for sealing polyethylene to polyethylene shall contain no methylene chloride or methyl chloroform (1,1,1-trichloroethane) compounds.

C. Fire resistant sealants shall be compatible with concrete, metals, wood, etc. Sealant shall prevent fire, smoke, water and toxic fumes from penetrating. Sealant shall have a flame spread, smoke and fuel contribution of zero, and shall be ASTM and UL rated for 3 hours for standard method of fire test for fire stop systems.

2.5 DIFFERENTIAL PRESSURE RECORDER(S):

A. Where interior / exterior work area containments are required, each shall have a minimum differential pressure of 0.025 inches of the water gauge at all times. Fluctuations below 0.025 inches of water column are unacceptable and may require temporary cessation of work until conditions are corrected.

B. Differential pressure recorder(s) shall be used to document the level of pressure difference between the containment space and all other spaces. Defective or non-operating instrumentation may require temporary cessation of work until instrumentation is repaired or replaced.

C. The differential pressure instrument will be checked a minimum of four times per day by a person familiar with the operation. Each check shall be documented with a time and date notation and the initials of the person performing the check. A copy of the differential pressure recordings shall be submitted daily to the consultant.

D. Differential air pressure systems shall be in accordance with Appendix J of EPA's "Guidance for Controlling Asbestos-Containing Materials in Buildings, EPA 560/5-85-024. The Differential pressure system shall be continuously monitored by the Contractor using a recording instrument. The recording instrument shall be connected to an audible alarm that will activate at a pressure differential of -0.025 inches of the water gauge air pressure.

2.6 VACUUM EQUIPMENT:

A. All vacuum equipment used in the work area shall use HEPA filtration systems and be of the wet-dry type. The Contractor shall provide on-site independent DOP-equivalent testing to document the effectiveness of the vacuum units. The test results shall be signed by the individual performing the testing. Provide documentation to the District or District's designated representative with 5 days of DOP-equivalent testing.

2.7 LOCAL EXHAUST SYSTEM:

A. Where containments are required, sufficient High Efficiency Particulate Absolute (HEPA) ventilation units shall be used to maintain the negative pressure in each interior work area at 0.025 inches of water column and a minimum of four (4) air changes per hour.

B. The ventilation system shall remain in operation 24 hours a day until the work area has passed the specified clearance criteria. HEPA filtered air which is exhausted to maintain negative pressure shall be exhausted from the building at locations approved by the consultant and District or District's designated representative. Exhausted air shall not be near or adjacent to other building intake vents or louvers or at entrances to buildings.

C. The Contractor shall provide on-site independent DOP-equivalent testing to document the effectiveness of the air filtration units. The test results shall be signed by the individual performing the testing. Repeat testing if the unit or the air filtration units have been repaired or replaced.

Provide documentation to the District or District's designated representative within 5 days of DOP-equivalent testing.

2.8 RESERVE EQUIPMENT:

A. Contractor shall have the following equipment on site: one reserve, functioning and DOP-tested HEPA Filter Vacuum Cleaning Units, three reserve and DOP-tested HEPA area filtration unit. Contractor shall also have sufficient polyethylene (poly), respirators, protective equipment, tape, tools, and decontamination enclosure systems for each work area.

B. Provide authorized visitors, District, Consultants or other contractors requiring access to the work area with suitable protective clothing, headgear, eye protection, as described in this specification, whenever the visitor must enter the work area. The Contractor shall have available and maintain adequate supplies of protective clothing and other suitable protective equipment for this purpose. All protective equipment shall be new and for the exclusive use of visitors.

C. The Contractor shall document that each visitor has been trained and fit-tested prior to entering an abatement area.

2.9 SCAFFOLDING:

A. Scaffolding, as required to do the specified work, shall meet all applicable safety regulations and Cal-OSHA standards. A non-skid surface shall be furnished on all scaffold surfaces subject to foot traffic. Scaffolding shall be adequately protected to prevent contamination of planking and framing.

2.10 TRANSPORTATION EQUIPMENT:

A. Transportation equipment, as required, shall be lockable and suitable for loading, temporary storage, transit and unloading of contaminated waste without exposure to persons or property. Any vehicle used to transport asbestos waste shall be properly registered with all applicable controlling agencies.

2.11 CONNECTIONS TO WATER SUPPLY:

A. Contractor shall assure that all connections to the site's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water shall not damage existing finishes or equipment.

B. Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system in each work area. Provide fittings as required to allow for connection to existing wall hydrants or spouts.

2.12 WATER HEATER:

A. The hot water supply must be adequate to allow for 15 minutes of continuous usage while maintaining a water temperature of 85°F. At minimum provide UL rated 40-gallon electric water heater to supply hot water for the decontamination unit shower. Provide relief valve compatible with water heater operation; pipe relief valve down to drip pan on floor with type L copper. Drip pans shall consist of a 24-inch X 24-inch X 6-inch-deep pan, made of 19-gauge galvanized steel with handles. Wiring of the water heater shall comply with NEMA, NEC and UL standards.

2.13 OTHER TOOLS AND EQUIPMENT:

A. The Contractor shall provide other suitable tools for the stripping, removal, and disposal activities.

B. Prohibited Equipment: The following equipment is prohibited from use on this project unless accepted in writing by the District or District's designated representative:

1. High or low-pressure water blasting equipment for hosing of work areas.
2. Bead blasting or other uncontained abrasive blasting methods.
3. Vacuum-powered removal or collection equipment located outside the asbestos work area, such as a “Vacu-Loader”.
4. Gasoline, propane, diesel or other fuel powered equipment inside the building, unless previously approved in writing by the District or District’s designated representative.
5. Equipment that creates excessive noise or vibration that would affect the safety of the building or generate complaints from neighboring building occupants. No equipment shall exceed an A-weighted sound level of 85 dB as measured at 3 ft. from the radiating source without written permission of the District or District’s designated representative.
6. Metal wire-brushes.
7. Flammable solvents with a flash point below 140 degrees F or materials containing ethylene glycol ether, methylene chloride, ethyl chloroform (1,1,1-trichloroethane), or other hazardous substances.
8. Non-fire retardant polyethylene sheeting.
9. Polyurethane spray foam for application in fire-rated assemblies, including but not limited to penetrations into stairwells, mechanical rooms, electrical closets, rated floor-to-floor assemblies, etc.

PART 3 - EXECUTION

3.1 INITIAL AREA ISOLATION

A. The District or the District’s designated representative reserves the right to inspect and approve all containment setups before any abatement is undertaken.

B. If a containment area is breached (failure of polyethylene seals, visible dust emission, fiber counts above background level, etc.), the Contractor shall take immediate action to control the breach and clean the area to the satisfaction of the District or the District’s designated representative.

C. If sample results indicate that conditions have exceeded the baseline or clearance criteria, as determined by the District or District’s designated representative, all work shall cease. Work shall not recommence until the condition(s) causing the increase have been corrected.

D. Verify that all electrical power, gas, control water, fire life safety lines and sprinkler systems to the work area have been isolated so that there is no possibility of reactivation and electrical shock.

E. Provide all connections for temporary utilities in the work area needed throughout abatement. Temporary electrical power shall be according to OSHA and the National Electrical Code for Wet Environments.

F. Contractor shall conform to lockout requirements and secure the work area at all times. Area entrances and exits shall be secured by the Contractor throughout the abatement phase. Unauthorized visitors are strictly prohibited. Only the District or District’s designative representatives are permitted at the job site. Contractor shall ensure that all doors, gates, windows, and potential entrances to the work areas and the designated waste location areas are secured and locked at the end of each workday.

G. Contractor shall store all materials, equipment, and supplies for the project inside the building or in areas designated by the District and in accordance with District requirements.

H. As required, establish designated limits for the abatement work area with continuous barriers. Provide signs around the perimeter of all the interior and exterior work areas according to EPA and Cal-OSHA.

I. The Contractor shall be responsible for identifying all HVAC components (if applicable) that lead into or out of the work areas. All components shall be disconnected and sealed airtight for the duration of the abatement work. All openings shall be sealed with two (2) layers of 6 mil polyethylene secured with duct tape or equivalent, as applicable.

J. Pre-clean the work area and fixed objects in the work area using HEPA filtered vacuums and/or wet cleaning methods. Protect fixed objects with protective barriers (as appropriate) and cover with 6 mil poly sealed with tape.

3.2 CONTAINMENT SET-UP PROCEDURES

A. Containment is required for removal of all interior ACMs. Contractor shall construct critical barrier containment(s). The work area(s) shall be placed under negative pressure as outlined in this specification throughout the abatement work. Note: A three-chamber decontamination unit will be required for removal of friable materials and if ACMs are removed by aggressive means or mechanical removal methods. Cover walls and floors with 6-mil poly and secure with tape (as appropriate).

B. Protect all walls scheduled to remain with 4 - 6mil poly within the regulated work areas.

C. Any disturbance of ACMs and materials with asbestos content must be performed within a regulated area. If dust or debris is generated from asbestos related activity, work must be performed in a mini-enclosure with negative pressure or critical barrier containment.

D. To permit the inspector to view the majority of the work area, the Contractor shall provide easily accessible viewing ports from the clean space into each abatement area. Viewing ports must be a minimum of 2' x 2', clear-see-through plastic with no scratches, tape or glue marks.

E. Pressure differential recorders are required to monitor the pressure differential in the work area. The recorders must be calibrated prior to arriving on site. Calibration shall be performed by qualified technicians following the procedures outlined by the manufacturers. Provide documentation of calibration before beginning work.

F. A three-chambered decontamination unit shall be required during abatement of friable ACM or abatement work conducted in full containment. A two-chamber decontamination unit will be required for critical barrier work areas. The unit shall be located immediately outside the contained area. A pre-fabricated unit is acceptable. Chambers shall be arranged as follows: (1) a clean/change room shall be the first chamber entered from outside the work area, (2) a shower shall be located between the clean/change room and the dirty/change room, and (3) a dirty/change room shall be the last chamber before entering the work area.

   1. The clean/change room of the worker decontamination unit shall be of sufficient size to accommodate the work crew and their belongings. It shall include a respirator storage area and be fully equipped with reserve equipment and materials such as clean suits, towels, soap, tape, and respirator filters.
   2. Worker decontamination unit walls shall be a minimum of two layers of 6-mil fire retardant poly and floors shall be constructed with a minimum of three layers of fire retardant poly. All entry and exit doorways shall consist of at least two sheets of overlapping, fire resistant poly. At no time shall the flapped doors be taped open to expedite material or personnel load-out.

G. All water from the shower and bag wash area shall be filtered to the technically feasible limit but not more than five (5) microns before disposal. In addition, the Contractor shall comply with all current local, state and federal codes relating to waste water release. All water connections must be verified for leaks and turned-off at the conclusion of each shift. All shower water shall be drained from the shower pan at the end of each shift.

H. A two-chamber decontamination unit may be allowed, unless noted elsewhere, during non-friable abatement work conducted in critical barrier containments. The unit shall be located immediately outside the contained area and shall contain a wash down area. A pre-fabricated unit is acceptable.

I. Approved fire extinguishers (Class ABC, multi-purpose, dry chemical type, rated: 4A; 60BC) shall be readily available to workers (maximum travel distance of 50 feet) inside and adjacent to work area(s). Personnel and emergency exits shall be clearly indicated on the inside of the containment area. The emergency exit plan shall be approved by the consultant prior to the set-up of any work areas.

3.3 PERSONNEL PROTECTION

A. Informed Workers:
   1. All workers shall be informed of the hazards of asbestos and ACMs and any other hazardous materials exposure present within the site. Workers shall also be instructed in the use and fitting of respirators, protective clothing, decontamination procedures, and all other aspects associated with the abatement work.

B. Personal Hygiene Practices:
   1. The Contractor shall enforce and follow good personal hygiene practices during the abatement of ACMs and materials with asbestos content. These practices will include but not be limited to the following: no eating, drinking, smoking or applying cosmetics in the work area. The Contractor shall provide a clean space, separated from the work area, for these activities.
   2. Workers shall remove street clothes in the clean room and put on a respirator and clean protective clothing before entering the work area. Upon exiting the work area, remove gross contamination from clothing before leaving the work area; proceed to the change room and remove clothing except respirators; proceed to the shower; clean the outside of the respirator with soap and water while showering; remove respirator and thoroughly wash. Following showering, proceed directly to the clean room and dress in street clothes. Do not wear disposable clothing outside the decontamination enclosure system.
   3. If data gathered by the consultant, District or District's designated representative in areas adjacent to the work areas shows exposure to airborne asbestos or other hazardous materials exceeding Cal-OSHA criteria, that area will become regulated and workers must wear protective clothing and approved respirators and must have a shower facility provided to them.

C. Respirators:
   1. Establish a respiratory protection program as outlined by ANSI and required by Cal-OSHA. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH). Respirators selected must be approved by the Competent Person. Submit program for review a minimum of five (5) working days prior to the commencement of abatement activities.
   2. Provide workers with approved and personally-issued respirators with replaceable filters. Provide sufficient quantity of filters approved by NIOSH for use in asbestos environments so that workers can change filters as required by the manufacturer.
   3. At a minimum, provide each employee with the following respiratory protection for each work phase:
      a. Pre-cleaning, containment set-up, and containment removal work: NIOSH-approved, half-face respirators with HEPA cartridges.
      b. Asbestos abatement of Category II Non-Friable ACMs: half-face respirators with HEPA cartridges and organic vapor cartridges (as necessary).
   4. At all times, respiratory protection selected shall, at a minimum, meet the requirements of the Table 1 below.

Table 1 – Respiratory Protection

Airborne Concentration of Asbestos	Required Respirator
Not in excess of 1.0 f/cc (10 X PEL)	Half-mask air purifying respirator other than a disposable respirator, equipped with high efficiency filters
Not in excess of 5.0 f/cc (50 X PEL)	Full facepiece air purifying respirator equipped with high efficiency filters

Not in excess of 100 f/cc (1,000 X PEL)	Any powered air purifying respirator equipped with high efficiency filters or any supplied air respirator operated in continuous flow mode
Not in excess of 100 f/cc (1,000 X PEL)	Full facepiece supplied air respirator operated in pressure demand mode
Greater than 100 f/cc or unknown concentration	Full facepiece supplied air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus

5. Provide Type C continuous flow or pressure-demand, supplied-air respirators if the average airborne concentration of asbestos exceeds 100 times the permissible exposure limit; i.e., 8-hour time-weighted average (TWA) and ceiling limit. Use the respirators presented in Title 8 CCR 1529 that afford adequate protection at such upper concentrations of airborne asbestos. When Type C Respirators are required provide the following:
   a. The air supply system shall provide Grade D breathing air that conforms to OSHA and ANSI Commodity Specification for Air.
   b. Compressed Air System for Type C Respirators shall be high pressure, with a compressor capable of satisfying the respirator manufacturer's recommendations. The compressed air system shall have compressor failure alarm, high temperature alarm, and a carbon monoxide alarm. It also shall have suitable in-line air purifying absorbent beds and filters to assure Grade D breathing air.
   c. Use of Belt: Type C respirators shall be worn with belt to minimize possibility of dislodging face mask when hose is snagged in the work area.

D. Protective Clothing:
   1. Provide personnel exposed to asbestos fibers with fire retardant disposable protective whole-body clothing, head coverings, gloves, and foot coverings. Provide appropriate gloves to protect worker’s hands from exposure to hazardous materials. Make sleeves secure at the wrists and make foot coverings secure at the ankles with tape. Ensure that all personnel entering and leaving the work area follow this procedure. Suits shall be of adequate size to accommodate the largest employee. Foot covers may be part of the coveralls. Non-disposable footwear shall be left in the work area until it is decontaminated or disposed of at the completion of the job.
   2. Protective clothing will be worn inside the work area after the area passes pre-abatement inspection and shall remain in use until the area passes final clearance inspection.

E. Eye Protection: Provide safety glasses or goggles to personnel removing or handling asbestos-containing materials and waste.

F. Shower Requirements: Contractor shall assure that all certified employees and visitors use protective equipment and the shower or wash down facility following each entry into the containment area after the start of the asbestos abatement.

G. Emergency Precautions and Procedures:
   1. Establish emergency and fire exits from the work area. Display necessary signage at exits and paths to exits with representative visual aids. A diagram of all emergency and fire exits shall be posted in a conspicuous area proximate to the entrance to each work area.
   2. The Contractor’s supervisor/competent person shall be trained and certified in first aid and CPR and be prepared to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or evacuated without delay for decontamination.

When an injury occurs, the Contractor shall implement fiber reduction techniques until the injured person has been removed from the work area.

3. In the event of a loss of negative pressure to the work area, work shall stop immediately and entrances to the work area sealed tight. The Contractor shall also institute fiber reduction controls until negative pressure is re-established to acceptable levels.

3.4 ASBESTOS REMOVAL (GROSS REMOVAL TECHNIQUE)

A. The Contractor shall abate all ACMs and materials with asbestos content identified in this specification and/or that require disturbance to complete work specified in other specification sections.

B. The Contractor shall continuously apply wetting agent throughout the removal process. The wetting agent shall be applied with a low-pressure fine spray to minimize fiber releases. The materials shall be thoroughly saturated so that there is no detectable fiber release. All ACMs shall be immediately packaged in leak-tight containers following removal.

C. Minimize removal activities of ACMs that generate airborne particulate. To the extent feasible, score or cut-out ACMs in sections, wetting along the scoring line continually, and misting the air with an airless sprayer to knock down suspended particulate. After completion of removal work, surfaces from which asbestos has been removed shall be brushed and/or wet cleaned to remove all visible material and residue.

D. Wet clean the exterior surfaces of waste containers in the equipment decontamination enclosure system prior to removal from the work area. Ensure that workers do enter from uncontaminated areas into contaminated areas in the equipment decontamination enclosure system. The Contractor shall transport asbestos-containing waste bags to the waste debris box at designated hours approved by the District or District's designated representative. RACM shall be packaged in a minimum of two (2) 6-mil polyethylene bags. Bags shall be properly labeled for RACM disposal including site-specific generator labels. Non-friable waste shall be packaged in clear, leaktight containers and properly labeled while stored on-site. Asbestos-containing debris and contaminated water shall be cleaned from the work area at the end of each work shift. The Contractor shall clean the work area using wet methods and HEPA vacuum equipment.

3.5 REGULATED AREA MONITORING

A. Prior to each work shift and continuously throughout the project, each containment and decontamination enclosure system shall be inspected and repaired as needed.

B. Ambient asbestos fiber levels outside each work area shall not exceed 0.01 f/cc (PCM) or 70 s/mm^2 (TEM) or background whichever is greater. If the asbestos fiber concentrations outside work areas exceed those levels shown above, then abatement must stop and operations be reviewed and modified until the fiber count can be reduced to within the acceptable limits.

3.6 AIR MONITORING

A. The purpose of any air monitoring that may be conducted by the District or District's designated representative will be to detect possible release of fibers or dusts (asbestos or lead) emanating from the work areas.

B. All PCM air sample analysis shall comply with NIOSH Method 7400. All TEM analysis shall be consistent with modified-AHERA protocols or NIOSH 7402.

C. The District or District's designated representative reserves the right to perform and/or observe final clearance inspection and sampling.

D. The method of analysis for pre-abatement and clearance air samples shall be via Phase Contrast Microscopy (PCM). The method of analysis for in-progress asbestos air samples shall be PCM and TEM at the option of the consultant and District or District's designated representative.

E. The Contractor shall be responsible for all personal air sampling. These samples shall be taken each shift and for each distinct crew operation and shall be used to verify adequacy of fiber control and respiratory protection. Personal breathing zone air sampling shall be in accordance with the Cal-OSHA asbestos standard. A minimum of 25% of the workforce shall be monitored during each shift. All sample results shall be available on-site within 24-hours of sample collection.

3.7 CLEARANCE INSPECTIONS

A. The consultant shall conduct visual inspections. Contractor shall notify the consultant when the decontamination process in each containment area is complete. Evidence of debris will require additional clean up by the contractor. Contractor shall be responsible for re-cleaning all areas found to be deficient.

B. If the consultant determines that the work area is sufficiently clean, the Contractor may proceed. If the consultant determines that certain areas require additional cleaning, the Contractor shall re-clean the work area and request a second inspection of the recleaned area.

C. Once the initial visual is passed, the Contractor shall remove all but the containment critical barriers.

D. Following the visual inspection, the Contractor shall provide a coating of non-diluted encapsulant in the work area. The Contractor shall allow the encapsulant to dry for the period specified by the manufacturer.

E. Asbestos Clearance Testing: Following encapsulation and drying time, the consultant shall conduct air clearance sampling. Clearance air sampling shall not take place until all encapsulant is dry. The District or District's designated representative reserves the right to approve the initiation of clearance sampling.

3.8 ASBESTOS CLEARANCE CRITERIA:

A. The clearance level per containment shall be less than 0.01 fibers per cubic centimeter via PCM or less than 70 structures per square millimeter via TEM. Aggressive air sampling shall be used for clearance purposes. Multiple samples shall be collected in large containment areas.

B. If air samples do not pass the required clearance criteria, the area shall be recleaned and new samples shall be collected by the consultant. The Contractor shall be responsible for all costs associated with re-sampling and re-analyses.

C. The consultant will notify the Contractor and District or District's designated representative in writing of acceptable asbestos fiber concentrations. The Contractor shall then remove all the remaining barriers in the work area.

3.9 ASBESTOS DISPOSAL

A. It is the responsibility of the Contractor to determine current waste handling, labeling, transportation and disposal regulations for the work site and for each waste disposal landfill. The Contractor must comply fully with these Specifications, local, state, and federal regulations and provide documentation of the same.

B. Ensure that polyethylene bags are sealed air-tight. All bags shall be wet cleaned prior to removing them from the equipment decontamination enclosure system.

C. Ensure all disposal containers are properly labeled according to 8 CCR 1529, 5194 (HAZCOM), 49 CFR 171-179 (USDOT), 40 CFR 61 Subpart M (NESHAP), and any local regulations and state regulations as required by this specification.

D. Filter all wastewater to the technically feasible limit, but not more than five (5) microns before disposal. Comply with all current local, state and federal codes relating to waste water release.

E. Asbestos-containing waste that is properly labeled and double-bagged may be temporarily stored in areas approved by the District. Areas must be made secure before storing the waste. Waste is not to remain in temporary storage area for longer than ten (10) days before final load-out of materials.

F. All friable asbestos waste shall be double-wrapped prior to transport from the site.

G. All vehicles used to transport hazardous waste must be registered with the Department of Toxic Substances Control and Department of Transportation and maintain proper registration and with vehicle at all times.

H. Trucks must have an enclosed cargo area with a storage compartment that is fully lined with a minimum of one (1) layer of 6-mil polyethylene on the walls and two (2) layers on the floor.

I. All vehicles and containers used to transport waste are subject to inspection and approval of District or District's designated representative prior to departure from site.

J. Contractor shall not throw bags into the truck in a way that may cause the bags to burst open.

K. Contractor shall provide at minimum two (2) days advance notification to the District when signatures are required on manifest(s). The Contractor shall ensure that the Hazardous Waste Manifest is correctly filled out. The Contractor shall give the appropriate copies to the District and shall also instruct the District in writing that they must send the appropriate copy to the Department of Toxic Substances Control.

L. Contractor is responsible for all coordination with the waste disposal site and with the waste hauling company.

M. Debris box for hazardous waste shall be fully lined with a double layer of polyethylene sheeting and must be locked at all times when unattended.

N. Debris box shall be constructed with minimum 20-gauge steel with no windows or openings other than the door. The door of the container shall have a secure cover on the locking device with access to the lock only at the key-hole. Once the debris box is filled and the manifest is signed, Contractor must transport the debris box off the job site.

O. Waste disposal shall be in a landfill approved by the District or District's designated representative that meets current federal EPA and state requirements.

TABLE I
ESTIMATED QUANTITIES
ASBESTOS-CONTAINING MATERIALS

HM# / Material Description	Material Location(s)	Waste Category	Asbestos Result	Estimated Quantity*
07 / Wooden Wall Paneling Mastic - Tan	Material is Present throughout Wooden Wall Systems on Each Level of the Structure. Ground & Second Levels: Wood paneling, wood furring trips and drywall	Cat. II	2% CH	5,000 sf
12 / Moisture Barrier Mastic - Black	Material is Limited to Concrete Perimeter Walls on the Ground Level of the Structure ***NOTE: Material is not scheduled for removal during this phase of demolition but will be disturbed during removal of the overlying wall materials and is included in the abatement scope of work.***	Cat. II	10% CH	NA
14 / Residual Board Adhesive – Tan	Material is Limited to Ground Level of the Structure at the Northern Partition Wall of the Main Lecture Area	Cat. II	>1% CH	2 sf
15 / Sink Undercoating - White	Material is Limited to a Single Sink at the Ground Level Northern Equipment Area	Cat. II	2% CH	3 sf
20 / Drywall with Joint Compound	Material is Limited to Perimeter Walls on the Ground Level of the Structure Behind the Wood Paneling	Cat. II**	Drywall: ND Joint Compound: 2% CH *Composite Wall System: <1.0% verified by 400-pt Point Count*	2,000 sf

None Detected, NA = Not Applicable, CH = Chrysotile, AM = Amosite, RACM = Regulated asbestos containing material (friable), Cat. I = Non-friable (note ACM must be reclassified as a RACM if rendered friable during removal), Cat. II = Category II Non-friable (note ACM must be reclassified as a RACM if rendered friable during removal), sf = square feet, lf = linear feet, ea = each,

NOTES:

* Estimated quantity should be field verified prior to abatement or abatement design

** Disposal of Drywall Wall System as Cat. II Non-Friable due to the material being contaminated with Wooden Wall Paneling Mastic

END OF SECTION

ATTACHMENT A
ASBESTOS ABATEMENT WORK PLAN OUTLINE

In accordance with the contract documents, the Contractor is required to prepare a written, site-specific Asbestos Abatement Work Plan, and submit to the Owner for approval prior to start of work. This plan is required for the contractor to meet Cal-OSHA requirements as well as the contract documents and shall describe work procedures and control methods that will protect the Owner's facilities and the environment.

I. Location of Work:
The work to be completed under this work plan will be completed at:
(Building name)
(Location within building)
Previous asbestos inspections or surveys have found that ACMs are present at the following locations:
(List all materials and locations to assure the Owner and the Contractor are aware of all hazardous materials locations)

II. Description of Work:
Describe the anticipated work scope

III. Schedule:

Phase/Task	Anticipated Date(s)
Mobilization	_____
Set-up of work area(s), containments	_____
Abatement	_____
Final Cleaning	_____
Visual Inspection	_____
Final Clearance (visual and air sampling)	_____
Teardown	_____
Demobilization	_____

IV. Equipment and Materials
List all equipment and materials to be used, such as the following:

HEPA Vacuums	Negative air filtration units
Scrapers	Manometers
Power saws	Shower facilities
Pry bars	Airless sprayers/compressors
Cutting shears	Cleaning detergents
Other hand tools	Solvents (must be approved by Owner)
Encapsulants/sealants	Roller/brushes
Gloves	Disposable coveralls
Respiratory protection	Eye & foot protection

V. Crew
List all workers and supervisors with emergency contact names and phone numbers.

Clearly identify the supervisor and competent person who have authority for all safety and health.

VI. Control Measures and Work Practices

Describe in narrative format specific work procedures, exposure/ contamination controls, and engineering controls. This description should include, but not be limited to, the following:

OSHA Class I, II, III and IV work
Negative pressure enclosure
Respiratory protection
Mini-containments
List other procedures
Wet methods
Glovebag removal
HEPA vacuums
Solvent removal of mastic

VII. Respiratory Protection and Protective Clothing/Personal Protective Equipment

List all respiratory protection including types and manufacturers which are anticipated for this project. Identify the phases of the project for which respirators will be required or likely to be required. List all personal protective equipment anticipated to be used on the project.

VIII. Decontamination/Hygiene Facilities

Identify the types and locations of decontamination or hygiene facilities to be used on this project. Specify use of disposable towels, soap, hot and cold water, and other supplies. Specify the required use of the facilities, including use of the facilities prior to eating, drinking, smoking and before leaving the project site. Describe handling or treatment of asbestos-contaminated solid waste and wastewater.

IX. Air Monitoring Data

Identify general worker air monitoring protocols to be followed on this project, including worker category classifications, frequency of monitoring, anticipated laboratory to be used for analysis, pump calibration techniques, etc. Identify the competent person responsible for conducting personal air monitoring.

X. Containment Diagram

Include a diagram (hand written is acceptable) of the containment(s) showing the containment perimeter in relation to the surrounding areas, locations of negative air machines and exhaust locations, direction of airflow, and decontamination areas.

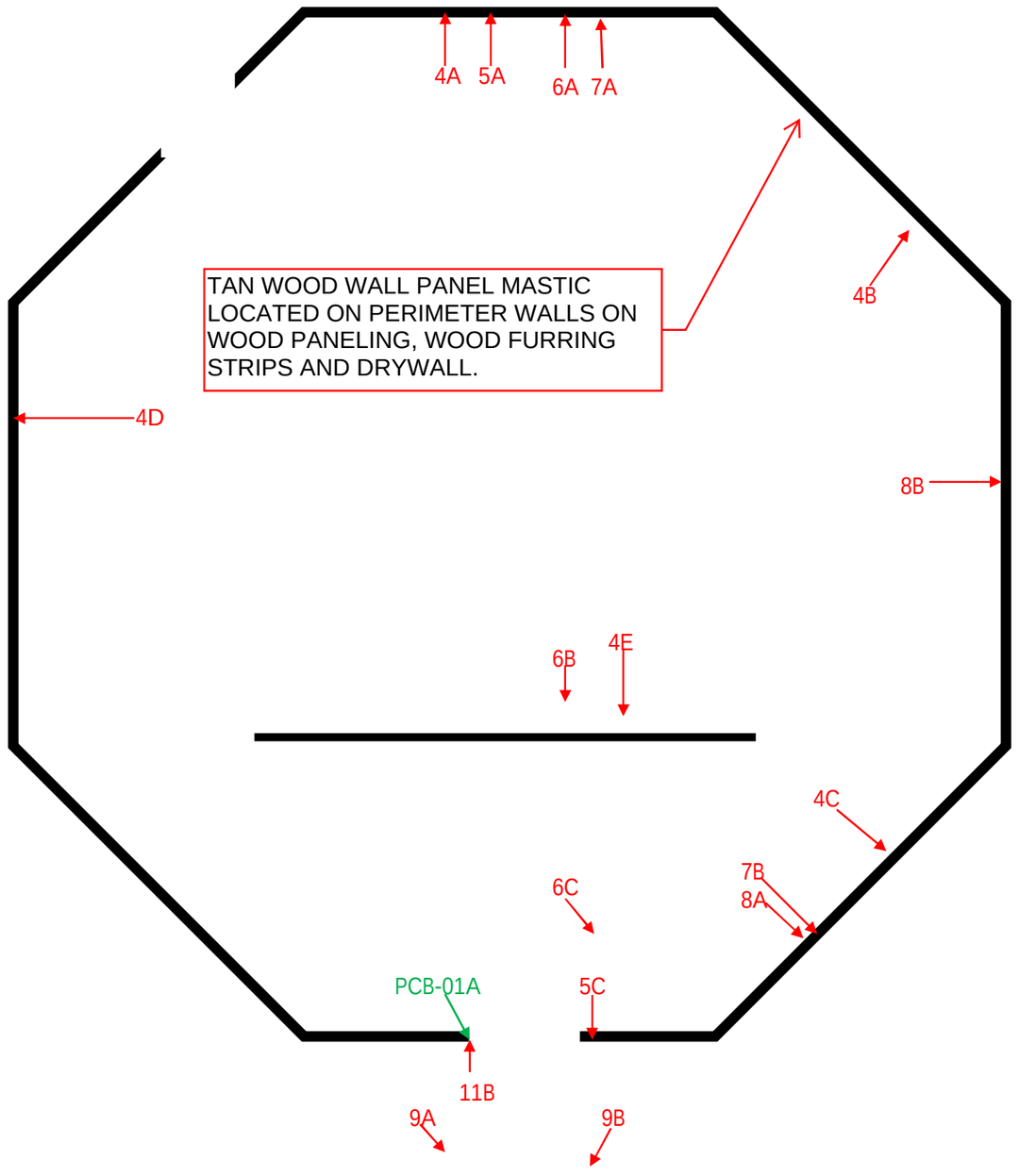
XI. Waste

Describe how all waste on this project will be packaged, labeled, stored, transported, manifested and disposed

XII. Preparation of Asbestos Abatement Work Plan

Date Prepared and Prepared By (signature, name and title)

Other Hazardous Materials
1 Exit Sign



N
Not to Scale

Terracon

Diablo Valley College
Arts Building

Limited Pre-Demolition
Hazardous Materials
Survey

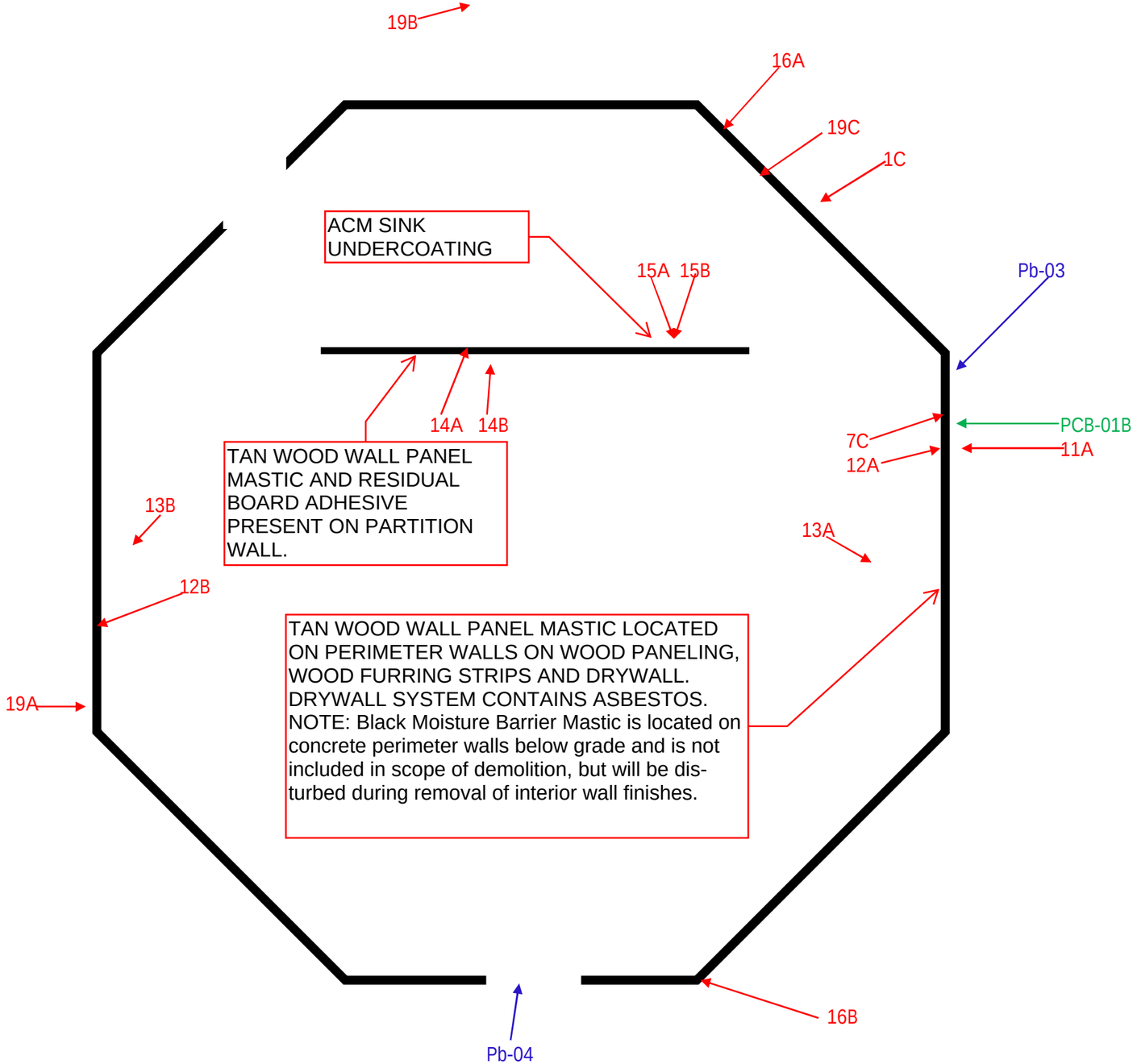
321 Golf Links Road
Pleasant Hill, California

Date	Drafted By
August 2022	WMF
Project Number	**Checked By**
R1227470	SPS

Sheet Name
Site Diagram - 2nd Floor

Sheet Number
Figure 2

Other Hazardous Materials
2 Exit Signs
120 4' tubes
60 ballasts s



N
Not to Scale

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Sheet Name
Site Diagram - Ground Level

Sheet Number
Figure 3

PERIMETER WALL ON GROUND LEVEL OF ART GALLERY

SECTION 02 83 00
LEAD-CONTAINING PAINT REMOVAL AND LEAD-RELATED CONSTRUCTION

PART 1 - GENERAL

1.1 SUMMARY OF LEAD RELATED WORK

A. General. This section involves the requirements for removal and/or disturbance of painted components that contain detectable quantities of lead. Existing building materials and components with paint coatings considered to be lead containing paint (LCP) include, but are not limited to, tan paint on exterior wood walls and orange paint on wood doors of the Art Gallery. All painted surfaces not specifically tested shall be assumed to contain lead. No bulk building materials are known to be lead containing. The intent of this work and the required procedures is to minimize lead emissions and contamination resulting from demolition and dismantling of the building and equipment, refinishing and construction related activities that will impact lead containing materials.

B. Lead-Related Construction Work: The Contractor's lead related construction work consists of any work activity or task which results in the coincidental removal or disturbance of paints, surface finishes, or other lead containing materials. The Contractor shall determine and implement applicable OSHA worker protection requirements (8 CCR1532.1) and ensure proper clean up and disposal of any resulting paint chips and lead wastes resulting (including water) from all lead-related construction activities including, but not limited to, the following:

1. Removal of all damaged or peeling paint from painted interior and exterior building materials.
2. Removal of intact paint from mechanical components and structural steel prior to hot work.
3. Demolition of plaster, drywall, wood, metal, concrete, etc. with lead containing paint.
4. Demolition that will impact existing painted surfaces including but not limited to drilling, cutting, removal of existing of attachments (electrical, mechanical, structural.).

C. Specific Scope of Work: Lead-related construction work scope as described above shall include the following structures:

Art Gallery Building – Demolition of building components with lead containing paint surfaces. Extent of removal must be coordinated with contract documents.

Results of the lead sampling for the project site are included at the end of this specification section. All paint suspected to contain lead that were not specifically sampled should be assumed to contain lead.

1.2 REGULATIONS

A. The Contractor shall comply with the requirements of the current issue of the following regulations and guidelines governing lead removal, lead-related construction and disposal and other applicable Federal, State, and Local Government regulations. The regulations listed herein are incorporated by reference.

1. Code of Federal Regulations (CFR):
   a. 29 CFR 1926, Construction Standards
   b. 29 CFR 1926.62, Lead in Construction
   c. 29 CFR 1910.94, Ventilation
   d. 29 CFR 1910.134, Respiratory Protection
   e. 29 CFR 1910.1025, Lead
   f. 29 CFR 1910.1200, Hazard Communication
   g. 29 CFR 1926.55, Gases, Vapors, Fumes, Dusts, and Mists
   h. 29 CFR 1926.57, Ventilation
   i. 40 CFR Part 50.12, Ambient Air Quality Standard for Lead
   j. 40 CFR Parts 260, 261, 262, 263, 264, 265 and 268, Hazardous Waste Management
   k. 49 CFR Parts 172, 173, 178, 179, Hazardous Material Transportation
2. California Code of Regulations:
   a. 8 CCR Division 1, Chapter 4, Subchapter 4, Construction Safety Orders

b. 8 CCR 1532.1, Lead in Construction
c. 8 CCR 1537, Welding, Cutting, and Heating of Coated Metals
d. 8 CCR 5144, Respiratory Protection
e. 17 CCR 35001 – 36100, Accreditation, Certification, and Work Practices for Lead-Based Paint and Lead Hazards
f. 26 CCR Division 22, Hazardous Waste

3. Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing, U.S. Department of Housing and Urban Development (HUD), June 1995.

1.3 DEFINITIONS

A. Definitions specific to the work of this section:

1. Abatement: Procedures for control of lead exposures to the Contractor's workers, District Employees, Public and the environment by removal, enclosure, and/or encapsulation of lead containing paints (LCPs), Lead Containing Construction Materials (LCCMs), and LCP coated components and proper clean up and disposal of resulting lead contaminated dust, chips, debris, and abatement wastes. Also include procedures for control of lead exposures resulting from welding or other hot work on surfaces with LCPs or residues.
2. Action Level (AL): An exposure of 30 µg/m3 of airborne lead as an 8-hour TWA. When the AL is met or exceeded, certain protective health and safety measures are triggered per 8 CCR1532.1 Lead.
3. Action Levels for Lead Content: The levels of lead concentration established for each type of analysis performed, which if the lead concentration equals or exceeds the action levels specified herein, renders the material hazardous.
   a. Action Level for Toxicity Characteristic Leaching Procedure (TCLP) by EPA 200.7: Action level for TCLP is 5.0 milligrams per liter.
   b. Action Level for Total Threshold Limit Concentration (TTLC) by EPA 6010: Action level for TTLC is 1,000 milligrams per kilogram.
   c. Action Level for Soluble Threshold Limit Concentration (STLC) by EPA 200.7: Action level for STLC is 5.0 milligrams per liter.
4. Airlock: A system for permitting ingress or egress with minimum air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least three feet apart.
5. Air Monitoring: The process of measuring the lead content of a specified volume of air in a stated period of time.
6. Area Monitoring: Sampling of lead concentrations within the lead control area and inside the physical boundaries which is representative of the airborne lead concentrations that may reach the breathing zone of personnel potentially exposed to lead.
7. Authorized Visitor: District or District's Representative, Architect, Contractor's Observation Service, or a representative of any regulatory or other agency having jurisdiction over the project.
8. Change Room and Shower Facilities: Rooms within the designated boundary around the lead control area equipped with separate storage facilities for clean protective work clothing and equipment and for street clothes which prevent cross-contamination.
9. Clean Room: An uncontaminated area or room which is part of the worker decontamination enclosure system, with provisions for storage of workers' street clothes and protective equipment.
10. Competent Person: An onsite supervisor who has been formally trained in lead abatement and who is capable of identifying lead hazards, substandard and improper lead abatement controls, procedures, practices, and conditions and who has sufficient experience and authority to take prompt corrective measures to eliminate them.
11. Decontamination Room: Room for removal of contaminated personal protective equipment (PPE).
12. District: Contra Costa Community College District
13. District's Observation Service: Consultant retained by the District to inspect work areas, and collect environmental samples (air, bulk, waste).

14. DOP Test: Test of a High Efficiency Particulate Absolute filter (HEPA) system to verify that a minimum of 99.97% of all particles 0.3 microns in diameter are captured by the filter system test must be conducted with dioctylphthalate (DOP) test aerosol in accordance with ANSI Z9.2 1979 and Federal Standard 209 B for Class 100 air and as indicated in UL 586.
15. Eight-Hour Time Weighted Average (TWA): Airborne concentrations of lead averaged over an 8-hour workday to which an employee is exposed.
16. Fixed Object: A unit of equipment or furniture in the Work Area which cannot be removed from the Work Area.
17. Hazardous Waste: Lead paint debris and materials shall be classified as hazardous due to the characteristic of toxicity, as determined by testing in accordance with the California Code of Regulations, Title 22, Division 4, Chapter 30, Article 11. Any substance(s) listed in Article 11 Section 66699 at concentrations greater than their listed Soluble Threshold Limit Concentration (STLC) or Total Threshold Limit Concentration (TTLC) may need to be further characterized by the Toxicity Characteristic Leaching Procedure (TCLP) in accordance with 40 CFR 261 and other tests prior to disposal as a hazardous waste.
18. HEPA Exhaust System: A portable local exhaust system equipped with HEPA filtration and capable of maintaining a constant, low velocity air flow into contained contaminated areas from adjacent uncontaminated areas when used as Differential Pressure Equipment. Also capable of use as local exhaust to control lead fumes generated from hot work.
19. HEPA Filter: A High Efficiency Particulate Absolute (HEPA) filter capable of trapping and retaining 99.97% of lead particles greater than 0.3 microns in diameter.
20. HEPA Vacuum Equipment: High efficiency particulate air filtered vacuuming equipment with a filter system capable of collecting and retaining lead dust. Filters shall be certified to be of 99.97% efficiency for retaining particles of 0.3 microns diameter or larger.
21. Intact LCP Components: LCP components removed substantially intact with LCP firmly adhering to the surface. Examples are door, door trim, baseboards, etc., with intact paint. Also referred to as architectural debris with intact paint.
22. Lead Based Paint (LBP): Lead Containing Paint (LCP) that is at least 0.5% lead by weight when analyzed by AAS or ICP AES (equivalent to 5000 ppm of lead) or 1.0 milligrams of lead per square centimeter (mg/cm2) as determined by XRF testing or as identified by specification. LBP is also a Lead Containing Construction Material (LCCM).
23. Lead Containing Construction Materials (LCCM): Any construction material: (l) containing lead at analytically detectable levels greater or equal to 50 ppm; or (2) containing paints or other finishes with lead at levels greater than 600 ppm; or (3) consisting of paints containing lead at any level capable of posing an occupational or environmental hazard during any phase or process of the current construction or demolition project. Occupational hazards shall be considered evident when airborne exposure levels exceed or are likely to exceed the permissible exposure level (PEL) set by Cal/OSHA. Environmental hazards shall be considered evident when lead surface contamination levels exceed 800 µg/ft2 on Work Area surfaces and/or when any of the State or Federal hazardous waste criteria for lead is met or exceeded.
24. Lead Containing Paint (LCP): Any paint or finish coating with a lead content of 0.06% lead or greater. Cal/OSHA regulation requires assessment of employee exposure for all tasks where lead is present at this level or higher. Note: At lead levels below 0.06% exposure assessments are still required for "Trigger Tasks".
25. Lead Control Area: An enclosed area or structure with full containment to prevent the spread of lead dust, paint chips, or debris of LCP removal operations. The lead control area is isolated by physical boundaries to prevent unauthorized entry of personnel.
26. Lead Related Waste: Paint chips, vacuum dust, and debris, used cleaning articles, waste water, plastic sheets and other disposable items which were used during the LCP abatement process and as a result are considered lead contaminated waste or assumed hazardous waste pending further characterization.
27. Lead Impacted Construction: Any construction activity, excluding abatement, which disturbs lead or lead containing paints or coatings and which may, under specific circumstances, result in worker and or environmental exposure.

28. Lead Related Construction: Any construction activity or process, including but not limited to lead abatement, LCCM (i.e. paint) removal, lead impacted construction, or welding on lead containing surfaces which may expose workers, building occupants, or the environment to a release of airborne lead or surface lead contamination.
29. Mini containment or Mini enclosure: A small temporary enclosure constructed of impervious material (such as plastic sheeting) with at least one airlock to permit ingress and egress. The entire Work Area is contained or enclosed by this system to prevent the escape of contamination outside the Work Area.
30. Permissible Exposure Limit (PEL): An exposure to airborne lead of 50 micrograms of lead per cubic meter of air (50 µg/m3), averaged over an 8-hour workday which is referred to as a time weighted average (TWA). This is the highest level of Lead in air an employee can be permitted to be exposed to in an eight-hour work day. For longer work days, the PEL is lowered and can be determined by dividing 400 by the number of hours worked per day. When the PEL is exceeded, the Contractor must take action to lower the exposure level and protect the worker per 8 CCR1532.1 Lead.
31. Personal Monitoring: Sampling of lead concentrations within the breathing zone of an employee to determine the 8-hour TWA concentration in accordance with Title 8 CCR 1532.1. Samples shall be representative of the employee's work tasks. Breathing zone shall be considered an area within a hemisphere, forward of the shoulder, with a radius of 6 to 9 inches and the center at the nose or mouth of an employee.
32. Physical Boundary: Area physically roped or partitioned off around an enclosed lead control area to limit unauthorized entry of personnel. As used in this section, "inside boundary" shall mean the same as "outside lead control area".
33. Qualified Person: The individual identified by the Contractor to be responsible for conducting air sampling, calibration of air sampling pumps, evaluating sampling results, and conducting respirator fit tests.
34. Recognized Training/Educational Institution: University, college, Steel Structures Painting Council, or a professional training organization funded by or meeting U.S. Environmental Protection Agency (EPA) and/or California Department of Public Health (DPH) training accreditation requirements for contractors performing lead-based paint or construction related work that exceeds the Department of Occupational Safety and Health (DOSH) Permissible Exposure Limit (PEL) for lead.
35. Removal: All herein specified procedures necessary to remove and clean up all LCCM or LCP from the designated areas and to dispose of these materials at an acceptable site in accordance with Federal, State and Local Regulations. Removal of LCP may be by whole painted component or by removing LCP from painted components either onsite or offsite.
36. District's Representative: Consultant retained by the District.
37. Trigger Task: Task specifically identified by the CAL/OSHA Lead standard as a potential exposure hazard requiring certain protective measures to be implemented prior to obtaining the results of an initial exposure assessment. Trigger tasks include, but are not limited to, any of the following tasks when materials or paints which contain lead are present and will be disturbed:
    a. Manual demolition
    b. Manual scraping or sanding
    c. Heat gun application
    d. Use of power cleaning tools
    e. Rivet busting
    f. Abrasive blasting
    g. Welding, cutting or torch burning
38. Visually Clean: Free of visible dust, paint chips, dirt, debris, or films removable by vacuuming or wet cleaning methods specified. For outside soil or ground cover areas, visually clean shall mean free of construction or paint debris, chips or dust distinguishable from the initial soil or ground conditions.
39. Washroom: A room or area established outside the Work Area for hand washing at minimum. Where the lead PEL is exceeded, the wash room shall contain a shower facility with hot and cold water and a water filtering system.

40. Wet Cleaning: The process of eliminating lead contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been washed with specified detergent solutions and rinsed with clean water.
41. Work Area: A designated and controlled area in which lead abatement actions are undertaken or which may become contaminated as a result of such actions. A Work Area is a controlled area delineated at minimum by barrier tape (or similar means) and signage to restrict access to Authorized Personnel. In some instances, a higher degree of physical isolation and control may be required and specified.

1.4 SUBMITTALS AND NOTICES

A. Requirements are as set forth in the General Conditions and Division 1, for items required to be submitted under this section.

B. Product data shall include manufacturer's product data, specifications, samples and application instructions and other pertinent information necessary.

C. Project procedure submittal for LCP coating removal. Submit the following:
   1. Detailed work plan for all lead-related paint removal including:
      a. removal method to be employed;
      b. lead contamination controls for each different type of method or work operation involving lead containing paint removal;
      c. equipment and materials proposed to be used on LCP coatings;
      d. the procedures and practices for protection of building occupants and the environment; and
      e. detailed description of Work Area preparation and containment controls for lead-related construction work, cleaning and decontamination procedures, signage, and security measures.
   2. Detailed plan for disposal of lead contaminated wastes generated by this work in accordance with all applicable Federal, State and Local regulations. Each separate waste stream should be addressed including name of waste stream, methods of handling, packaging, labeling, storage, transportation, and disposal or recycling. For materials to be disposed, indicate the classification of the waste (RCRA hazardous, California hazardous or non-hazardous).
   3. Method of transport of hazardous waste including name, address, EPA I.D. number, and telephone number of the transporter and the name, class, address, EPA I.D. number, and telephone number of hazardous waste site(s) to be utilized for disposal of each waste stream.
   4. Proposed location, size and type of secured waste storage containers to be used. Include system that will be used for segregating different waste streams.
   5. Detailed schedule for completion of lead-related construction work to be updated on a weekly basis indicating tasks being performed until job completion.
   6. Detailed plan for protection of workers conducting lead-related construction work which includes all information required for the CAL/OSHA lead compliance plan per Title 8 CCR 1532.1. At minimum, for each removal method, the plan shall detail protective clothing and equipment and procedures and worker decontamination facilities and procedures.

D. Project Procedures Submittal for Hot Work on LCP Surfaces
   1. Detailed work plan for containment and removal of lead containing paint, capture of fumes from all hot work including welding and torch cutting on painted structural steel or painted mechanical components. Include equipment and materials proposed to remove paint, capture, HEPA filter, and exhaust all lead containing fumes for protection of workers, building occupants, and the environment.
   2. Cal/OSHA lead compliance plan for welders per 8 CCR 1532.1 Lead.
   3. Daily air monitoring plan to verify that airborne lead levels do not exceed the specified limits in any occupied areas of the building.

E. Project procedure submittal for lead-related construction demolition (e.g. removal of plaster, drywall, wood, stucco, etc. with LCP, cutting and demolition of concrete, demolition of painted mechanical components). Submit the following:

1. Detailed work plan for all lead-related construction including:
    a. removal method to be employed;
    b. lead contamination controls for each different type of method or work operation involving lead containing materials;
    c. equipment and materials proposed to be used on lead containing materials;
    d. the procedures and practices for protection of building occupants and the environment; and
    e. detailed description of Work Area preparation and containment controls for lead-related construction work, cleaning and decontamination procedures, signage, and security measures.
2. Detailed plan for disposal of lead contaminated wastes generated by this work in accordance with all applicable Federal, State and Local regulations. Each separate waste stream should be addressed including name of waste stream, methods of handling, packaging, labeling, storage, transportation, and disposal or recycling. For materials to be disposed, indicate the classification of the waste (RCRA hazardous, California hazardous or non-hazardous).
3. Method of transport of hazardous waste including name, address, EPA I.D. number, and telephone number of the transporter and the name, class, address, EPA I.D. number, and telephone number of hazardous waste site(s) to be utilized for disposal of each waste stream.
4. Proposed location, size and type of secured waste storage containers to be used. Include system that will be used for segregating different waste streams.
5. Detailed schedule for completion of lead-related construction work to be updated on a weekly basis indicating tasks being performed until job completion.
6. Detailed plan for protection of workers conducting lead-related construction work which includes all information required for the CAL/OSHA lead compliance plan per Title 8 CCR 1532.1. At minimum, for each removal method, the plan shall detail protective clothing and equipment and procedures and worker decontamination facilities and procedures.

F. Lead Paint Removal Personnel Qualification and Protection Submittal. Submit the following:
1. Employee training certifications demonstrating that all employees engaged in LCP removal or hot work activities have attended formal lead hazard and lead related construction training by a Recognized Training/Educational Institution. All training for other lead related construction activities shall be in accordance with the worker training provisions in the CAL/OSHA and California Department of Public Health (DPH) lead regulations and this specification:
    a. The minimum acceptable training course duration is 40 hours for the Contractor's lead abatement Supervisor/Competent Person and all workers conducting removal of LCP.
    b. The minimum training course for workers conducting other lead related construction work shall meet all requirements of 8 CCR1532.1, Lead. Documentation shall consist of training institution certificates or certification by trainer for each employee with dates trained and a copy of the training syllabus.
    c. Updated information shall be provided in advance of on-site lead worker personnel changes.
2. Documentation that all employees engaged in lead-related construction activities or the "Trigger Tasks" have had the appropriate medical examinations specified in Title 8 CCR1532.1 within the prescribed time periods immediately preceding project start up. It shall be the Contractor's responsibility to secure any and all medical and exposure information releases required for employee records in accordance with regulation. Evidence of medical requirement compliance shall include, but are not necessarily limited to:
    a. Documentation of medical surveillance examination by a licensed medical physician prior to commencement of onsite LCP related work including baseline blood lead levels performed within the last six (6) months.
    b. Statement by the examining physician that employee is fit to wear a respirator in accordance with 8 CCR 1532.1 within the last twelve (12) months.
3. Documentation that all employees required to wear respirators has passed respirator fit tests within the past twelve (12) and has been assigned individual respirators which fit them.
4. Methods, procedures and plan for monitoring employee airborne lead exposure during lead abatement activities. Methods and procedures, at a minimum, shall comply with requirements outlined in Title 8 CCR 1532.1 Lead.

G. Lead Related Construction and Equipment Submittal. Submit the following;
   1. Calibration data showing where secondary standards (rotameter) for personal air monitoring equipment have been calibrated from a primary standard within the last 30 days from the date of submittal.
   2. Product data sheets and safety data sheets (SDSs) for each product proposed for use on this project such as wetting agents, chemical paint removers, detergents, adhesives, and abrasives.
   3. Manufacturers certification that HEPA vacuums, HEPA ventilation equipment, and other equipment required to contain airborne dust and fume conform to ANSI Z 9.2
   4. Certification that HEPA filter exhaust systems have been DOP tested in place after installation and been found to provide 99.97% efficient air cleaning for particulates greater or equal to 0.3 microns in diameter. All DOP filter certification testing shall be conducted on site by an independent testing firm.

H. Lead Related Construction/Paint Removal Daily Submittal. Submit the following documentation daily to the District's Observation Service within 24 hours of initiation:
   1. An accurate daily entry log or roster of all authorized personnel entering and exiting the Work Area.
   2. Copies of initial and periodic personnel air monitoring laboratory results and calculated eight-hour time weighted average results for each employee monitored shall be provided within 48 hours of sample collection.
   3. Provide District's Observation Service at least 24 hours' notice prior to scheduling startup of each different by type of lead related construction operation including chemical paint removal, manual demolition of paint finishes or equipment, and hot work on lead containing surfaces (as applicable).
   4. Updated training and medical certifications (as required herein) shall be provided prior to assignment of new personnel and for existing personnel prior to the stated allowable time limits or expiration dates. The allowable intervals since the last medical examination (12 months), blood lead test (6 months), or fit test (12 months), shall not be exceeded.

1.5 DISTICT'S OBSERVATION SERVICE

A. The District's Observation Service is authorized to provide lead removal and lead related construction compliance observation and monitoring, testing, and technical oversight services including, but not limited to:
   1. Airborne lead monitoring to evaluate the effectiveness of the Contractor's lead dust and fume control work practices, procedures, and dust containment methods. The results from this monitoring shall be used to evaluate the Contractor's personal monitoring data and to evaluate the Contractor's compliance with occupational and environmental regulations.
   2. Visual inspections to verify if the Contractor has met the requirements for various phases of the lead related construction process including Work Area preparation, removal, and clean up and decontamination.
   3. Classify the typical waste streams produced by lead-related construction work according to existing California hazardous waste criteria by laboratory analysis.

B. The District's Observation Service will perform the following, as applicable:
   1. Inspect the preparation of work areas prior to lead-related construction work.
   2. Review the Contractor's initial and periodic lead exposure air monitoring results.
   3. Inspect paint removal on painted steel prior to hot work.
   4. Periodically, inspect lead-related construction work areas.
   5. Conduct a post work visual inspection of all work areas and wipe testing if requested by the District.
   6. Verify waste stream testing produced by lead-related construction work according to existing California hazardous waste criteria by laboratory analysis.

1.6 CONTRACTOR'S COMPLIANCE AND QUALITY ASSURANCE

A. The Contractor shall have a Competent Person onsite at all times while lead-related construction work is in progress. The Contractor's Competent Person shall communicate and coordinate with the District's Observation Service with regard to work schedule, inspections, daily submittals, and compliance issues.

B. The Contractor's Competent Person shall:
   1. Ensure the Contractor's compliance with the plans, specifications, and work plans.
   2. Conduct worker exposure monitoring using a Qualified Person and provide results to the District's Observation Service.
   3. Pre-inspect Work Areas for compliance and completion prior to notifying the District's Observation Service of the Work Area's readiness for inspection.
   4. Accompany the District's Observation Service during Work Area pre-start and clearance inspections upon request.
   5. Ensure all of the Contractor's lead related construction workers have current valid medical, blood lead test, training, and respirator fit testing records where required and provide copies of all new or updated records to the District's Observation Service for approval before assigning the workers to any work within Work Areas.
   6. Take timely and appropriate corrective actions to ensure compliance with the lead-related construction specifications and to eliminate unsafe, unhealthy, and environmentally unsound work practices regardless of whether or not they are brought to the Contractor's attention by the District's Observation Service.
   7. Adhere by the initial characterization of waste for proper packaging, labeling, storage, transportation, and disposal of waste. Ensure any additional waste testing required is completed and ensure proper storage, shipping and timely disposal of all hazardous waste.

PART 2 - PRODUCTS

2.1 PROTECTIVE COVERING

A. Polyethylene sheets, fire resistant, of 6 mil thickness in size (dimensions) to minimize the frequency of joints.

2.2 CLEANERS

A. For cleanup and decontamination, a tri-sodium phosphate (TSP) wash solution containing at least five percent (5%) TSP shall be used. Alternative cleaning and decontamination agents shall be subject to approval by the District's Observation Service and District's Representative.

2.3 TAPE

A. Duct tape (or approved equivalent) two (2) inches or wider, capable of sealing joints of adjacent sheets of polyethylene sheeting and for attachment of polyethylene sheeting to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions.

2.4 CHEMICAL PAINT REMOVAL SYSTEMS

A. Chemical paint removal systems shall be selected on the basis of the type of paint/coating to be removed, the substrate type, and chemical compatibility with new coating systems to be applied. Chemical removal systems shall effectively remove paint without adversely affecting the treated surface's suitability for repainting or adversely affecting the bonding, appearance or durability of the coatings to be applied.

B. Chemical paint removal systems containing methylene chloride are prohibited.

C. Submit manufacturer's product data sheets for each chemical remover for review and evaluation by the District's Observation Service and District's Representative. All chemical paint remover products are subject to approval by the District's Observation Service and District's Representative.

2.5 SPRAY ADHESIVE

A. Provide spray adhesive in aerosol cans which is specifically formulated to stick to sheet polyethylene.

2.6 DISPOSAL CONTAINERS

A. Provide six (6) mil thick polyethylene sheeting, six (6) mil leak tight polyethylene bags and other impervious containers as required by applicable regulations. All waste shall be labeled as hazardous or potentially hazardous waste unless proven otherwise by appropriate sampling and laboratory analysis.

B. All hazardous waste shipping containers shall meet applicable DOT requirements.

2.7 WARNING SIGNS AND LABELS

A. Caution Signs: To be minimum of 20 x 14 inches and includes phrase "Caution Lead Hazard, Keep Out Unless Authorized" in minimum two-inch-high letters. These shall be posted at each approach to each lead or removal Work Area or area where lead related construction hot work is conducted.

B. CAL/OSHA Lead Warning Posters: "Warning Lead Work Area, Poison, No Smoking or Eating" shall be posted at the entrance to each Work Area.

C. Labels: Hazardous waste shall be labeled according to Federal, State and Local regulations including, but not limited to, the California Code of Regulations, Title 22, Chapter 30 and the U.S. Department of Transportation 49 CFR Parts 172, 173, 178 and 179.

2.8 PERSONAL PROTECTIVE EQUIPMENT

A. Personal protective equipment shall comply with the requirements of Title 8 CCR 1532.1 Lead.

B. Minimum protective clothing and equipment for lead-related construction work shall consist of fire retardant, disposable, full body coveralls, disposable boots, gloves, or equivalent in accordance with ANSI Z41. Sleeves at wrists and cuffs at ankles shall be secure.

C. Eye protection and hard hats shall be available and worn at all times and shall conform to ANSI 87.1 and ANSI 89.1

D. The Contractor shall provide Authorized Visitors with suitable disposable protective clothing, headgear, respirators, and footwear whenever authorized visitors are required to enter the Work Area. Up to an average of ten sets per day of suitable personal protective equipment shall be made available for authorized visitors.

E. All disposable clothing worn during each work shift shall be removed prior to exiting the Work Area and shall be properly segregated and placed in container for proper waste characterization. The Contractor shall bear full responsibility for additional costs associated with waste profiling and disposal if wastes are not properly segregated.

2.9 RESPIRATORS

A. Provide workers with personally issued respiratory equipment approved by NIOSH and suitable for the lead exposure level in the Work Area. Where respirators with disposable filters are employed, provide sufficient filter for replacement as required by the worker or applicable regulation. Each respirator shall be washed whenever the worker wearing it showers or at least daily prior to storage. The following general conditions shall apply to respirator use:

1. All respirators used must be certified by NIOSH and a respirator program shall be established and implemented.

2. Respirators shall be used whenever airborne lead concentrations will exceed, or are likely to exceed, 50 µg/m3, and for any of the Trigger Tasks which have not been demonstrated to be below the PEL by initial monitoring, and for all operations involving the removal of LCP or welding on surfaces with paint or lead contamination regardless of airborne lead concentrations.
3. Prior to initial monitoring, the level of protection shall follow CAL/OSHA requirements for the specific Trigger Task. Otherwise, the respirators worn shall be selected based on measured or reasonably expected airborne concentrations of lead as follow:
    a. Half face negative pressure air purifying respirator: up to 500 µg/m3
    b. Powered air purifying respirators: up to 50,000 µg/m3
    c. Type C supplied air respirator full face piece pressure demand mode: up to 100,000 µg/m3
4. Disposable respirators are not acceptable at any time. It is always permissible to upgrade to a more protective type of respirator.
5. During all segments of LCP removal and cleanup activities and hot work on LCP coated surfaces, respirator usage shall be required of all persons within the designated Work Areas at all times regardless of airborne lead concentrations.

B. The Contractor is responsible for determination of airborne lead concentration levels for the Contractor's personnel and for providing and enforcing use of appropriate personnel respirator protection based upon airborne lead concentrations and this specification.

C. Respirators shall not be removed inside the Work Area. Workers shall proceed to the designated washing area and clean the external surface of the respirator body before removing the respirator.

2.10 TOOLS AND EQUIPMENT

A. Provide suitable tools for the removal of LCP and LCCM contamination including required HEPA exhaust systems, HEPA exhausted portable welding fume control systems, HEPA vacuums, ground fault circuit interrupters (GFCIs), ladders, scaffold, garden sprayers and portable eyewash systems. All tools and equipment brought onsite shall be clean and free of lead and other hazardous material contaminants. HEPA vacuums shall be labeled with a lead warning label and dedicated to LCP work to prevent commingling of lead wastes with asbestos or other wastes. HEPA filtered exhaust systems shall be DOP tested on site to verify 99.97% effectiveness as an installed system and shall have accurate magnahelic gages to indicate filter performance while in use. Provide sufficient back up equipment for use in the event of equipment failure. Ensure all equipment has been fitted with any necessary feasible noise attenuators to meet occupational and environmental noise standards for building occupants.

B. Provide enough support equipment, including but not limited to, lumber, nails, hardware, shower stalls, hoses, plumbing, drain pans, sump pumps, and waste water storage drums to construct and operate the required hand washing system and portable Wash Room with showers. The number of showers shall be sufficient for the number of workmen scheduled on the job. The water hose used to connect the drain to the showers will not be used for any other purpose. The supply side water hose shall have a check valve to prevent back-flow under any circumstance.

PART 3 - EXECUTION

3.1 GENERAL

A. Public Warning and Safety Information to be Posted
1. Post signs at all approaches to the lead Work Area entrance to read "Caution Lead Hazard - Keep Out Unless Authorized." In addition, post the CAL/OSHA Lead Hazard Warning Poster at the immediate Work Area entrance.
2. A list of phone numbers for the local hospital and for emergency squad, the local fire department, a representative of the Contractor who may be reached 24 hours a day, the District's Observation Service, and District Representative and any other professional Consultants directly involved in the project.

3.2 GENERAL PREPARATION FOR INTERIOR LEAD REMOVAL AND LEAD-RELATED CONSTRUCTION

A. Move all non-fixed objects out of the Work Areas. Such items shall be moved at least five (5) feet from Work Areas.

B. Pre-clean entire floor area and all horizontal surfaces inside and within five (5) feet of the Work Area using HEPA vacuums and wet methods.

C. Cover all non-moveable objects within five (5) feet of the Work Area with six (6) mil polyethylene sheeting and seal with duct tape.

D. Cover all floors within the Work Area with two layers of six (6) mil polyethylene sheeting and seal with duct tape. Shut down, lock out, isolate the HVAC systems that supply, exhaust or pass through the lead control area. All heater vents and registers shall be sealed with two (2) layers of six (6) mil plastic sheeting and duct tape or equivalent.

E. Provide, at minimum, 10-foot candle illumination lighting to the Work Area.

F. Install lead caution signage at each approach to the lead related construction Work Area and lead warning signage just outside each Work Area entry/exit point.

G. When Work Area preparation is complete, notify the District's Observation Service and request an inspection. No work is to proceed in any Work Area until the general Work Area preparation materials, methods, and procedures have been inspected and approved by the District's Observation Service.

3.3 GENERAL PREPARATION OF LEAD REMOVAL OR LEAD-RELATED CONSTRUCTION

A. Cordon off the Work Area extending at a minimum of 10 feet horizontally beyond the area of lead related construction with barrier tape and warning signs as specified herein.

B. Protect windows, doors, and openings within the regulated area adjacent interior areas of the building with a minimum of one layer of 6-mil poly.

C. Where LCP or LCCM components are likely to generate airborne dust or paint chips, devise a suitable containment to contain such dust and prevent dispersal.

D. Provide a designated entry/exit point to exterior Work Areas suitable for workers to properly decontaminate and exit from the Work Area as specified herein. Install lead caution and warning signage as specified above.

E. Notify the District's Observation Service when the Work Area is ready for inspection at the startup of each lead related construction process not previously evaluated and approved by the District's Observation Service. Lead related construction work shall not initially proceed until the Observation Service has checked and approved Work Area preparations.

3.4 WORKER PROTECTION AND DECONTAMINATION PROCEDURES

A. The Contractor shall use only workers medically qualified and trained for lead-related construction, LCP removal, hot work on LCCM surfaces, and respirator usage.

1. Medically qualified shall mean that the worker has had an occupational medical exam for lead exposure and respirator usage within 12 months of abatement start up.
2. The contents of the exam must be in conformance with Title 8 CCR 1532.1.
3. Each abatement worker shall have successfully completed formal documented training in lead hazards and lead abatement methods meeting Title 17 California Department of Public Health (DPH) requirements. Non-abatement workers performing lead-related construction work shall have documented lead training in accordance with Title 8 CCR 1532.1.
4. The Contractor's Competent Person for lead-related construction involving paint removal shall have received at least 40 hours of formal training by a Recognized Training Education Institution in lead hazards and lead abatement.

5. The Contractor shall ensure that no worker is allowed onsite to perform lead removal or lead-related construction work until the District's Observation Service has received and approved all of the worker's medical, training and fit testing certifications.
6. Each worker and Authorized Visitor shall, upon entering the job site, enter the designated clean change room area and put on full body reusable or disposable coveralls, booties or shoe covers, respirator with HEPA filters, and gloves before entering the Work Area.
7. Each worker and Authorized Visitor shall HEPA vacuum contamination from protective clothing and then remove shoe covers before leaving one Work Area for another Work Area inside the same building unless the Work Areas have been interconnected with a secured plastic sheet runway at least three feet wide.
8. When exiting a Work Area, proceed to vacuum off all reusable work clothing and dispose of outer disposable protective clothing as suspect lead waste. Proceed to a designated wash area, remove and clean the respirator and store in a clean container.
9. At the end of the work day, all workers are to do the following in addition to those procedures described above: Place disposable outer garments and shoe covers in separate labeled waste containers dedicated to PPE for proper waste characterization; remove inner disposable clothing and place in waste containers; clean protective gear including respirator, shower or wash hands and face at minimum, and put on clean street clothes in the clean room area.
10. All tools and equipment shall be decontaminated by HEPA vacuuming and wet wiping prior to being taken out of the Work Area. Tools and equipment with inaccessible internals shall be externally wet wiped, bagged and sealed prior to being removed from the Work Area.
11. Workers shall not eat, drink, smoke, or chew gum or tobacco at the work site within 20 feet of any Work Area as specified by the District or the District's Observation Service.

3.5 REMOVAL OF LEAD CONTAINING PAINT BY CHEMICAL REMOVAL

A. Removal of LCP using Chemical Removal system shall be approved for use by the District's Representative and District's Observation Service.

B. The Contractor shall provide additional security measures as necessary to ensure occupants cannot gain access to chemicals and chemically treated surfaces.

C. Safety data sheets for each chemical substance and product used shall be onsite at all times and available for review by the workers, the District's Representative, and District's Observation Service.

D. The Competent Person shall review the contents of the safety data sheets and the safe removal procedures with the workers prior to chemical removal.

E. Workers shall wear chemical goggles, face shields, impervious gloves, aprons, and booties over the standard protective clothing prior to starting chemical removal.

F. Stage or install a temporary emergency eyewash capable of providing a 15-minute flush within the immediate Work Area if corrosive organic or corrosive inorganic paint removal (stripping) products are used. In addition, an emergency shower shall be available onsite within 50 feet of the removal operation.

G. Chemical stripping agents (and neutralizers) shall be applied in accordance with the recommendations of the manufacturer. Remove all paint down to the bare substrate. Ensure that the chemicals used, and the associated removal methods leave a clean and smooth surface capable of accepting a suitable primer/sealer coating after final cleaning. No paint or chemical residue shall be visible on the bare metal surfaces to be welded. All chemical residues shall be removed from surface applied.

H. Containerize all paint and chemical waste in impervious containers labeled as hazardous waste.

I. Package all contaminated rags and protective equipment, and disposable cleaning items and plastic sheets in labeled impervious containers and transfer waste containers to secure waste storage units. The Contractor shall assume all such waste to be hazardous unless proven otherwise by objective waste characterization data.

J. Clean and decontaminate the Work Area in accordance with the procedures outlined herein.

K. Decontaminate all tools and equipment before removing them from the Work Area. Seal or bag-up such equipment for transfer to the next Work Area or operation.

3.6 REMOVAL OF LCP BY MECHANICAL REMOVAL

A. All mechanical removal equipment and systems shall be approved by the District's Representative and District's Observation Service. Such equipment includes but is not limited to abrasive blast (all methods), needle guns, abrasive wheels, and rotopeen equipment.

B. All power tools shall be designed and equipped with effective HEPA filter exhaust systems.

C. The Contractor shall submit a separate work plan for containment of lead dust and debris emissions released by vacuum assisted power tools.

D. Work Area preparation and LCP removal shall be in accordance with the approved work plan.

3.7 CLEANING AND DECONTAMANATION OF REMOVAL WORK AREAS

A. Daily Clean up: Perform the following clean up procedures daily.
   1. Clean Work Areas until they are free of loose dust and debris to the satisfaction of the District's Observation Service and/or District Representative using HEPA and/or wet wiping after pick up of large debris.
   2. Wet debris with a fine mist of water and collect material. All material to be properly segregated, bagged in 6-mil plastic bags, sealed, and moved to a designated, secure, waste storage area for waste characterization.
   3. At the end of each work day the Contractor's Competent Person shall inspect work performed that day to ensure the work has been completed and no dust or residue remains on the areas removed and/or in the Work Area. The District's Representative shall be included in that inspection process when and if they request inclusion.

B. Final Clean up and Decontamination of Abatement Work Areas: At completion of abatement perform cleaning as follows:
   1. Remove all visible dust and debris as specified above.
   2. Clean all Work Areas where abatement was performed by vacuuming all surfaces with a HEPA vacuum followed by wet wiping with a high phosphate (trisodium phosphate) wash or equivalent. The Contractor shall spray surfaces with a 5-10 percent trisodium phosphate (or approved equivalent) cleaning solution applied with a garden sprayer and wipe or mop surfaces with frequently changed clean towels, rags or mops. Exception: Removal of varnish from wood flooring.
   3. Disassemble and remove containment barriers at each Work Area location after cleaning as specified above. Place polyethylene sheeting and tape into waste bags and remove to the temporary waste storage area.
   4. Remove six (6) mil polyethylene sheeting on immovable objects and floors (where present) after misting with a high phosphate wash and wet wiping. Place polyethylene sheeting and waste rags in segregated six (6) mil plastic bags, seal and store in a designated, secure, waste storage area for waste characterization.
   5. The cleaning procedure used shall prevent spread of contamination and effectively clean surfaces while producing minimal waste.
   6. All tools and equipment shall be sealed in six (6) mil plastic bags after being decontaminated using a high phosphate wash and wet wiping prior exiting the Work Area
   7. Liquid cleaning wastes shall be filtered prior to containerizing for temporary storage pending hazardous waste characterization. Filter systems shall be able to remove particulate two microns and larger in diameter. Permits, if required, are the responsibility of the Contractor.
   8. At least eight hours prior to completion of the first Work Area and again upon completion of final clean up and decontamination, notify the District's Observation Service to obtain a final clearance inspection and testing.

3.8 FINAL CLEARANCE INSPECTION AND TESTING OF REMOVAL WORK AREAS

A. Interior Clearance Inspection and Testing.
   1. After the final cleanup of each Work Area by the Contractor, the District's Observation Service will conduct a visual inspection to ensure that all visible dust and debris has been removed.
   2. If the results of the final visual inspection are satisfactory, the District's Observation Service may proceed to collect clearance dust wipe samples in building areas that will be reoccupied.
   3. If the Work Area is not visibly clean, as determined by the District's Observation Service, the Contractor shall re-clean and decontaminate the Work Area.
   4. The visibly clean Work Area shall not contain surface lead contamination at or in excess of 400 micrograms of lead per square foot of surface sampled (µg/ft2) for rough surfaces or 10 µg/ft2 for smooth finish surfaces and 100 µg/ft2 for window sills. Dust wipe samples will be taken using the HUD sampling protocol by the District's Observation Service subsequent to the lead paint removal or lead related construction activities to assess adequacy of the Contractor's cleaning and decontamination procedures.
   5. Dust wipe samples will be collected using commercial wipes moistened with a non-alcohol wetting agent. Areas of approximately one square foot will be selected from horizontal surfaces below or adjacent to where LCCM's components or paint has been removed.
   6. At a minimum, one dust wipe sample will be collected per representative abated area and sent under proper chain of custody protocol to an AIHA or ELLAP accredited laboratory or equivalent.
   7. All dust wipe samples will be analyzed for lead using either AAS or ICP AES for lead and results will be provided to the Contractor within two days of receipt of sample results.
   8. The Contractor's cleaning and decontamination shall be deemed adequate when all collected and analyzed dust wipe sample results from the Work Area are below the following levels of lead:
      a. Smooth floors and horizontal surfaces: 10 micrograms per square foot (µg/ft2)
      b. Window sill: 100 µg/ft2
      c. Window trough, rough floors and exterior surfaces 400 µg/ft2.
   9. If any of the dust wipe samples exceed the clearance criteria, the entire Work Area must be cleaned and re-tested until the clearance criteria are met.
   10. If a Work Area fails the clearance criteria specified above, the Contractor shall re clean the entire Work Area.
   11. Building areas scheduled for demolition do not require final dust wipe testing.

3.9 LEAD-RELATED CONSTRUCTION WORK

A. Where the Contractor's work requires demolition of lead containing materials, disturbance of materials coated with LCP, or removal/installation of architectural, electrical, plumbing, or mechanical components from/to existing LCP coated systems, the Contractor shall take the following precautions:
   1. Cordon off the work area with caution tape and lead warning signs.
   2. Protect workers in conformance with Title 8 CCR1532.1.
   3. Place a plastic drop cloth below the area where LCP paint chips or dust is likely to be released.
   4. Clean up all resulting LCP chip dust and debris by wet wiping or HEPA vacuuming before moving the drop cloth to the next area. Dispose of paint chip and contaminated cleaning materials as specified herein.

B. Where the Contractor's work involves the removal of LCP components such as painted plaster, drywall, concrete, and/or materials such as resilient flooring, ceramic tile, window putty the Contractor shall take the following precautions:
   1. Prepare Interior Work Areas as specified for removal.
   2. Remove components using wet methods and/or HEPA vacuuming to control dust generated by mechanical cutting and/or disassembly. If torch cutting is required, remove the existing paint on all surfaces back at least 12 inches or more in each direction from the hot work as specified herein.

3. Clean up lead containing paint chips, dust, and debris as the removal proceeds and at the completion of work using HEPA vacuums and/or wet wiping. Clean all tools and equipment prior to removing them from the Work Area. Clean all polyethylene sheeting and horizontal surfaces prior to removing the sheeting.
4. Special precautionary controls shall be used as necessary to prevent lead dust, debris or fume from being carried or blown out of the controlled area by wind or air currents. Torch cutting of components with inaccessible paint shall be done with HEPA filtered local exhaust ventilation to capture fumes unless monitoring data reviewed and accepted by the Contractor's Observation Service and District's Representative indicates local exhaust is not necessary.
5. Each removed LCCM component shall be carefully removed from the work areas. Clean up dust and debris as removal proceeds.

3.10 LEAD CONTAMINATION OF BUILDING INTERIOR OR ENVIRONMENT

A. In the event that removed LCCM paint, dust, or debris is not properly contained within the Work Area and thereby escapes, bypasses or penetrates established barriers, the Contractor shall stop work immediately, notify the District's Observation Service and District's Representative immediately, and commence clean up and decontamination procedures as described herein or directed by the District's Representative.

3.11 WASTE STORAGE, SEGREGATION, AND CHARACTERIZATION

A. The Contractor shall provide for secure onsite temporary storage of LCP or LCCM related waste. Waste storage location, equipment, containers and methods are subject to prior approval by the District's Representative.

B. All lead related waste streams and waste categories shall be considered hazardous until proven otherwise through testing by the Contractor. The Contractor shall be responsible for segregating waste into the below listed categories at minimum. If the Contractor allows different waste stream to become co-mingled, the waste will be classified as hazardous if any single component waste stream is hazardous.
   1. LCP removed by chemical stripping.
   2. Painted demolition debris to be landfilled including, plaster, concrete, and metal with lead containing paint.
   3. Lead containing resilient flooring, ceramic tile and window putties.
   4. Paint (LCP) chips, dust and debris, HEPA vacuum waste.
   5. Plastic sheeting and tape.
   6. Disposable Protective Clothing and Equipment (PPE).
   7. Cleaning Rags.

C. The following materials are known California hazardous waste streams with respect to lead:
   1. Not applicable

D. Intact LCP components: Architectural and mechanical equipment debris with intact LBP shall be considered hazardous until proven otherwise through testing.

E. All lead containing waste streams must be verified for federal hazardous waste characteristics for lead prior to landfill disposal.

F. Each lead related waste produced shall be placed in properly segregated, labeled and sealed, impervious containers.

G. Removed intact LCP components shall be properly segregated, wrapped in six mil polyethylene sheeting, labeled and securely sealed with duct tape or placed in a lined bin.

H. All waste containers, bags, and packaged waste shall be stored in a designated, secure, locked waste storage area and be labeled with the following information:
   1. Waste Category: Lead
   2. Date Accumulated: (Insert Date)

3. Name, address: (Insert Facility Name and Address)
4. Origin of waste: (Insert Waste Stream Name, i.e. Paint Chips, Vacuum Bags)

I. HEPA vacuum and wet wipe the exterior of all waste containers prior to removing them from the Work Area to the designated storage area.

J. Each category of waste, except components with intact paint, will be tested and characterized by the Contractor using one or more of the following testing protocols:
   1. CAL/EPA testing protocol: Criteria
      a. Total Threshold Limit Concentration (TTLC): 1,000 ppm lead
      b. Soluble Threshold Limit Concentration (STLC): 5 ppm lead
   2. Federal EPA testing protocol:
      a. Toxicity Characteristic Leaching Procedure (TCLP): 5 ppm lead

K. Based on the testing protocols, any waste greater than or equal to five (5) ppm lead using STLC or TCLP tests or any waste greater than or equal to 1,000 ppm lead using the TTLC test shall be considered a hazardous waste.

L. When the TTLC test result is less than 50 ppm lead, no further testing is required for that waste category sampled unless the waste stream or waste generating process changes. A minimum of four samples will be taken to represent each category of waste generated. It will be the responsibility of the District's Observation Service to ensure representative samples are taken by the Contractor from each category of segregated waste.

M. The Contractor shall package, store, handle, transport and dispose of each category of waste generated based on the testing results unless specific written direction is provided by the appropriate regulatory agency and reviewed and approved by the District's Observation Service. In all cases, the landfill shall be subject to approval by the District's Representative.

N. Upon verbal request of the District's Observation Service, the Contractor shall provide samples of lead-related waste to the District's Observation Service. The Contractor shall provide samples within full view and presence of the District's Observation Service and District's Representative upon request.

O. The cost of any further waste characterization or waste profiling required by the approved landfill will be the responsibility of the Contractor.

P. In the event that District's Observation Service has determined that waste is not properly segregated, additional waste testing may be conducted of the mixed waste stream. The Contractor shall be responsible for the costs associated with this additional testing.

Q. The Contractor shall bear full responsibility for additional costs associated with waste disposal and characterization if waste is not properly segregated as required herein.

3.12 HAZARDOUS WASTE DISPOSAL

A. Site Storage and Handling:
   1. The Contractor shall pay strict attention to the requirements of 40 CFR 262 and 265 and Title 22, Chapter 30 for the onsite handling of lead waste/debris, with special attention given to the time of storage, amount of material stored at any one time, use of proper containers, and personnel training. All waste shall be stored in secure, locked, labeled, sealed impervious containers and not placed on the unprotected ground. All containers shall be shielded adequately to prevent dispersion of the debris by wind or rain and shall be labeled as hazardous waste. Any evidence of improper storage shall be cause for immediate shutdown of the project until a corrective action is taken.

B. Transportation and Disposal of Waste:

1. The Contractor shall arrange to have the LCP waste and debris transported from the site in accordance with the requirements of 40 CFR 263 and 264 and disposed of properly in accordance with 40 CFR 268, GISO 8 CCR Articles 40 and 41, 49 CFR Parts 172, 173, 178, and 179 and Title 22, Chapter 30, Articles 5, 6, 6.5 and 8.
2. The Contractor shall submit to the District and the District's Observation Service the Name, Class, and EPA I.D. Number of the waste disposal site(s) to be used for each waste category which has been determined by testing to exceed the hazardous waste thresholds provided herein.
3. The Contractor shall prepare waste shipping manifests for review by the District's Representative. Upon waste or material pickup by the selected waste transporter, manifests shall be signed by the District's Representative and copies retained to verify that all steps of the handling and disposal process have been completed properly.
4. Copies of the landfill weight tickets shall be provided to the District's Representative to verify the amount of waste disposed of at that site. The Contractor shall be responsible for all costs associated with transportation and disposal of all wastes generated at the result of this work.

C. No waste characterized as hazardous waste shall be stored onsite for more than 90 days prior to being properly transported for disposal.

D. All equipment, materials, and waste generated on this project must be removed offsite to their proper locations by the Contractor within 14 calendar days from removal and lead related construction work completion.

E. Containers to be loaded for transportation from the storage area must be removed by workers who have entered from uncontaminated areas, dressed in clean coveralls.

3.13 STOP WORK ORDERS

A. The District and/or the District's Observation Service has the authority to stop work if it is determined that conditions or procedures are not in compliance with the specifications and/or applicable regulations; to the extent of potential endangerment of building users, workers, building occupants, District employees, the public or environment. The work stoppage shall remain in effect until conditions have been corrected and corrective measures have been taken to the satisfaction of the District's Representative and the District's Observation Service. All standby time and testing costs required to correct the above-mentioned problems shall be borne solely at the Contractor's expense. Examples of such conditions that might result in a work stoppage include but are not limited to:

1. Uncontrolled visible emissions which escape the established Work Area or breach physical protective barriers within the Work Area; and/or,
2. Ambient airborne levels of lead outside the construction area at more than 15 micrograms per cubic meters of air (µg/m3) of lead averaged over an eight-hour work period or 5.0 µg/m3 for any 24-hour period. Measurements of the ambient airborne lead levels shall be made outside the immediate Work Area and at the nearest occupied areas.
3. Unsecured Waste Storage Area and/or improper containment of lead abatement waste or LCP contamination.

3.14 CLOSEOUT

A. Prior to approval of payment request, the Contractor must provide the following information:

B. Copies of hazardous waste manifest, profile sheets and weight tickets for all hazardous waste and for all nonhazardous waste or waste recycle receipts.

C. All surface damages during the work must be restored to their original condition except those surfaces scheduled for demolition as part of the renovation project.

END OF SECTION

Table I - Lead Containing Paints

Sample No.	Material Description	Sample Location	Lead Concentration (ppm)
Pb-01	Tan Paint on Wooden Roof Parapet Wall System	Building Exterior at Main Roofing Field Area	130
Pb-02	White Paint on Wood Wall Paneling System	Building Interior, 2nd Floor at Main Open Area North Wall	ND<70
Pb-03	Tan Paint on Wood Exterior Paneling System	Building Exterior at Eastern Side	150
Pb-04	Orange Paint on Wooden Door	Building Exterior at Southern Side Entry Way	150

ppm = parts per million, ND = Not Detected

ATTACHMENT A
LEAD-RELATED WORK PLAN OUTLINE

In accordance with the contract documents, Cal-OSHA Lead in Construction Standard (Title 8 CCR 1532.1) and DPH (17 CCR Division 1, Chapter 8), the Contractor is required to prepare a written, site-specific Lead Compliance Plan, and submit to the District for approval prior to start of work. This plan is required for the contractor to meet Cal-OSHA and DPH requirements as well as the contract documents and shall describe work procedures and control methods that will protect the District's facilities and the environment. All contractors performing lead-related construction work shall prepare plans.

I. Location of Work:
The work to be completed under this work plan will be completed at:
(Building name)
(Location within building)

II. Description of Work:
Describe the anticipated work scope, including:
A. Paint removal (list paints or coatings, and locations)
B. Paint stabilization or encapsulation (list paints or coatings, and locations)
C. Removal and/or replacement of lead-coated components (list components and locations)
D Removal of lead containing bulk materials
E. Dust/residue removal or decontamination (list materials and locations)
F. Demolition of lead-coated components
G. Any other activities that will or may result in worker exposures to lead

III. Schedule:

Phase/Task	Anticipated Date(s)
Mobilization	_____
Set-up of work area(s), containments	_____
Lead-related construction	_____
Final Cleaning	_____
Visual Inspection	_____
Final Clearance (visual and sampling)	_____
Teardown	_____
Demobilization	_____

The competent person, _____, will conduct worksite visual inspections on a daily basis, or more often as necessary.

IV. Equipment and Materials
List all equipment and materials to be used, such as the following:

HEPA Vacuums	Negative air filtration units
Scrapers	Manometers
Power saws	Shower facilities
Pry bars	Airless sprayers/compressors
Cutting shears	Cleaning detergents
Other hand tools	Solvents (must be approved by District)
Encapsulants/sealants	Roller/brushes
Gloves	Disposable coveralls
Respiratory protection	Eye & foot protection

V. Crew

List all workers and supervisors with emergency contact names and phone numbers.

Clearly identify the supervisor and competent person who have authority for all safety and health.

VI. Control Measures and Work Practices

Describe in narrative format specific work procedures, exposure/contamination controls, and engineering controls. This description should include, but not be limited to, the following:

Location, size, layout & detail of work
Negative pressure enclosure
Respiratory protection
Vacuum assisted blasting
Containment (i.e., poly barriers)
Methods to assure safety of bldg. occupants
Removal method to reduce lead dust generation
Wet methods
Local exhaust ventilation for tools
HEPA vacuums
General room ventilation
Interface of trades involved
Pollution control

VII. Technology to Be Used in Meeting the OSHA PEL

List all or any specialized equipment to be used to meet the PEL.

VIII. Respiratory Protection and Protective Clothing/Personal Protective Equipment

List all respiratory protection including types and manufacturers which are anticipated for this project. Identify the phases of the project for which respirators will be required or likely to be required. List all personal protective equipment anticipated to be used on the project.

IX. Decontamination/Hygiene Facilities

Identify the types and locations of decontamination or hygiene facilities to be used on this project. Specify use of disposable towels, soap, hot and cold water, and other supplies. Specify the required use of the facilities, including use of the facilities prior to eating, drinking, smoking and before leaving the project site. Describe handling or treatment of lead-contaminated solid waste and wastewater.

X. Air Monitoring Data

Identify general worker air monitoring protocols to be followed on this project, including worker category classifications, frequency of monitoring, anticipated laboratory to be used for analysis, pump calibration techniques, etc. Identify the competent person responsible for conducting personal air monitoring.

XI. Medical Surveillance Program

SECTION 02 84 00
PCB CONTAINING MATERIALS ABATEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The General Conditions and Division I General Requirements shall be included in and made part of this Section.

B. Examine all other Sections of the Specifications for requirements therein affecting the work of this Section of the Specifications.

1.2 COMPLIANCE AND INTENT

A. This Section specifies requirements for abatement of Polychlorinated Biphenyl (PCB) containing materials. The Contractor shall coordinate all abatement work with the specifications. During all work, provide monitoring and worker protective equipment in accord with the California Occupational Safety and Health Administration (Cal-OSHA) and as required by this section and all other sections of the Specifications. Where there is conflict, the most stringent requirement shall apply.

B. The work covered by this specification includes the removal of fluorescent light ballasts supect to contain PCBs.

C. All work shall comply with Environmental Protection Agency (EPA) rules and regulations governing PCBs: 40 CFR 761, as published in the most recent edition of the Federal Register. Additionally, all work and work-related practices shall comply with applicable federal, state and local rules and regulations including, but not limited to, the California Department of Industrial Relations, California Code of Regulations (CCR) Title 8; Department of Health Services, CCR Title 22 and California Health and Safety Code, Division 20. Where conflicts occur, compliance shall be based upon the most stringent requirements.

D. Workers involved in the removal of PCBs shall have received specific training on the hazards, appropriate personal protection and decontamination procedures associated with PCBs.

E. Furnish all labor, materials, facilities, equipment, services, employee training, medical monitoring, permits and agreements necessary to perform the work required for PCB abatement in accordance with this section of the Specifications, other sections of the Specifications and other documents included in the contract.

F. Perform all work specified herein with competent persons trained, knowledgeable and qualified in state-of-the-art techniques relating to hazardous materials abatement, handling, and the subsequent cleaning of contaminated areas.

G. Perform appropriate waste profile testing for all PCB contaminated waste as required by the Specifications, the regulations, and the selected landfill(s). All testing shall be done in the presence of the District or District’s designated representative. Chain-of-custody forms shall be provided to the District within one (1) day following sample delivery to the laboratory.

H. During removal activities, the Contractor shall protect against contamination of soil, water, plant life, and adjacent building areas and shall ensure that there is no release of hazardous materials and dusts. The District or District’s designated representative may collect air and wipe samples in adjacent areas to evaluate the Contractor’s performance.

I. It is the Contractor's responsibility to determine the quantities of hazardous materials impacted by the planned demolition.

J. Hazardous materials removed during the abatement activities shall be handled, transported and disposed of in accordance with all applicable federal, state and local regulations.

K. Gross abatement of PCB containing materials and materials contaminated with PCBs shall be conducted using containments and decontamination units unless otherwise specified. Evidence of the release of PCBs above the background level will necessitate additional controls including but not limited to an enclosure.

1.3 DEFINITIONS

A. Certificate of Disposal: The document provided to the generator certifying that the PCB wastes were disposed of in strict accordance with all applicable federal, state, and local regulations.

B. Chain-of-Custody: A legal concept involving documentation of the physical possession of a sample/samples from the moment it is collected, transported, analyzed, and ultimately stored in an archive.

C. Competent Person: One who is capable of identifying existing and predictable hazards and who has the authority to take prompt corrective measures.

D. Decontamination Area: Area which is constructed to provide the means for workers to store clothing, equipment and other articles, and to properly remove contamination upon concluding work activities that result in exposure to these hazardous materials.

E. DOP: Dioctylphthalate, the challenge aerosol used to perform on-site leak testing of HEPA filtration equipment.

F. Decontamination Unit: Refers to system of airlocks used to decontaminate personnel, waste bags, equipment, etc. when exiting the work area. A decontamination unit shall be set up for each containment area.

G. Equipment Decontamination Enclosure System: A decontamination enclosure system for materials and equipment, typically in a designated area of the work area, and including a washroom, a holding area, and an uncontaminated area.

H. HEPA: High Efficiency Particulate Air filter capable of filtering out airborne particulate 0.3 microns or greater in diameter at 99.97 percent efficiency.

I. Manifest: The document authorized by both federal and state authorities for tracking the movement of PCB containing wastes.

J. PCB Liquid Waste: Any liquid identified to contain PCB through laboratory analysis at a concentration equal to or exceeding 500 PPM.

K. PCB Soild Waste: Any solid that comes in direct contact with PCB liquids which cannot be decontaminated and any solid materials generated as the result of PCB Spill clean-up operations.

L. PCB-Contaminated Liquid Waste: Any liquid identified to contain PCB through laboratory analysis at a concentration greater than or equal to 50 PPM and less than or equal to 499 PPM or those liquids the USEPA requires to be assumed at 50-499 PPM in the absence of testing.

M. PCB Contaminated Solid Waste: Any solid that comes into direct contact with PCB Contaminated liquids which cannot be decontaminated and any solid materials generated as the result of PCB Contaminated spill clean-up operations.

N. PCB Containing Wastes: Any wastes either tested and found to contain PCB greater than or equal to 50 PPM or those requiring assumption under 40 CFR 761. These wastes include both PCB and PCB-contaminated liquids (including all flushing wastes) and solids.

O. PCB Bulk Product Waste: Materials (such as sealants) and porous contact surfaces impacted by leaching and found to contain PCBs greater than or equal to 500 PPM.

P. PCB Spill: The intentional and/or unintentional spills, leaks, and other uncontrolled discharges where the release results in any quantity of PCB, running off or about to run off the external surface of the equipment; and the contamination resulting from those releases.

Q. Polychlorinated Biphenyl (PCB): Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance.

R. Powered Air Purifying Respirator (PAPR): A full facepiece respirator that has the breathing air powered to the wearer after it has been purified through a filter.

S. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

T. Returned Manifest: An original duplicate copy of the manifest provided to the PCB Waste generator within forty-five (45) days of the transport date which acknowledges the receipt of the material at the disposal facility.

U. Visual Inspection: A visual inspection of the work area under adequate lighting to ensure removal of all PCB materials, contaminated waste, and that the work area is free of visible material, debris, and dust.

1.4 PCB CONTAINING MATERIALS

A. The following suspect-PCB containing materials must be removed prior to building demolition:

MATERIAL	GENERAL LOCATION	Estimated Quantity
Fluorescent Light Ballasts not labeled “No PCBs”	Interior lighting fixtures	100 ea

ea – each

B. Provide a detailed removal work plan to be included with submittal per 40 CFR 761.61(a)(3)(C) and approved by the EPA Region IX administrator based upon proposed abatement strategy.

1.5 SUBMITTALS PRIOR TO START OF WORK

A. The reviews by the District or District’s designated representative are intended to be only for general conformance with the requirements. The District or the District’s designated representative assumes no responsibility for permits, licenses, notices, materials and methods, equipment or temporary construction required to execute the work described in this Section of the Specification or in other Sections of the Specification or in other documents included in the contract documents.

B. The following items shall be submitted to, and approved by, the District or District’s designated representative before commencing work involving the PCB abatement.
   1. Provide a detailed work plan for PCB abatement and disposal.
   2. Provide a site safety plan for PCB abatement prior to project initiation. The site safety plan shall deal with, at a minimum: Personal protective equipment; Site safety and health hazards; PCB Spills; control of water leakage or discharge within and/or from the work area; medical emergency; materials handling procedures; Contractor's internal administrative and inspection procedures; earthquakes and/or fire emergency procedures; protocol for responding to complaints or questions from interested parties; 24-Hour emergency telephone numbers for individuals with authority to respond to emergencies.
   3. Workers: Demonstrate education and specialized training
   4. Respiratory Protection Program (RRP) in compliance with Title 8 CCR 5144.
   5. Proof of Respirator Fit Testing: Provide proof of respirator fit testing. Fit testing records must be less than eleven (11) months old and document testing on the type of respiratory protective equipment used for this project. Fit testing records must be signed by the Competent Person.
   6. Licenses: Submit copies of state and local licenses, evidence of Cal-OSHA registration and permits necessary to carry out the work of this contract.
   7. Safety Data Sheets (SDSs)/Specification Sheets: The Contractor shall submit SDSs and Specification Sheets for all chemicals, encapsulants, etc. to be used for this project.

1.6 SUBMITTALS AT THE COMPLETION OF THE PROJECT

A. Upon completion of on-site work, Contractor shall provide a detailed project summary that will include each of the items listed below. The project Summary shall be submitted and approved by the District's representative and shall include the following:
   1. Copies of the Security and Safety Logs showing names of persons entering the work areas. The logs shall include date and time of entry and exit, supervisor's record of any accident (detailed description of accident).
   2. Emergency evacuations and any other safety or health incident.
   3. Waste manifests including Land Disposal Restrictions Notice and Certification.
   4. Project Summary including, but not limited to, the following: location and approximate quantity of PCBs removed, hazardous waste hauler certifications, waste disposal/recycling facilities, dates of commence and completion of on-site work.

PART 2 - PRODUCTS

2.1 SIGNS AND LABELS:

A. Warning signs for work areas shall be approximately 18 inches square with yellow background and 1-inch black letters. Signs shall read “DANGER – KEEP OUT – TOXIC CHEMICAL WORK AREA”.

B. Location of Caution Signs and Labels: Provide bilingual caution signs at all approaches to work areas in languages used by the Contractor’s employees. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area.

2.2 PLASTIC SHEETING:

A. Use fire-retardant (FR) polyethylene (poly) film manufactured by PolyAmerica, Grand Prairie, Texas 75051, or equal.
   1. Thickness - 6-mil, minimum, NO EXCEPTIONS.
   2. Flame Resistance/Flame Spread Rate <25.
   3. Conforms to NFPA #701 and Tested in accordance with ASTM E-84.
   4. Spray adhesive for sealing polyethylene to polyethylene shall contain no methylene chloride or methyl chloroform (1,1,1-trichloroethane) compounds.

2.3 VACUUM EQUIPMENT:

A. All vacuum equipment used in the work area shall use HEPA filtration systems and be of the wet-dry type. The Contractor shall provide on-site independent DOP testing to document the effectiveness of the vacuum units. The test results shall be signed by the individual performing the testing.

B. All filter media must be disposed as PCB-contaminated waste at the end of filter life and at conclusion of the PCB remediation work at the site.

2.4 LOCAL EXHAUST AND VENTILATION EQUIPMENT:

A. Sufficient High Efficiency Particulate Absolute (HEPA) ventilation units shall be used to maintain negative pressure in each work area and a minimum of four (4) air changes per hour for all dust producing work.

B. Contractor shall provide onsite independent DOP testing to document the effectiveness of the air filtration units. The test results shall be signed by the individual performing the testing. Provide documentation to the Owner or Owner’s designated representative.

C. All filter media must be disposed as PCB-contaminated waste at the end of filter life and conclusion of the PCB remediation work at the site.

2.5 OTHER TOOLS AND EQUIPMENT:

A. The Contractor shall provide other suitable tools for the removal and disposal activities.

B. All PCB fluids, PCB-contaminated fluids, including flush and cleaning solvents and mixtures, shall be stored in sealed DOT 17E closed top drums or other waste container approved for storage of these materials.

C. All PCB solid wastes and items including disposable items used in the course of the work such as rags, absorbents, protective clothing, etc., shall be stored in sealed DOT 17C open type drums or other waste container approved for storage of these materials.

D. Any PCB Article Container, other than approved DOT drums, specified in this specification, intended for storage, shall be submitted to the District or District's designated representative for approval.

E. For removal of PCB fluids or residual material on non-porous surfaces use an appropriate solvent in which PCBs are shown to be at least 5-percent soluble by weight. Solvents specified by the U.S. EPA include kerosene, diesel fuel, terpene hydrocarbons and mixtures of terpene hydrocarbons and terpene alcohols. Care should be taken to limit the complexity of the waste stream. In all cases where solvents are used in the course of work, proper ventilation shall be provided by the Contractor to ensure that resulting fumes/vapors are not dispersed to areas beyond the work area. The manufacturer's recommendations for application and requirements of Cal-OSHA shall be strictly observed.

F. Use an appropriate cleaning agent in which PCBs are shown to be at least 5-percent soluble by weight. Care should be taken to limit the complexity of the waste stream. Numerous, non-toxic, cleaning agents shown to meet or exceed the solubility requirement above are commercially available. In all cases where cleaners are used in the course of work, proper ventilation shall be provided by the Contractor to ensure that resulting fumes/vapors are not dispersed beyond the work area. The manufacturer's recommendations for application and requirements of Cal-OSHA shall be strictly observed.

G. Absorbents: "Safestep" as manufactured by Andesite of California, Inc., or approved equal.

PART 3 - EXECUTION

3.1 SAFETY PROCEDURES AND WORKER PROTECTION

A. Take all precautions and measures required to protect employees, inspection personnel, District's on-site personnel and the general public from exposure to PCB solids, liquids and vapors.
   1. All personnel authorized for entry in work areas shall be instructed in the proper procedures for working with or around electrical hazards and PCB containing/contaminated materials.
   2. All electrical equipment upon which PCB related activities are to be performed shall be de-energized, locked out/tagged out and permanently disconnected from any power source prior to the commencement of the work.
   3. Consumption of food or tobacco products shall not be permitted in any of the project work areas where PCBs, volatile solvents and/or other hazardous materials are present. Additionally, no open flames will be permitted in these same areas. Signage to this effect shall be provided for each work area.
   4. The Contractor performing the work of this Contract shall develop, together with applicable subcontractors, a contingency plan covering accidental spills and work exposure to PCBs. The plan shall be submitted to the District or District's designated representative prior to commencing PCB-related work. The submittal shall also include a separate section to describe the hauler's spill contingency plan and avoidance procedures.

B. Work Area Protection and Marking: Prior to commencing any PCB-related work activities provide barricades and warning signs to clearly identify and effectively guard against unauthorized entry into the work areas. The District or District's designated representative will inspect and approve all containment setups before any abatement is undertaken. If a containment area is breached (failure of polyethylene seals, visible dust emission, etc.), the Contractor shall take immediate action to control the breach and clean the area to the satisfaction of the District or District's designated representative. Clearance for any contaminated areas will be determined by the District or District's designated representative and may include sampling.
   1. Place barricades to maintain a minimum of 25 feet from all perimeters of the work being conducted to the barricades, where feasible.
   2. All equipment such as tools, containers, etc., shall be confined to the work area until work is complete, containers are sealed and equipment properly decontaminated and safely stored for transport.

C. Protective Clothing and Equipment: At all times when suspect PCB fluids or mixtures in any volume are not sealed in drums, containers or electrical equipment, workers shall wear:
   1. Gloves impermeable to both PCBs and the solvent and/or clean up agent in use.
   2. Disposable, full body suit, impermeable to both PCBs and the solvent and/or clean up agent in use.
   3. Appropriate eye protection to ensure that eyes are protected from liquid splatter or exposure to concentrated vapors or fumes.
   4. Respiratory protection appropriate for the concentration of the hazardous material(s) and atmosphere present. Supplied air must meet requirements for Grade D air, at a minimum. Establish a respiratory protections program as outlined by ANSI and required by Cal-OSHA. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH). Respirators selected must be approved by the Competent Person. Submit program for review a minimum of five (5) working days prior to the commencement of abatement activities.
      a. The Contractor shall provide protective clothing, eye protection, and breathing apparatus as required for authorized inspection personnel upon request.
      b. Pre-cleaning, containment set-up, and containment removal work: NIOSH-approved, half-face respirators with double stack Organic Vapor/HEPA cartridges.
      c. All interior/exterior PCB work: NIOSH-approved, half-face respirators with double stack Organic Vapor/HEPA cartridges.

D. Personnel Protection and Procedures: The PCB work area shall at no time be left unattended from the commencement of remediation work and until all PCBs and incidentals have been sealed in approved containers. If immediate transportation to the PCB storage facility or disposal facility is not feasible the work area must be secured in a manner approved by the District or District's designated representative.
   1. During work procedures and at all times when PCB containing materials/contaminated fluids in any volume are not sealed in drums, containers or electrical equipment, all personnel entering the regulated work area must don protective clothing and equipment. Upon exiting the work area, all disposable protective clothing shall be placed in appropriate waste storage drums and sealed, for subsequent transportation to the on-site storage facility or disposal facility.
   2. Workers with cuts or scratches shall seal these wounds sufficiently to prevent accidental contact of the hazardous materials within the regulated work area prior to entering the regulated work area. Similarly, workers who accidentally incur minor cuts or scratches in the course of work activities shall immediately leave the work area, cleanse the wound with medical grade soap and seal the wound before returning to the work area.

3.2 PERSONNEL PROTECTION

A. Informed Workers:
   1. All workers shall be informed of the hazards of PCBs and any other hazardous materials exposure. Workers shall also be instructed in the use and fitting of respirators, protective clothing, decontamination procedures, and all other aspects associated with the abatement work.

B. Personal Hygiene Practices:
   1. The Contractor shall enforce and follow good personal hygiene practices during the abatement of hazardous materials. These practices will include but not be limited to the following:
   2. No eating, drinking, smoking or applying cosmetics in the work area. The Contractor shall provide a clean space, separated from the work area, for these activities.
   3. If data gathered by the District or District's designated representative in areas adjacent to the work areas shows exposure to PCBs or other hazardous materials exceeding Cal-OSHA criteria, that area will become regulated and workers must wear protective clothing and approved respirators and must have a shower facility provided to them.

3.3 PCB REMOVAL

A The Contractor shall remove all light ballasts not labeled as "No PCBs" from lighting fixtures throughout the building.

3.4 CLEARANCE INSPECTIONS

A Initial Visual Inspection: Contractor shall notify the Owner or Owner's designated representative when the decontamination process in each containment area is complete. Evidence of dust or debris will require additional clean up by the Contractor. Contractor shall be responsible for re-cleaning all areas found to be deficient.

B If the Owner or Owner's designated representative determines that the work area is sufficiently clean, the Contractor may proceed. If the Owner or Owner's designated representative determines that certain areas require additional cleaning, the Contractor shall re-clean the work area and request a second inspection of the recleaned area. All costs incurred by the Owner for inspections required after the second inspection will be charged to the Contractor.

3.5 HAZARDOUS MATERIALS DISPOSAL

A. It is the responsibility of the Contractor to coordinate waste handling, labeling, transportation, and disposal with the District's waste transportation and disposal vendor. The Contractor must comply fully with these Specifications, local, state, and federal regulations and provide documentation of the same.

B. All sealants must be disposed as PCB containing bulk product waste.

C. PCB impacted building materials in contact with sealant, cleaning supplies, filters, and PPE may be must be disposed as PCB bulk product waste. If solvents are used, additional characterization for hazardous properties will be required.

D. Contractor shall provide at minimum three (3) day advance notification to the District when signatures are required on manifest(s). The Contractor shall ensure that the Hazardous Waste Manifest is correctly filled out. The Contractor shall give the appropriate copies to the District.

END OF SECTION

ATTACHMENT A
PCB WORK PLAN OUTLINE

In accordance with the contract documents, the Contractor is required to prepare a written, site-specific PCB Work Plan, and submit to the Owner for approval prior to start of work. This plan is required for the contractor to meet Cal-OSHA requirements as well as the contract document and shall describe work procedures and control methods that will protect the Owner's facilities and the environment.

I. Location of Work:
The work to be completed under this work plan will be completed at:
(Building name)
(Location within building)

II. Description of Work:
Describe the anticipated work scope

III. Schedule (days and hours of operations):

Phase/Task	Anticipated Date(s)
Mobilization	_____
Set-up of work area(s), containments	_____
Abatement	_____
Final Cleaning	_____
Visual Inspection	_____
Teardown	_____
Demobilization	_____

IV. Equipment and Materials
List all equipment and materials to be used, such as the following:

HEPA Vacuums	Gloves
Hand tools	Cleaning Agents
Solvents	Respiratory Protection
Absorbents	Disposable coveralls
Eye & foot protection	

V. Crew
List all workers and supervisors with emergency contact names and phone numbers.

Clearly identify the supervisor and competent person who have authority for all safety and health.

VI. Control Measures and Work Practices

Describe in a narrative format specific work procedures, exposure/ contamination controls, and engineering controls.

VII. Respiratory Protection and Protective Clothing/Personal Protective Equipment

List all respiratory protection including types and manufacturers which are anticipated for this project. Identify the phases of the project for which

respirators will be required or likely to be required. List all personal protective equipment anticipated to be used on the project.

VIII. Decontamination/Hygiene Facilities

Identify the types and locations of decontamination or hygiene facilities to be used on this project. Specify use of disposable towels, soap, hot and cold water, and other supplies. Specify the required use of the facilities, including use of the facilities prior to eating, drinking, smoking and before leaving the project site. Describe handling or treatment of solid waste and wastewater.

IX. Air Monitoring Data

Identify general worker air monitoring protocols to be followed on this project, including worker category classifications, frequency of monitoring, anticipated laboratory to be used for analysis, pump calibration techniques, etc. Identify the competent person responsible for conducting personal air monitoring.

X. Containment Diagram

Include a diagram (hand written is acceptable) of the containment(s) showing the containment perimeter in relation to the surrounding areas and decontamination areas.

XI. Waste

Describe how all waste on this project will be packaged, labeled, stored, transported, manifested and dispose. Provide name of transportation vendor and disposal vendor, location of disposal vendor if not specified by the Owner.

XII. Preparation of PCB Work Plan

Date Prepared and Prepared By (signature, name and title)

SECTION 02 87 00
UNIVERSAL WASTE (UW) REMOVAL AND DISPOSAL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. The General Conditions and Division I General Requirements shall be included in and made part of this Section.

B. Examine all other Sections of the Specifications for requirements therein affecting the work of this Section of the Specifications.

1.2 COMPLIANCE AND INTENT

A. This Section specifies requirements for removal of Universal Waste (UW). The Contractor shall coordinate all work with the specifications and drawings. During all work, provide monitoring and worker protective equipment in accord with the California Occupational Safety and Health Administration (Cal-OSHA) and as required by this section and all other sections of the Specifications. Where there is conflict, the most stringent requirement shall apply.

B. The work covered by this specification includes the removal of UW including, but not limited to fluorescent light tubes, compact fluorescent bulbs, batteries, regulated refrigerants and tritium exit signs.

C. All work shall comply with Environmental Protection Agency (EPA) rules and regulations governing UW: 40 CFR 273, as published in the most recent edition of the Federal Register. Additionally, all work and work-related practices shall comply with applicable federal, state and local rules and regulations including, but not limited to, the California Department of Industrial Relations, California Code of Regulations (CCR) Title 8, Division 1, Chapter 4; Department of Health Services, CCR Title 22, Division 4.5 and California Health and Safety Code, Division 20. Where conflicts occur, compliance shall be based upon the most stringent requirements.

D. Workers involved in the removal of UW shall have received specific training on the hazards, appropriate personal protection and decontamination procedures associated with UW.

E. Furnish all labor, materials, facilities, equipment, services, employee training, medical monitoring, permits and agreements necessary to perform the work required for UW removal and disposal in accordance with this specification.

F. Perform all work specified herein with competent persons trained, knowledgeable and qualified in state-of-the-art techniques relating to UW removal/disposal and the subsequent cleaning of any potentially contaminated areas.

G. Perform appropriate waste profile testing for all UW waste as required by this specification, the regulations, and the selected disposal/recycling facility. All testing shall be done in the presence of the District or District's designated representative. Chain-of-custody forms shall be provided to the District within one (1) day following sample delivery to the laboratory.

H. During removal activities, the Contractor shall protect against contamination of soil, water, plant life, adjacent building areas, and shall ensure that there is no release of hazardous materials.

I. It is the Contractor's responsibility to determine the quantities of UW required for removal to facilitate the planned demolition.

J. UW removed during the abatement activities shall be handled, transported and disposed/recycled in an approved manner complying with all applicable federal, state, and local regulations.

1.3 DEFINITIONS

A. Certificate of Disposal: The document provided to the generator certifying that the UW wastes were disposed/recycled in strict accordance with all applicable federal, state and local regulations.

B. Chain-of-Custody: A legal concept involving documentation of the physical possession of a sample/samples from the moment it is collected, transported, analyzed, and ultimately stored in an archive.

C. Competent Person: One who is capable of identifying existing and predictable hazards and who has the authority to take prompt corrective measures to eliminate them.

D. Decontamination Area: Area which is constructed to provide the means for workers to store clothing, equipment and other articles, and to properly remove contamination upon concluding work activities that result in exposure to these hazardous materials.

E. DOP: Dioctylphthalate, the challenge aerosol used to perform on-site leak testing of HEPA filtration equipment.

F. Decontamination Unit: Refers to system of airlocks used to decontaminate personnel, waste bags, equipment, etc. when exiting the work area. A decontamination unit shall be set up for each containment area.

G. Equipment Decontamination Enclosure System: A decontamination enclosure system for materials and equipment, typically in a designated area of the work area, and including a washroom, a holding area, and an uncontaminated area.

H. HEPA: High Efficiency Particulate Air filter capable of filtering out airborne particulate 0.3 microns or greater in diameter at 99.97 percent efficiency.

I. Manifest: The document authorized by both federal and state authorities for tracking the movement of hazardous wastes.

J. Powered Air Purifying Respirator (PAPR): A full facepiece respirator that has the breathing air powered to the wearer after it has been purified through a filter.

K. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

L. Returned Manifest: An original duplicate copy of the manifest provided to the waste generator within forty-five (45) days of the transport date which acknowledges the receipt of the material at the disposal facility.

M. Visual Inspection: A visual inspection by of the work area under adequate lighting to ensure removal of all UW and that the work area is free of visible material, debris, and dust.

1.4 UNIVERSAL WASTE

A. The following UW must be removed prior to demolition of lighting fixtures, emergency egress equipment, and mechanical equipment. Estimated quantities for lighting equipment below.

MATERIAL	GENERAL LOCATION(S)	ESTIMATED QUANTITY
High Intensity Discharge (HID) Lights	Building Exterior	5
Fluorescent Light Tubes - Interior Lighting Fixtures (4'-8' length)	Ground and Second Levels	200
Batteries – Emergency Egress Lighting & Exit Signs	Ground and Second Levels	5
R-22 Refrigerants	Roof	1 HVAC unit

MATERIAL	GENERAL LOCATION(S)	ESTIMATED QUANTITY
Tritium Self-Illuminating Exit Signs*	Ground and Second Levels	3

*** NOTE: Provide the Tritium Exit Signs to the District for properly handling and disposal.**

1.5 SUBMITTALS PRIOR TO START OF WORK

A. The reviews by the District or District's designated representative are intended to be only for general conformance with the requirements. The District or the District's designated representative assumes no responsibility for permits, licenses, notices, materials and methods, equipment or temporary construction required to execute the work described in this Section of the Specification or in other Sections of the Specification or in other documents included in the contract documents.

B. The following items shall be submitted to and approved by the District or District's designated representative before commencing work involving the UW and regulated waste.

1. Provide a detailed work plan for UW removal, temporary storage, and disposal.
2. Provide a site safety plan for UW removal prior to project initiation. The site safety plan shall deal with, at a minimum: personal protective equipment; site safety and health hazards; UW and regulated waste spills; control of water leakage or discharge within and/or from the work area; medical emergency; materials handling procedures; Contractor's internal administrative and inspection procedures; earthquakes and/or fire emergency procedures; protocol for responding to complaints or questions from interested parties; 24-hour emergency telephone numbers for individuals with authority to respond to emergencies.
3. Workers: Demonstrate education and specialized training in the handling of regulated waste and UW.
4. Licenses: Submit copies of state and local licenses, evidence of Cal-OSHA registration and permits necessary to carry out the work of this contract.
5. Safety Data Sheets (SDSs)/Specification Sheets: The Contractor shall submit SDSs and Specification Sheets for all materials and equipment to be used for this project.

1.6 SUBMITTALS AT COMPLETION OF PROJECT

A. Upon completion of on-site work, the Contractor shall provide a detailed project summary that will include each of the items listed below. The project Summary shall be submitted and approved by the District or District's representative and shall include the following:

1. Copies of the Security and Safety Logs showing names of persons entering the work areas. The logs shall include date and time of entry and exit, supervisor's record of any accident (detailed description of accident).
2. Emergency evacuations and any other safety or health incident.
3. Waste disposal documents.
4. Project Summary including, but not limited to, the following: location and approximate quantity of UW removed, waste hauler certifications, waste disposal/recycling facilities, dates of commence and completion of on-site work.

PART 2 - PRODUCTS

2.1 SIGNS:

A. Warning signs for work areas shall be approximately 18 inches square with yellow background and 1-inch black letters. Signs shall read "DANGER – KEEP OUT – TOXIC CHEMICAL WORK AREA".

B. Location of Signs: Provide bilingual Signs at all approaches to work areas in languages used by the Contractor's employees. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area.

2.2 PLASTIC SHEETING:

A. Use fire-retardant (FR) polyethylene (poly) film.
   1. Thickness - 6-mil, minimum, NO EXCEPTIONS.
   2. Flame Resistance/Flame Spread Rate <25.
   3. Conforms to NFPA #701 and Tested in accordance with ASTM E-84.
   4. Spray adhesive for sealing polyethylene to polyethylene shall contain no methylene chloride or methyl chloroform (1,1,1-trichloroethane) compounds.

2.3 VACUUM EQUIPMENT:

A. All vacuum equipment used in the work area shall use HEPA filtration systems and be of the wet-dry type. The Contractor shall provide on-site independent DOP testing to document the effectiveness of the vacuum units. The test results shall be signed by the individual performing the testing.

B. HEPA-rated vacuums **shall not** be used for mercury spill cleanup unless equipment with an activated charcoal filter. Vacuum exhaust must be monitored with a direct read mercury vapor meter to verify the air quality of the vacuum discharge air.

2.4 MATERIALS AND EQUIPMENT:

A. Storage Containers:
   1. All UW fluids, UW-contaminated fluids, including flush and cleaning solvents and mixtures, shall be stored in sealed DOT 17E closed top drums or other waste container approved for storage of these materials.
   2. All UW solid wastes and items including disposable items used during the work such as rags, absorbents, protective clothing, etc., shall be stored in sealed DOT 17C open type drums or other waste container approved for storage of these materials.
   3. Any UW Article Container, other than approved DOT drums, specified in this specification, intended for storage, shall be submitted to the District or District's designated representative for approval.

B. Solvents, Cleaning Agents and Absorbents:
   1. Solvents: An appropriate solvent in which UWs are shown to be soluble in. Care should be taken to limit the complexity of the waste stream. In all cases where solvents are used during work, proper ventilation shall be provided by the Contractor to ensure that resulting fumes/vapors are not dispersed beyond the work area. The manufacturer's recommendations for application and requirements of Cal-OSHA shall be strictly observed.
   2. Cleaning Agents: An appropriate cleaning agent in which UWs are shown to be soluble in. Care should be taken to limit the complexity of the waste stream. Numerous, non-toxic, cleaning agents shown to meet or exceed the solubility requirement above are commercially available. In all cases where cleaners are used during work, proper ventilation shall be provided by the Contractor to ensure that resulting fumes/vapors are not dispersed beyond the work area. The manufacturer's recommendations for application and requirements of Cal-OSHA shall be strictly observed.
   3. Absorbents: "Safestep" as manufactured by Andesite of California, Inc., or approved equal.

PART 3 - EXECUTION

3.1 SAFETY PROCEDURES AND WORKER PROTECTION

A. Take all precautions and measures required to protect employees, inspection personnel, District's on-site personnel, and the public from exposure to regulate waste and UW solids, liquids and vapors.

1. All personnel authorized for entry in work areas shall be instructed in the proper procedures for working with or around electrical hazards, regulated waste, and UW containing/contaminated materials.
2. All electrical equipment upon which UW related activities are to be performed shall be de-energized, locked out/tagged out and permanently disconnected from any power source prior to the commencement of the work.
3. Consumption of food or tobacco products shall not be permitted in any of the project work areas where regulate waste, UWs, volatile solvents and/or other hazardous materials are present. Additionally, no open flames will be permitted in these same areas. Signage to this effect shall be provided for each work area.
4. The Contractor performing the work of this Contract shall develop, together with applicable subcontractors, a contingency plan covering accidental UW spills and work exposure to UWs. The plan shall be submitted to the District or District's designated representative prior to commencing UW-related work. The submittal shall also include a separate section to describe the hauler's spill contingency plan and avoidance procedures.

B. Work Area Protection and Marking: Prior to commencing any UW-related work activities provide barricades and warning signs to clearly identify and effectively guard against unauthorized entry into the work areas.
   1. Place barricades to maintain a minimum of 25 feet from all perimeters of the work being conducted to the barricades, where feasible.
   2. All equipment such as tools, containers, etc., shall be confined to the work area until work is complete, containers are sealed and equipment properly decontaminated and safely stored for transport.

C. Protective Clothing and Equipment: At all times when regulated waste and UW fluids or mixtures in any volume are not sealed in drums, containers or electrical equipment, workers shall wear:
   1. Gloves impermeable to the specific regulated waste or UWs and the solvent and/or clean up agent in use.
   2. Disposable, full body suit, impermeable to both UWs and the solvent and/or clean up agent in use.
   3. Appropriate eye protection to ensure that eyes are protected from liquid splatter or exposure to concentrated vapors or fumes.
   4. Respiratory protection appropriate for the concentration of the hazardous material(s) and atmosphere present. Supplied air must meet requirements for Grade D air, at a minimum.
      a. The Contractor shall provide protective clothing, eye protection, and breathing apparatus as required for authorized inspection personnel upon request.
      b. Cleanup of broken mercury containing products such as light tubes and thermometers (mercury vapor producing materials): NIOSH-approved, half-face respirators with double stack Mercury Vapor/HEPA cartridges.

D. Personnel Protection and Procedures: The regulated waste or UW work area shall at no time be left unattended from the commencement of removal work and until all UWs and incidentals have been sealed in approved containers. If immediate transportation to the regulated waste or UW storage facility or disposal facility is not feasible the work area must be secured in a manner approved by the District or District's designated representative.
   1. During work procedures and at all times when regulated waste or UW containing/ contaminated fluids in any volume are not sealed in drums, containers or electrical equipment, all personnel entering the regulated work area must don protective clothing and equipment. Upon exiting the work area, all disposable protective clothing shall be placed in appropriate waste storage drums and sealed, for subsequent transportation to the on-site storage facility or disposal facility.
   2. Workers with cuts or scratches shall seal these wounds sufficiently to prevent accidental contact of the hazardous materials within the regulated work area prior to entering the regulated work area. Similarly, workers who accidentally incur minor cuts or scratches during work activities shall immediately leave the work area, cleanse the wound with medical grade soap and seal the wound before returning to the work area.

3.2 SPILL CLEAN-UP, CONTAINERIZATION AND MARKING

A. Clean-up of Work Area, UW Articles and Spills:
   1. Equipment and Tools: After the last regulated waste or UW has been removed and all fluids and solids cleaned from fixture, all tools and equipment used in the work shall be decontaminated and properly stored for reuse. All tools that may have come in contact with regulated or UW at any concentration shall be thoroughly double washed/rinsed with an appropriate cleaning agent, wiped clean and properly stored.
   2. UW Contaminated Articles: All exterior surfaces of equipment that may have come in contact with UW or regulated waste or contaminated solids or fluids either during work activities or due to past leaks shall be double washed/rinsed, at a minimum, with an appropriate cleaning agent and wiped clean.
   3. Solid Impenetrable Surfaces: All metal surfaces and surfaces with impervious liners which have come in contact with regulated waste, UW or UW mixtures in the course of the work or as a result of past leaks shall be thoroughly cleaned using a combination of absorbents and solvents or cleaning agents. Minimum cleaning requirements for these surfaces include removal of bulk material and two rinses with the cleaning agent of the surfaces, which come in contact with UW or UW mixtures during the work or as a result of past leaks. The work area shall be effectively ventilated during operations such that vapors used in decontamination and cleaning are not vented to occupied building areas. Upon completion of UW-related activities, if fumes or vapors are still present in levels, which could impede breathing or be considered toxic under state and/or NIOSH standards, the Contactor shall provide additional ventilation to accelerate drying. Auxiliary breathing apparatus may only be used by personnel trained in the use of this equipment and experienced in conducting electrical work while wearing equipment, which could impede safe work practices.
   4. Soils and Porous Materials: The U.S. EPA, Region IX, regards soil, asphalt, wood, cement and concrete as porous materials that absorb UW. Where practicable, these materials must be removed when they are within the spill or contamination boundary.
   5. Decontamination Verification: Completion of decontamination activities will be verified by the District or District's designated representative.

B. Containerization and Marking:
   1. All liquid generated as a result of work activities and cleanup operations shall be placed in appropriate waste containers and the containers sealed.
   2. All solids such as absorbents, rags, disposable protective clothing, soils, and other incidentals shall be placed in appropriate waste containers and the containers sealed.
   3. All drums shall be permanently marked as to specific contents and dated. In addition, each drum (and container) shall be marked with the standard EPA, UW, ML label (40 CFR 273) and hazardous waste label (40 CFR 262).

3.3 HANDLING AND TRANSPORTATION TO STORAGE FACILITIES

A. Drums: All closed and open top drums must be permanently sealed and marked prior to loading on transport vehicle. Filled drums shall be loaded on the transport vehicle by any of the following methods.
   1. Hoist or lift truck utilizing a two-point drum lifter
   2. Hoist or lift truck provided with a band-around type drum lifter
   3. Lift truck lifting the drums from underneath by a pallet attached to the drum by a banding arrangement.

B. Drums shall not be lifted by the following methods.
   1. Any rope, chain or cloth slings tied about the drum.
   2. Placement of drums on bare lift truck forks.
   3. Forcing drums between forks of a lift truck.
   4. Any commercial drum lifters exerting force of the sides of a drum.

C. All drums or article containers shall be secured to the transport vehicle to prevent movement in transport.

3.4 TRANSPORTATION TO DISPOSAL FACILITY

A. General: All regulated waste and UW Articles removed and all drums containing liquids, solids and incidentals shall be transported to the off-site regulated waste/UW approved and permitted recycling/disposal facility.
   1. The Contractor performing the work of this section shall be licensed for the transportation and hauling of extremely hazardous wastes. The Contractor shall provide a route plan, which clearly identifies the routes proposed while transporting UW items from the work site to the off-site facilities.
   2. A minimum of two operators shall be in attendance at all times when UW items are being transported, loaded, and unloaded.

B. The rules in this section apply to each motor carrier engaged in the transportation of hazardous materials by a motor vehicle, which must be marked or placarded in accordance with DOT 177.

C. Every motor vehicle transporting or storing Articles and items containing regulated or UWs or hazardous materials must be operated in compliance with the laws, ordinances and regulations of the state jurisdiction of which it is being operated in, unless they are at variance with specific regulations of the Department of Transportation which are applicable to the operation of that vehicle which impose a more stringent obligation or restraint.

D. Unless there is no practicable alternative, a motor vehicle which contains regulated or UWs or hazardous materials must be operated over routes which do not go through or near heavily populated areas, places where crowds are assembled, tunnels, narrow streets, or alleys. Operating convenience is not a basis for determining whether it is practicable to operate a motor vehicle in accordance with this paragraph.

E. No person may smoke within 25 feet of any Contractor's vehicles, which contains flammable materials (flushing solvents), or an empty tank motor vehicle, which has been used to transport flammable materials.

F. When a motor vehicle, which contains hazardous materials is being fueled its engine must not be operated.

G. Motor vehicles transporting regulated, UWs, or hazardous materials must have all containers properly secured in place to ensure that no equipment items or containers can be loose or unsafely placed into the transport vehicle. This may include chaining, roping or strapping and winching. Any equipment, drums or other Articles carried in an open, flatbed or stake type truck shall be covered with a tarp to protect it from the elements.

H. A motor carrier that transports hazardous waste must furnish the driver of each motor vehicle in which the waste is transported with the following documents.
   1. A document containing instructions on procedures to be followed in the event of accident or delay. The documents must include the names and telephone numbers of persons to be contacted, and the substances of the hazardous wastes being transported, and the precautions to be taken in emergencies such as fires, accident or leakages.
   2. Manifest and permit documents described in this specification and required for waste transport.

I. A motor vehicle being operated must be marked if that vehicle is transporting UWs or hazardous materials of a kind that require the vehicle to be marked or placarded in accordance with DOT 177.

3.5 UW DISPOSAL

A. The Contractor shall treat and dispose of all collected UW wastes collected and generated during the execution of this Contract including Articles, fluids, etc. set forth in Section 1.04 of this specification.

B. Except as may be otherwise specifically directed by the District or District's designated representative, the Contractor shall treat and dispose of regulated and UW materials as governed by 40 CFR 273, California State regulations, local regulations and subsequent amendments.
   1. By incineration or recycling at a facility approved for such use by the U.S. EPA, and all other controlling regulatory agencies and bodies of the state, county and municipality of that facility's location all UW fluids, flushing fluids, and other UW contaminants. If the Contractor so elects, waste contaminated solids may also be incinerated as suitable and allowed for this type of disposal.

C. All UW and regulated wastes generated as part of these operations will be disposed of by the Contractor in a legal manner.

D. The Contractor shall not sell, transfer or recover any material from the wastes received from the state without their prior written consent.

3.6 MANIFESTS AND RECORDS

A. The Contractor shall provide the District or District's designated representative with a compliance certificate verifying that all waste received by it has been properly treated and disposed.

B. The Contractor shall provide the District or District's designated representative copies of all manifests, permits or other documents currently in effect relating to the specific UW wastes to be transported, treated and disposed hereunder except as otherwise stated in this Section. The Contractor shall also promptly furnish to the District or District's designated representative copies of all new or renewal permits or other documents applicable to this agreement as soon as the Contractor receives same.

C. The Contractor shall furnish complete State of California Hazardous Waste Manifests (or the Uniform Manifest – 40 CFR Parts 260, 262, 271 – if effective at time of preparation) for all UW Articles to be collected from the facility at which the removal and decontamination occurred. The District or District's designated representative shall sign the manifests. These manifests shall accompany the waste loads to disposal and be properly completed by the hauler and disposal agent as required by federal and state hazardous waste management law. The final manifest shall then be returned by registered mail to the District or District's designated representative within the designated time period specified by Federal law.

D. It shall be the responsibility of the District or District's designated representative to finalize their UW records regarding the removal and final disposition of UW.

E. The contract work will not be considered complete until the District or District's designated representative receives certifications of incineration (for fluids), disposal, and/or recycling.

3.7 PLACEMENT IN STORAGE AND RECORDS

A. Transport vehicles shall be unloaded utilizing the same equipment and methods as for loading.

B. Drums and Articles shall be placed in the storage facility in locations as directed by the District or District's designated representative.
   1. Articles shall be placed such that ample clearance is provided around equipment to facilitate future inspection.
   2. Drums shall be placed on pallets of sufficient strength to withstand double stacking. Drums shall not be stacked at time of storage unless space is limited as determined by the District or District's designated representative. Where stacking of drums is necessary, pallets shall be placed between the drum layers.
   3. Immediately following unloading of the regulated or UW transport vehicle, the cargo area shall be inspected to check for fluid leaks. If any fluids are found, the source of the leaking drum or items shall be identified and sealed. The contamination cargo area shall be thoroughly double washed/rinsed clean with absorbents, solvents and liquid cleaner. Cleaning agents, solvents and solids shall be placed in proper drums for disposal.

C. Records: Upon completion of all regulated and UW work related activities the Contractor shall provide a complete record of such activities and storage data to the District or District's designated representative. The record shall include the following data:

1. Name of the firm performing the work of this Section and technician in charge.
2. Drum sizes (30 or 55 gallon)
3. Identification of contents (liquids, flushing solvent, cleaning solvents for solids, rags, absorbents, soil, etc.)
4. Weight in kilograms and gallons of contents of each drum or container.
5. Date placed in storage.

END OF SECTION

SECTION 06 10 00 – ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
   1. Timbers
   2. Wood railing
   3. Siding

1.3 DEFINITIONS

A. Boards or Strips: Lumber of less than 2 inches nominal size in the least dimension.

B. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal size in the least dimension.

C. Exposed Framing: Framing not concealed by other construction.

D. OSB: Oriented strand board

E. Timber: Lumber of 5 inches nominal size or greater in the least dimension.

1.4 REFERENCES

A. Redwood Inspection Service (RIS) Standard Specifications for Grades of California Redwood Lumber 2019 Edition.

B. PS 20 - American Softwood Lumber Standard - US Department of Commerce, National Institute of Standards and Technology.

C. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials.

D. ASTM F1667: Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

E. California Building Code Chapter 7A: Materials and Construction Methods for Exterior Wildfire Exposure.

F. Forest Stewardship Council Certification.

1.5 INFORMATIONAL SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including.
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.

3. Installation methods.

B. FSC Submittals: Provide documentation indicating manufacturer is FSC Chain-of-Custody certified:

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.

B. Handle materials to avoid damage.

C. Store on a level surface with blocking to keep boards off the ground and provide uniform and adequate support

D. Redwood timbers contain water soluble extractives (tannins) which can stain concrete or other masonry. If stored over concrete, cover the concrete with a tarp to prevent staining in the event of rain.

1.7 FIELD CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

PART 2 - PRODUCTS

2.1 TIMBERS

A. Material: Douglas Fir-Larch

B. Posts and Timbers: Select material required
1. Grade No. 1 Structural
2. Surfaced 4 sides
3. Sizes as indicated on drawings
4. Fasteners: Stainless steel, 10d, smooth or ring shank

2.2 SIDING

A. Material: Existing T1-11 siding salvaged from removed sections.
1. Fasteners: Stainless steel, 8d, smooth box or ring shank
2. 16” horizontal spacing
3. 6” vertical spacing at edges, 12” vertical spacing at center studs.

2.3 FASTENERS

A. Material: Stainless Steel
1. Size and type best suited for purpose unless noted otherwise. Provide stainless steel or approved alternate suitable for exposure to weather.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions:

3.3 INSTALLATION

A. Use only corrosion resistant fasteners: Stainless steel.

B. Ensure that joints fall over framing lumber and double-nail.
   1. Do not nail any less than 1/2 inch from any edge and fasten at a minimum of every 24 inches on center.

C. Drive nails perpendicular to the framing lumber and the wood product; drive nails flush with the product's surface. Nails shall penetrate at least 1-1/4 inches into the structural framing.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion..

END OF SECTION 06 10 00

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SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
   1. Metal cap flashing

B. Related Requirements:
   1. Section 06 10 00 Rough Carpentry

1.3 REFERENCES

A. California Building Code 2022, Chapters 14 and 15.

B. American Society for Testing and Materials (ASTM).
   1. ASTM A480/A480M- General Requirements for Flat-Rolled Stainless Steel and Heat Resisting Steel Plate, Sheet, and Strip.
   2. ASTM A653/A653M-98 - Sheet Steel, Zinc-Coated (Galvanized) or Zinc - Iron Alloy Coated by the Hot-Dip Process
   3. ASTM B32 Solder Metal
   4. ASTM B209 - Aluminum and Aluminum-Alloy Sheet and Plate.
   5. ASTM B370 - Copper Sheet and Strip for Building Construction
   6. ASTM B749 - Lead and Lead Alloy Strip, Sheet and Plate Products
   7. ASTM D4601 - Asphalt-Coated Glass Fiber Base Sheet Used in Roofing

C. National Roofing Contractors Association (NRCA).
   1. NRCA Manual - Fifth Edition

D. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)
   1. SMACNA Manual - Architectural Sheet Metal Manual, Current Edition.

E. California Green Building Standards Code - 2022 (CALGreen).

1.4 SUBMITTALS

A. CALGreen Submittals.
   1. Product Data Sheets or Declaration Statements showing compliance with CALGreen Code per 1.04.A.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Stack preformed and pre-finished material to prevent twisting, bending, or abrasion and to provide ventilation.

B. Prevent contact with materials during storage that may cause discoloration, staining or damage.

C. conditions outside manufacturer's recommended limits.

PART 2 - PRODUCTS

2.1 SHEET METALS

A. Galvanized Steel: ASTM A653/A653M-02, G90

B. Aluminum: ASMT B209, 3003-H14 or 5052-H34c Alloy.

C. Stainless-Steel Sheet, Type 316: 2D (dull, cold rolled) finish with smooth, flat surface.

2.2 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.

B. Products
1. Grace Construction Products: Ultra
2. Henry Company: Blueskin PE200 HT
3. Or approved equal

2.3 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal unless otherwise indicated.

B. Fasteners
1. Wood screws, annular threaded nails with neoprene washers, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal.
2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
3. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
4. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329 or Series 300 stainless steel.
5. Sheet Metal to Sheet Metal - Rivets: Solid 3/16 in. dia. flat head rivets of proper length for the material being fastened; material to match that being fastened. “Pop” rivets are prohibited.

C. Solder and Flux:
1. Solder ASTM B 32, type recommended for materials being used; flux FS O-F-506C, Type I, Form A or B, 50/50 or better.
2. Solder and flux shall be 100 percent lead free.

D. Sealant Tape:

1. Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.

E. Sealant:
1. Non-exposed: Within metal flashings: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
2. Exposed: One-part polyurethane
   a. Tremco; Dymonic,
   b. Sika; Sikaflex 1a.
   c. Or approved equal.

F. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide with bonded neoprene washers.

G. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions:

C. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Apply primer if required by underlayment manufacturer.
1. Comply with temperature restrictions of underlayment manufacturer for installation; use primer rather than nails for installing underlayment at low temperatures.
2. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses.
3. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days or as required by manufacturer.

3.3 INSTALLATION, GENERAL

A. Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

3. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
4. Install sealant tape where indicated.
5. Torch cutting of sheet metal flashing and trim is not permitted.
6. Install fasteners to vertical surfaces only of sheet metal flashing and trim. Do not install fasteners on horizontal and sloping surfaces of parapets, equipment pads or other similar conditions.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.
1. Coat back side of uncoated aluminum and stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene sheet.

C. Joints
1. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant.
2. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.
3. Non-moving joints shall be solid riveted and soldered watertight.
4. Seal joints as shown and as required for watertight construction.
   a. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant.
   b. Form joints to completely conceal sealant.
   c. When ambient temperature at time of installation is moderate, between 40 and 70 deg F, set joint members for 50 percent movement each way.
   d. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.

D. Soldering
1. Do not solder aluminum sheet.
2. Immediately prior to soldering, mechanically clean all metal to be soldered with steel wool or by other acceptable means, apply flux, and pre-tin.
3. Perform all soldering slowly with well-heated, heavy (3 lbs / pair) irons with properly tinned, clean blunt tips. Do not use torches.
4. Apply enough heat to sweat the solder completely through the full width of the seam.
5. Close clinch lock seams gently with a block of wood and mallet, then flux and show at least 1 in. of continuous and evenly-flowed solder.
6. Whenever possible, do all soldering in flat position.
7. All sloped and vertical seams shall be laced and soldered a second time.
8. Wipe and wash clean soldered joints to remove all traces of acid from the flux immediately after the joints are made.
9. Stainless-Steel Soldering: Tin edges of uncoated sheets using solder recommended for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization
10. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches, except reduce pre-tinning where pre-tinned surface would show in completed Work.

3.4 CLEANING AND PROTECTION

A. Clean and neutralize flux materials. Clean off excess solder.

B. Clean off excess sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

D. On completion of installation, remove unused materials and clean finished surfaces. Maintain in a clean condition during construction.

E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

F. Protect flashing and sheet metal work during construction to ensure that work will be without damage or deterioration other than normal weathering at time of final completion.

END OF SECTION 07 62 00

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SECTION 31 23 16

BACKFILL AND COMPACTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
1. Backfill and compaction requirements for general site.
2. Site grading

1.3 DEFINITIONS

A. Subgrade: Areas upon which the planned bottoms of foundations, footers, slabs, paving base courses or sidewalks shall rest.

B. Structure Backfill: Select open-graded free-draining material used to backfill against structure walls, including tank walls, foundation walls, and retaining walls.

C. Random Backfill: Non-select backfill material used where special backfill is not specified.

1.4 REFERENCES

A. ANSI/ASTM D698- Test methods for moisture-density relations of soils and soil aggregate mixtures, using 5.5 lb. rammer and 12-inch drop.

B. ANSI/ASTM D1556- Test methods for density of soil in place by the sand-cone method.

C. ASTM D2167- Test method for density and unit weight of soil in place by the rubber balloon method.

D. ASTM D2922- Test methods for density of soil and soil-aggregate in place by nuclear methods (shallow depth)..

E. ASTM D3017- Test methods for moisture content of soil and soil-aggregate mixtures.

1.5 INFORMATIONAL SUBMITTALS

A. Submit certification from independent testing agency for all soil and aggregate materials, certifying materials to meet specified standards.

1.6 FIELD CONDITIONS

A. Existing Utilities and Services.

1. Known underground services and utilities are indicated on the Contract Drawings. No guarantee is given to completeness or accuracy. Contractor shall be responsible for verifying the location and/or depth of all utilities and services indicated within the areas of work.
2. Maintain existing utilities, which must remain in service in the area of work.
3. Record locations of underground utilities encountered.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Backfill Materials: Backfill material shall consist of soil reasonably free of organic matter such as leaves, grass, roots, sod, sewage, coal or coal blossom, or other unsuitable material. Frozen material shall not be utilized.

PART 3 - EXECUTION

3.1 REQUIREMENTS AND RESTRICTIONS

A. Maintain sewers, drains, and ditches free of debris to convey surface drainage.
1. No damming or ponding of water in gutters or other waterways will be permitted.
2. Do not direct flow of water across pavements except through approved pipes or properly constructed troughs.
3. Provide pipes or troughs of such sizes and lengths as may be required.
4. Control grading in the vicinity of demolition so the ground surface is properly pitched to prevent water from running into subgrade areas.

B. Do not perform backfilling or compacting when weather conditions or the condition of materials are such, that in the opinion of Engineer, the Work cannot be completed in accordance with the Specifications.

C. Do not use as backfill frozen materials or wet materials containing moisture in excess of the amount necessary for satisfactory compaction.

D. Prior to use, moisten dry backfill material not having sufficient moisture to obtain satisfactory placement or compaction.

E. Prevent spread of dust during performance of work by thoroughly moistening earthwork areas by sprinkling or other methods approved by Engineer.

F. No right of ownership of excavated materials is granted to Contractor prior to backfilling.
1. This provision does not relieve Contractor of his responsibility to remove and dispose of surplus excavated material.
2. Excess excavated material that cannot be used at the site shall be removed and disposed of in a legal manner.

G. Protect all pipes, conduits, walls, buildings and other structures or property whether above or below ground.

3.2 EXPLOSIVES

A. Explosives are not permitted under any circumstances.

3.3 SUBGRADE PREPARATION

A. Prior to placing backfill, puncture slab to allow for drainage. Do not cut reinforcing.

B. Do not place fill materials on surfaces that are muddy, frozen, or contain frost.

3.4 BACKFILLING

A. General
1. Perform backfilling using machinery, except where hand backfilling is required to prevent damage to walls, foundations, utilities, plant conduits or process piping.
2. Clean area of backfill free of trash and debris prior to backfilling.
3. Do not place backfill material on wet or frozen areas.
4. Do not operate heavy equipment closer to walls than a distance equal to the height of backfill material above the top of the structure footing.
5. Perform compaction using power driven tampers or compactors suitable for material being placed.
6. Construct in accordance with these Specifications to line and grades on Drawings.

B. Backfill
1. Place backfill in loose, uniform horizontal layers not exceeding eight inches in depth.
2. Maintain moisture content of backfill at compaction within 2% plus or minus of optimum moisture as determined by ASTM D 698.
3. Compact backfill to at least 95% of the maximum dry density based on ASTM D 698.
4. Shape the top layer of backfill to drain during construction.

3.5 FIELD QUALITY CONTROL

A. Surface Tolerance
1. Check finished subgrade for smoothness and irregularities using a straight edge.

END OF SECTION 31 23 16