

PROJECT MANUAL

BARRY J. NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND KITCHEN UPGRADES PROJECT

**16350 Filbert Street
Sylmar, CA 91342**

SPECS. NO. 7878; C.P. NO. 8A018

JTC Architects

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**COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUSINESS RELATIONS AND CONTRACTS DIVISION
900 SOUTH FREMONT AVENUE
ALHAMBRA, CA 91803-5311
(626) 300-2362
jhluz@dpw.lacounty.gov**

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1. Asbestos Specifications dated November 11, 2024, by REMDOX
2. Lead-Based Paint Specifications dated November 11, 2024, by REMDOX
3. Limited Asbestos & Lead-Based Survey Report dated November 4, 2024, by REMDOX

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EXHIBITS:

- A. Countywide Community Workforce Agreement and Attachment Letter of Assent
- B. County of Los Angeles, Probation Department Background Request Form
- C. Additional Requirements for Probation Department Juvenile Camps
- D. Report of Geotechnical Investigation, Proposed Barry J. Nidorf Secure Youth Track Facility Security and Kitchen Upgrades by Geotechnical Professionals Inc., dated April 27, 2023 (revised, October 1, 2024)

SECTION 00 01 00

INSTRUCTIONS TO BIDDERS

“This project includes the Countywide Community Workforce Agreement (CWA). Refer to EXHIBIT A.”

PART 1 - GENERAL

1.01 COPIES OF BIDDING DOCUMENTS

- a. Complete set of the Bidding Documents may be downloaded for free from the Los Angeles County Public Works website <http://dpw.lacounty.gov/go/constructioncontracts>.
- b. Complete sets of Bidding Documents shall be used in preparing bids; the County does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- c. All Bidders for this solicitation are strongly encouraged to register at <http://dpw.lacounty.gov/general/contracts/opportunities/>. Only those Bidders registered for this solicitation through the DPW website will receive automatic notification when any update to this solicitation is made. **County does not have an obligation to notify any Bidders other than through the DPW website automatic notification system.**
- d. Electronic Submission of Bid

Bids will only be accepted electronically through BidExpress, a secure online bidding service website, at www.bidexpress.com.

To submit the bid electronically, register with BidExpress, one week prior to the bid opening date. Once the Bidder is registered, an invitation will be sent to the Bidder to allow access to the solicitation on www.bidexpress.com. A Infotech/BidExpress Set-up Guide is included as an Enclosure for reference. There is a nominal service fee to use BidExpress.

Visit the Infotech Knowledge Center at the following link for more information: [Bid Express® help guides.](https://infotechinc.zendesk.com/hc/en-us/categories/360003900254-Bid-Express-at-www-bidexpress-com)
<https://infotechinc.zendesk.com/hc/en-us/categories/360003900254-Bid-Express-at-www-bidexpress-com>.

- e. The bid opening will be held using Microsoft Teams, or County accepted platform. The information and link to access the bid opening will be posted on Public Works website, on the project information link. Any changes to this procedure will be issued in a Notice to Bidders for this project.

1.02 QUALIFICATIONS OF BIDDERS AND SUBCONTRACTORS

- a. The Bidder and each listed subcontractor must have a valid license, issued by the Contractors' State License Board, for the type of work proposed to be performed by the Bidder and each listed subcontractor under the contract. The required license(s) is required at time of bid in order to be considered a responsive bid.
- b. This project requires the Bidder to possess a license classification of "A or B" at time of bid.
- c. In addition to Article 1.02, a. and b., the specifications set forth require specialty licenses, experience requirements, and required certifications from manufacturers concerning approved installers. The apparent successful Bidder shall be required to demonstrate to the County's satisfaction within 10 calendar days of the bid opening that the Bidder and proposed subcontractors (whether required to be listed or not) possess these specialty licenses, experience requirements, and required certifications.
- d. All Bidders and their subcontractors must be registered with the Department of Industrial Relations. Qualified contractors and subcontractors are listed on searchable database at:
<https://services.dir.ca.gov/gsp>.

1.03 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- a. Before submitting a bid, each Bidder must: a) examine the Contract Documents thoroughly; b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress, or performance of the Work; c) become familiar with federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress, or performance of the Work; and d) study and carefully correlate Bidder's observations with the Contract Documents.
- b. The submission of a bid will constitute an incontrovertible representation by the Bidder that Bidder has complied with every requirement of this Article and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

1.04 INTERPRETATIONS

- a. All questions about the meaning or intent of the Contract Documents shall be submitted to the Department in writing. Replies will be issued by Notice to Bidders. Questions received less than ten (10) calendar days prior to the date for opening of bids will not be answered. Only questions answered by formal written notice will be binding. Oral and other interpretations or clarifications will be without legal effect.

1.05 BID SECURITY

- a. Bid security is required of each Bidder and shall be made payable to Los Angeles County, in an amount of ten percent (10%) of the Bidder's bid price, in the form of cash, a certified check, a cashier's check, or a bid bond issued by a California-admitted Surety.
- b. The bid security of the successful Bidder will be retained until such Bidder has executed the Agreement and contract security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required insurance and contract security within fourteen (14) calendar days of notification from County, the County may annul the Notice of Award and the bid security of that Bidder may be forfeited. The bid security of any Bidder whom the County believes to have a reasonable chance of receiving the award may be retained until the earlier of the effective date of the contract or the ninety-first (91) day after bid opening. Bid security of other Bidders will be returned within thirty (30) days of the bid opening.

1.06 CONTRACT TIME

- a. The number of days within which, or the date by which, the Work is to be completed (the contract time) is set forth in Section 01 00 00, "Project General Requirements." By submitting a bid, each Bidder agrees that the contract time is reasonable and the Bidder is capable of performing all Work within the contract time.

1.07 LIQUIDATED DAMAGES

- a. Provisions for liquidated damages, if any, are set forth in Section 01 00 00, "Project General Requirements."

1.08 SUBSTITUTE MATERIAL AND EQUIPMENT

- a. The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications unless the Bidder complied with the procedure for substitution of Equals as set forth in the General Conditions.
- b. If any proposed substitution of an Equal is determined by the County to not be an Equal, the Contractor must complete the Work in accordance with the Drawings and Specifications for the accepted bid amount.

1.09 SUBCONTRACTORS

- a. In accordance with Sections 4100 to 4113, inclusive of the Public Contract Code of the State of California, Contractors shall list, on the form provided, the name, license number, business location and classification of work for each subcontractor who will perform work, labor, or render service on the construction work in excess of one-half (1/2) of one percent (1%) of the total bid.

1.10 FORM OF BID

- a. The Form of bid is attached hereto. Additional copies may be obtained from Contracts Administration Section, Business Relations and Contracts Division, 8th Floor.
- b. The bid price of each item on the form must be stated in words and numerals; in case of a conflict, words will take precedence. Bid prices must be given for all bid items shown on the Form of Bid, including all additive alternatives. Failure to provide prices for all bid items may result in a determination by the County that the Form of Bid is nonresponsive.
- c. Bids by corporations must be executed in the corporate name by the President or a Vice-President (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of corporation shall be shown below the signature.
- d. Bids by partnership must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- e. All names must be typed or printed below the signature.

- f. Bid Documents, Form of Bid, Section 00 03 00, must confirm receipt of any Notice to Bidders (if any).

1.11 SUBMITTAL OF BIDS

- a. Bids will only be accepted electronically through BidExpress, a secure online bidding service website, at www.bidexpress.com. Bids shall be submitted at the time indicated in the Information for Bidders.

1. The following documents shall be submitted at the time of bid.

Required bid form documents:

- Section 00 03 00 Form of Bid
- Section 00 03 10 Best Management Practices
- Section 00 03 11 Construction and Demolition
Debris Recycling Requirements
- Section 00 03 12 Insurance Requirements
- Section 00 03 13 LTWHP Jobs Coordinator
- Section 00 03 14 Certification to Comply with Countywide
Community Workforce Agreement (CWA)
Form
- Section 00 03 15 Cost Impact of Countywide Community
Workforce Agreement (CWA) Form
- Section 00 04 10 Bid Bond (scanned copy)
- Section 00 04 30 List of Subcontractors
- Section 00 04 38 Request for Preference Consideration
- Section 00 04 38A Subconsultant Certification Form
- Section 00 04 78 SB 1439 Questionnaire-primary firm
- Section 00 04 79 Contribution and Agent Declaration Form-
primary firm

Failure to confirm receipt of any Notice to Bidder(s) provided to bidders on Form of Bid, Section 00 03 00, as required, may result in a determination that the apparent low bidder is nonresponsive and/or nonresponsible.

2. Original Bid Bond shall be mailed in within two (2) calendar days from the bid opening. This is required only from the first, second, and third apparent lowest bidders.
3. The following document shall not be submitted at time of bid. Section 00 04 40, Equals, will only be required from the first, second, and third apparent lowest bidders and returned to the County no later than two (2) calendar days from the bid opening.

• **Section 00 04 40**

Equals

- b. No mention shall be made of sales tax or use tax, as all bid prices submitted will be considered as including such tax.
- c. The County may consider nonresponsive any bid not prepared and submitted in accordance with the provisions herein and, therefore, reserves the right to reject any or all bids so submitted. The County also reserves the right to accept alternative bids when called for and when items are to be bid on as units, to accept the bid for the list of such items in its entirety, or to accept any portion or portions of same.
- d. **The following documents shall not be submitted at the time of bid. These forms will be required only from the first, second, and third apparent lowest bidders and returned to the County no later than seven (7) calendar days from the bid opening.**

Section 00 04 35	Community Business Enterprises (CBE) Participation Form.
Section 00 04 50	Noncollusion Affidavit
Section 00 04 60	Attestation of Willingness to Consider GAIN/GROW Participants
Section 00 04 65	3-Year Contracting History
Section 00 04 70	False Claims
Section 00 04 71	Civil Litigation History
Section 00 04 72	Criminal Convictions
Section 00 04 73	Debarment
Section 00 04 74	Labor Law/Prevailing Wage
Section 00 04 75	Integrated Pest Management Program Compliance Certification
Section 00 04 76	Charitable Contributions Certification
Section 00 04 77	Prospective Contractor List of Terminated Contracts
Section 00 04 78	SB 1439 Questionnaire-subconsultants/subcontractors
Section 00 04 79	Contribution and Agent Declaration Form-subconsultants/subcontractors
Section 00 04 85	Contractor Employee Jury Service Program-primary firm and subconsultants/subcontractors
Section 00 04 90	Contractor's Industrial Safety Record
Section 00 04 91	Injury and Illness Prevention Plan and Code of Safe Practices Affidavit

Section 00 04 92	Bidder's Organization Questionnaire/Affidavit
Section 00 04 93	Certification of Compliance with the County's
	Defaulted Property Tax Reduction Program
Section 00 04 94	Avoidance of Conflict of Interest
Section 00 04 95	Familiarity with the County Lobbyist
	Ordinance Certification
Section 00 04 96	Proposer's EEO Certification
Section 00 04 97	Compliance with Fair Chance Employment
	Hiring Practices Certification
Section 00 04 98	Zero Tolerance Human Trafficking Policy
	Certification
Section 00 04 99	Disallowed Cost Attestation

- e. Upon the County's request, each bidder agrees to provide the County with a cost breakdown of the bid in Construction Specification Institute (CSI) format. Failure to provide this information may result in a determination that the Bidder is nonresponsive and/or not responsible.

1.12 MODIFICATION AND WITHDRAWAL OF BIDS

- a. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted or by a Bidder's representative with proper identification and verification, at any time prior to the closing time for receipt of bids.
- b. Relief of Bidders shall be as provided in Sections 5100-5107, inclusive, of the Public Contract Code of the State of California.

1.13 OPENING OF BIDS

- a. Bids shall be opened publicly, read aloud, and the amount of the base bids and alternates (if any) shall be made available after the opening of bids.
- b. Preliminary bids results will be posted on the same day on the Department of Public Works Website: <http://dpw.lacounty.gov/general/contracts/opportunities/>.

1.14 AWARD OF CONTRACT

- a. If the County determines to award a contract, it shall be awarded to a responsive and responsible Bidder with the lowest bid price with preference to businesses that are certified by the County as a Local Small Business Enterprise, as set forth in Article 1.30 of these Instructions to Bidders. If

there are alternatives, the lowest bid price shall be determined by adding the lump sum bid and the price of all alternatives. This does not preclude the Board of Supervisors from selecting any combination of alternates after the lowest responsible bidder has been determined. The Board of Supervisors reserves the right to reject any or all bids or to waive in the public interest technical errors and discrepancies in bids submitted.

- b. The Board shall have the right to delay the award of the contract for 90 days after bids are opened and declared, unless otherwise agreed to by the County and Bidders. Bidders may withdraw their bids 91 calendar days after bids are publicly opened and declared by submitting written notice addressed to the Department. In evaluating bids, the County shall consider whether or not the bids comply with requirements, alternatives, and unit prices, if requested in the Form of Bid.

- c. Extended Overhead Daily Rate

Extended Overhead Daily Rate is the sum of the Contractor's home office and field office overhead as applicable to this project.

The Bid Form contains an Extended Overhead Daily Rate which will be used to determine the additional compensation due the Contractor for each day of Compensable Delay. The number of days of Compensable Delay shown as a multiplier in the paragraph below is not intended as an estimate of the number of days of Compensable Delay, as defined in Section 00 07 00, General Conditions, Article 17.F.2 may be greater or lesser than the 30 days shown below.

The Extended Overhead Daily Rate in the Bid Form will be used in the evaluation of bids by multiplying the Extended Overhead Daily Rate times 30 days of Compensable Delay and adding it to the bidder's Lump Sum Bid price. However, the amount of the multiplied Extended Overhead Daily Rate for 30 days of Compensable Delay will not be included in the base contract amount.

- d. Consultant Services Agreement

Following the determination of the successful bidder by the County, the County will issue a consultant services agreement for the preparation of the baseline construction schedule. The successful bidder shall return the signed consultant services agreement within three days of the County's issuance. Upon the County's receipt of the signed consultant services agreement, the County will authorize preparation of the Detailed Network Construction Schedule in accordance with Section 01 32 00 and preparation

of the Schedule of Values in accordance with Section 01 29 73 of the project specifications. Only after acceptance by the County of the Detailed Network Construction Schedule in accordance with the minimum requirements set forth in Section 01 32 00, Construction Schedule, Section 01 29 73, Schedule of Values, Section 01 33 00, Submittals, and execution by the bidder of a contract for the entire project will the County execute a contract for the construction of the project.

Upon receipt by the County, of an acceptable Detailed Network Construction Schedule, Schedule of Values, and list of Submittals, the Bidder shall receive payment of the sum of Five thousand Dollars (\$5,000) as compensation to perform the work required to provide a Detailed Network Construction Schedule, Schedule of Values, and list of Submittals. The payment of \$5,000 shall be deducted from the overall construction contract base bid and shall not be in addition to it.

e. Failure to Produce Detailed Network Schedule and Schedule of Values

The Contractor must have or obtain expertise in the type of automated scheduling specified. The successful Bidder will have ten (10) calendar days from the issuance of a Notice to Proceed under the consultant services agreement to submit its Detailed Network Construction Schedule and Schedule of Values. The successful Bidder will have three (3) calendar days to provide County requested revisions to the Detailed Network Construction Schedule and Schedule of Values provided under the Consultant Services Agreement.

Submission of an acceptable Detailed Network Construction Schedule and Schedule of Values is a condition precedent to the execution of the construction contract by the County. Failure to meet these requirements may result in a determination and a recommendation that the Board of Supervisors determine that the successful Bidder is non-responsible because such failure reflects on the Bidder's ability to manage the work.

f. Execution of Contract by Bidder

Following bid opening and upon notification from Public Works, the apparent successful Bidder will be required to deliver within fourteen (14) calendar days to the offices of Public Works certificate(s) issued by the insurance carrier(s), payment and performance bonds, and three (3) signed and notarized contract signature pages. The contract pages must be signed by the corporate president and secretary, managing partner or sole proprietor.

g. Execution of Contract by County

When the Board of Supervisors or the Director has formally awarded the contract to the Successful Bidder, the County will execute the contract and issue the fully executed contract to the Contractor followed by the Notice to Proceed.

h. Failure to Resolve Equals

In accordance with the General Conditions, paragraph 2, subparagraph d, the first, second and third apparent lowest bidders will have two (2) calendar days after the bid opening to submit their list of Equals and ten (10) calendar days after the bid opening to submit all substantiating data and test results.

i. Protest Policy

The County will handle and process any and all protests in connection with this Bid according to the County of Los Angeles Contracting Manual, Countywide Construction Contracting Policy Guidelines, no. P-05-04, "Bid Protests", dated March 31, 2003. Bidders who wish to file a protest shall do so in accordance with the requirements specified in Construction Contracting Policy Guideline no. P-05-04, which can be found at <http://dpw.lacounty.gov/general/bids/BidProtests.pdf>

Policy Overview

The County of Los Angeles will process bid protests in a timely and consistent manner to assure that all prospective contractors/consultants are accorded fair and equal consideration for the award of County contracts.

Purpose and Scope

The purpose of this Policy Guideline is to convey the County's general course of action for addressing bid protests asserted by prospective contractors. This guideline will address the administrative guidelines for protests arising from the acquisition of construction and construction-related services under both the Invitation for Bid (IFB) and Request for Proposal (RFP) methods of solicitation.

Application and Responsibility

This Policy Guideline applies to all County departments involved in the contractor selection process for construction and construction-related contracts.

Policy Guidelines

1. **Introduction.** Protests received by the County before contract award shall be immediately forwarded to the Contract Analyst issuing the IFB or RFP. The Contract Analyst will prepare a written response, reviewed by County Counsel if necessary, and approved by the department/agency head or his/her designee.
2. **Timely Filing.** The protest of a likely contract award to the apparent lowest bidder (IFB) or best-qualified firm or consultant (RFP) must be made prior to contract award. Untimely notice will not serve the interests of either party. Protests should be received by the County at the earliest practical time.
3. **Post-Award Protests.** With respect to protests received after contract award, the County will not suspend contract performance or terminate the awarded contract unless so directed by the Board.
4. **Protest Format.** The protesting party's protest should reference all pertinent County, State, Federal, or local laws or regulations that are relied upon in support of the protest. Any documents relevant to the protest should be submitted. The County, at its discretion, may decide the protest without requesting further submittal(s) from the party submitting the protest. Thus, the initial protest should include all matters that the party wishes the County to consider in deciding the protest outcome. Such matters include, but are not limited to, the following:
 - (1) The name and address of the party and its relationship to the procurement.
 - (2) Identification of the proposed project or contract.
 - (3) Description of the nature of the protest.
 - (4) Identification of the provision(s) of the solicitation, regulations, or laws upon which the protest is based (i.e., identification of the technical specifications or item of content in the IFB/RFP).
 - (5) Copies of all (or any) documentation supporting the allegations in the protest.
 - (6) Statement of the specific relief requested.
5. **Protest Submittal.** The best interests of the parties are served if the protest is (1) filed with the Contract Analyst, (2) filed in a timely fashion, and (3) filed in the format and detail described in Protest Format above. A contractor may also appear in person before the Board. The Board, acting in the best interests of the County, may decide to continue with the award and acquisition subject to resolution of the protest.
6. **Protest Remedies.** A decision by the responsible official will be made based on the merits of the protest. A written response will be provided by the County and all findings and specified remedies will be considered

final. The Board may suspend a contract upon a finding that the protest has merit and is based on solid legal principles.

7. **Authority for Administration of Protests.** The responsible official may assign Contract Analysts to conduct the administrative processing of protests filed with the County. Assigned Contract Analysts shall be responsible for proper distribution of protest submittals and responses, coordination of staff evaluation of the protest, compliance with the time limits stated herein, and maintenance of all documents related to the protest. The responsible official shall request County Counsel to review and advise the Contract Analyst concerning any legal issues involved in protests.

1.15 PERFORMANCE AND OTHER BONDS

- a. The General Conditions and Supplementary Conditions set forth requirements as to performance bonds and other bonds. When the successful Bidder delivers the executed Agreement to the County, it shall be accompanied by the required contract security.

1.16 COMMUNITY BUSINESS ENTERPRISE (CBE) PARTICIPATION

- a. The County encourages the participation of Community Business Enterprises (CBE) in the project and has established a goal of twenty-five percent (25%) CBE participation which all contractors must aspire to meet. Participation in the Work is based on total monetary value of the proposed subcontract. CBEs are defined as Minority/Women/Disadvantaged/Disabled Veteran/Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning owned Business Enterprises (M/W/D/DVBE/LGBTQQ).
- b. Bidders shall meet the established goal as indicated above. If the Bidder does not meet this established goal, Bidder shall document its good faith efforts to utilize CBEs. The Bidder shall submit the documentation of its good faith efforts to the County. County will evaluate the Bidder's good faith efforts to meet the CBE participation goal by the following criteria:
 1. Bidder attended any pre-solicitation or pre-bid meetings scheduled by the County to inform all Bidders of the CBE program requirements for the Project.
 2. Bidder identified and selected specific items of the Project for which the contract will be awarded to be performed by CBEs to provide an opportunity for participation by those enterprises.

3. Bidder advertised, not less than ten (10) calendar days before the date the bids are opened, in one or more daily or weekly newspaper trade association publications, minority- or trade-oriented publications, trade journals, or other media, specified by the local agency for CBEs that are interested in participating in the Project.
 4. Bidder provided written notice of his or her interest in bidding on the contract to the CBEs required to be notified by the Project specifications not less than ten (10) calendar days prior to the opening of bids.
 5. Bidder followed up initial solicitations of interest by contacting the enterprises to determine with certainty whether the enterprises were interested in performing specific items of the Project.
 6. Bidder provided interested CBEs with information about the plans, specifications, and requirements for selected subcontracting or material supply work.
 7. Bidder requested assistance from minority and women community organizations; minority and women contractor groups; local, state, or federal minority and women business assistance offices; or other organizations that provide assistance in the recruitment and placement of minority or women business enterprises, if any are available.
 8. Bidder negotiated in good faith with the CBEs, and did not unjustifiably reject as unsatisfactory bids prepared by any CBE.
 9. Where applicable, the Bidder advised and made efforts to assist interested CBEs in obtaining bonds, lines of credit, or insurance required by these Contract Documents.
 10. Bidder's efforts to obtain CBE participation could reasonably be expected by the County to produce a level of participation sufficient to meet the goals and requirements of the County.
- c. Bidder may request for a certified CBE listing via email the County of Los Angeles Office of Small Business at:

osb@dcba.lacounty.gov

For additional information, contact the County of Los Angeles Department of Consumer and Business Affairs (Small Business Services). The website is: dcba.lacounty.gov. The County of Los Angeles Certification Portal from the

Office of Small business is at the same website for firms seeking County certification. Information on this program and how to obtain certification are available on the County of Los Angeles Department of Economic Opportunity website: [Office of Small Business | LA County AJCC, CA](https://www.ajcc.lacounty.gov/businesses/office-of-small-business)
<https://www.ajcc.lacounty.gov/businesses/office-of-small-business>.

- d. Contractors, material, and services and supplies vendors interested in becoming registered as certified minority or women business enterprises may contact the County of Los Angeles Countywide Contract Compliance Section, at (626) 943-5619.
- e. The first, second, and third apparent lowest bidders are required to submit documentation which describes the Bidder's good faith efforts to utilize CBEs within the timeframe indicated in Article 1.11 Submittal of Bids, paragraph d.

1.17 BEST MANAGEMENT PRACTICE (BMP) REQUIREMENTS

- a. Contractor shall comply with the Los Angeles County Department of Public Works Construction Site Best Management Practices (BMP's) Manual, latest edition. A copy of the BMP Manual can be obtained at the Los Angeles County Department of Public Works Cashier's Office, 900 South Fremont Avenue, Alhambra, CA 91803, or call (626) 458-6959. Specific requirements for this Project are listed in Sections 00 03 10, 01 00 00, and 01 57 00.
- b. Contractor shall use Construction and Demolition Debris Recycling Best Management Practices. Specific requirements are listed in Section 01 74 19. Copies of the Best Management Practices handbook are available at the Cashier's Office at the Department of Public Works at no cost to bidders.

1.18 RECYCLED BOND PAPER-CONTRACT LANGUAGE

Consistent with the Board of Supervisor's policy to reduce the amount of solid waste deposited at the County landfills, the Contractor agrees to use recycled content paper to the maximum extent possible on the project.

1.19 IMPROPER CONSIDERATIONS

- a. **Attempt to Secure Favorable Treatment**
It is improper for any County officer, employee, or agent to solicit consideration, in any form, from a Bidder with the implication, suggestion or statement that the Bidder's provision of the consideration may secure more favorable treatment for the Bidder in the award of a Contract or that the Bidder's failure to provide such consideration may negatively affect the County's consideration of the Bidder's submission. A Bidder must not offer or give either directly or through an intermediary, consideration, in any form, to

a County officer, employee, or agent for the purpose of securing favorable treatment with respect to the award of a Contract.

b. Notification to County

A Bidder must immediately report any attempt by a County officer, employee, or agent to solicit such improper consideration. The report must be made to the Los Angeles County Fraud Hotline at (800) 544-6861 or <https://fraud.lacounty.gov/>. Failure to report such a solicitation may result in the Bidder's submission being eliminated from consideration.

c. Form of Improper Consideration

Among other items, such improper consideration may take the form of cash, discounts, services, the provision of travel or entertainment, or tangible gifts.

1.20 CONSIDERATION OF GAIN/GROW PROGRAM PARTICIPANTS FOR EMPLOYMENT

As a threshold requirement for consideration for contract award, Bidders/Proposers shall demonstrate a proven record of hiring the County's Department of Public Social Services' (DPSS) Greater Avenues for Independence (GAIN) or General Relief Opportunity for Work (GROW) participants or shall attest to a willingness to consider GAIN/GROW participants for any future employment opening if they meet the minimum qualifications for that opening. Additionally, Bidders/Proposers shall attest to a willingness to provide employed GAIN/GROW participants access to Bidders'/Proposers' employee mentoring program, if available, to assist these individuals in obtaining permanent employment and/or promotional opportunities.

The County will refer GAIN/GROW participants by job category to the Contractor. DPSS may be contacted at the following locations:

Central County	(323) 730-6452
East San Fernando Valley	(818) 729-8933
Palmdale-Lancaster	(661) 575-2646
Pomona	(909) 392-3071
San Gabriel Valley	(626) 927-2723
South County	(310) 603-8359
Southeast County	(323) 261-3065
West County	(310) 655-7725
West San Fernando Valley	(818) 718-4337

Bidders/Proposers who are unable to meet this requirement shall not be considered for contract award.

1.21 CHILD SUPPORT COMPLIANCE PROGRAM

Contractor is required to fully comply with all applicable state and federal reporting requirements relating to employment reporting for its employees. Contractor is required to fully comply with all lawfully served wage and earnings assignment orders and notices of assignment. Failure to comply with state and federal reporting requirements regarding employees, or failure to implement lawfully served wage and earnings assignment orders or notices of assignment, constitutes a default under the contract, and failure to cure the default within 90 days of notice by the County, shall subject the contract to termination. Failure to comply with these requirements may be cause for debarment.

1.22 FEDERAL EARNED INCOME CREDIT

Contractor shall notify its employees, and shall require each subcontractor to notify its employees, that they may be eligible for the Federal Earned Income Credit under the Federal income tax laws. Such notice shall be provided in accordance with the requirements set forth in Internal Revenue Service Notice 1015.

1.23 REDUCTION OF SOLID WASTE

Consistent with the Board of Supervisors' policy to reduce the amount of solid waste deposited at the County landfills, the Contractor agrees to use recycled-content paper to the maximum extent possible on the project.

1.24 INJURY AND ILLNESS PREVENTION PLAN (IIPP) AND CODE OF SAFE PRACTICES (CSP) AFFIDAVIT

The apparent low Bidder shall submit Section 00 04 91, INJURY and ILLNESS PREVENTION PLAN (IIPP) AND CODE OF SAFE PRACTICES (CSP) affidavit no later than seven (7) calendar days after the bid opening. The affidavit requires that the Bidder shall have an IIPP and a CSP which complies with Cal/OSHA Regulations, and that all subcontractors supplying employees to the jobsite will be required to prove to the Contractor that they have an IIPP and a CSP which complies with Cal/OSHA Regulations, and that their jobsite employees have been trained on IIPP and CSP.

Failure to submit this affidavit as required, may result in a determination that the apparent low Bidder is nonresponsive.

1.25 DETERMINATION OF BIDDER RESPONSIBILITY

- a. A responsible Bidder is a Bidder who has demonstrated the attribute of trustworthiness, as well as quality, fitness, capacity and experience to satisfactorily perform the contract. It is the County's policy to conduct business only with responsible consultants.

- b. Bidders are hereby notified that, in accordance with Chapter 2.202 of the County Code, the County may determine whether the Bidder is responsible based on a review of the Bidder's performance on any contracts, including but not limited to County contracts. Particular attention will be given to violations of labor laws related to employee compensation and benefits, and evidence of false claims made by the Bidder against public entities. Labor law violations which are the fault of subcontractors and of which the Bidder had no knowledge shall not be the basis of a determination that the Bidder is not responsible.
- c. The County may declare a Bidder to be non-responsible for purposes of this contract if the Board of Supervisors, in its discretion, finds that the Bidder has done any of the following: (1) violated a term of a contract with the County; (2) committed an act or omission which negatively reflects on the Bidder's quality, fitness or capacity to perform a contract with the County, any other public entity, or a nonprofit corporation created by the County, or engaged in a pattern or practice which negatively reflects on same; (3) integrity or business honesty; or (4) made or submitted a false claim against the County or any other public entity.
- d. If there is evidence that the highest ranked Bidder may not be responsible, the Department shall notify the Bidder in writing of the evidence relating to the Bidder's responsibility, and its intention to recommend to the Board of Supervisors that the Bidder be found not responsible. The Department shall provide the Bidder and/or the Bidder's representative with an opportunity to present evidence as to why the Bidder should be found to be responsible and to rebut evidence which is the basis for the Department's recommendation.
- e. If the Bidder presents evidence in rebuttal to the Department, the Department shall evaluate the merits of such evidence, and based on that evaluation, make a recommendation to the Board of Supervisors. The final decision concerning the responsibility of the Bidder shall reside with the Board of Supervisors.
- f. The terms shall also apply to proposed subcontractors of Bidders on County contracts.

1.26 BIDDER DEBARMENT

- a. The Bidder is hereby notified that, in accordance with Chapter 2.202 of the County Code, the County may debar the Bidder from proposing on, or being awarded, and/or performing work on other County contracts for a specified period of time, which generally will not exceed five years but may exceed five years or be permanent if warranted by the circumstances, and the County may terminate any or all of the Bidder's existing contracts with the County, if the Board of Supervisors finds, in its discretion, that the Bidder has done any of the following: (1) violated a term of a contract with the County or a nonprofit corporation created by the County; (2) committed an act or

omission which negatively reflects on the Bidder's quality, fitness or capacity to perform a contract with the County, any other public entity, or a nonprofit corporation created by the County, or engaged in a pattern or practice which negatively reflects on same; (3) committed an act or offense which indicates a lack of business integrity or business honesty; or (4) made or submitted a false claim against the County or any other public entity.

- b. If there is evidence that the highest ranked Bidder may be subject to debarment, the Department shall notify the Bidder in writing of the evidence which is the basis for the proposed debarment, and shall advise the Bidder of the scheduled date for a debarment hearing before the Contractor Hearing Board.
- c. The Contractor Hearing Board shall conduct a hearing where evidence on the proposed debarment is presented. The Bidder and/or the Bidder's representative shall be given an opportunity to submit evidence at that hearing. After the hearing, the Contractor Hearing Board shall prepare a tentative proposed decision, which shall contain a recommendation regarding whether the Bidder should be debarred, and, if so, the appropriate length of time of the debarment. The Bidder and the Department shall be provided an opportunity to object to the tentative proposed decision prior to its presentation to the Board of Supervisors.
- d. After consideration of any objections, or if no objections are received, a record of the hearing, the proposed decision and any other recommendation of the Contractor Hearing Board shall be presented to the Board of Supervisors. The Board of Supervisors shall have the right to modify, deny or adopt the proposed decision and recommendation of the Contractor Hearing Board.
- e. If a Bidder has been debarred for a period longer than five years, that Bidder may, after the debarment has been in effect for at least five years; submit a written request for review of the debarment determination to reduce the period of debarment or terminate the debarment. The County may, in its discretion, reduce the period of debarment or terminate the debarment if it finds that the Bidder has adequately demonstrated one or more of the following: (1) elimination of the grounds for which the debarment was imposed; (2) a bona fide change in ownership or management; (3) material evidence discovered after debarment was imposed; or (4) any other reason that is in the best interests of the County.
- f. The Contractor Hearing Board will consider requests for review of a debarment determination only where (1) the Bidder has been debarred for a period longer than five years; (2) the debarment has been in effect for at least five years; and (3) the request is in writing, states one or more of the grounds for reduction of the debarment period or termination of the debarment, and includes supporting documentation. Upon receiving an appropriate request, the Contractor Hearing Board will provide notice of the hearing on the request. After the hearing, the Contractor Hearing

Board shall conduct a hearing where evidence on the proposed reduction of debarment period or termination of debarment is presented. This hearing shall be conducted and the request for review decided by the Contractor Hearing Board pursuant to the same procedures as for a debarment hearing.

The Contractor Hearing Board's proposed decision shall contain a recommendation on the request to reduce the period of debarment or terminate the debarment. The Contractor Hearing Board shall present its proposed decision and recommendation to the Board of Supervisors. The Board of Supervisors shall have the right to modify, deny, or adopt the proposed decision and recommendation of the Contractor Hearing Board.

- g. These terms shall also apply to proposed subcontractors of Bidders on County contracts.

1.27 CONTRACTOR EMPLOYEE JURY SERVICE PROGRAM

The prospective contract is subject to provisions of the County's ordinance entitled Contractor Employee Jury Service ("Jury Service Program") as codified in Sections 2.203.010 through 2.203.090 of the Los Angeles County Code.

- a. Unless Contractor has demonstrated to the County's satisfaction either that Contractor is not a "Contractor" as defined under the Jury Service Program (Section 2.203.020 of the County Code) or that Contractor qualifies for an exception to the Jury Service Program (Section 2.203.070 of the County Code), Contractor shall have and adhere to a written policy that provides that its Employees shall receive from the Contractor, on an annual basis, no less than five days of regular pay for actual jury service. The policy may provide that Employees deposit any fees received for such jury service with the Contractor or that the Contractor deduct from the Employee's regular pay the fees received for jury service.
- b. For purposes of this Section, "Contractor" means a person, partnership, corporation or other entity which has a contract with the County or a subcontract with a County contractor and has received or will receive an aggregate sum of \$50,000 or more in any 12-month period under one or more County contracts or subcontracts. "Employee" means any California resident who is a full-time employee of Contractor. "Full time" means 40 hours or more worked per week, or a lesser number of hours if the lesser number is a recognized industry standard and is approved as such by the County. If Contractor uses any subcontractor to perform services for the County under the Contract, the subcontractor shall also be subject to the provisions of this Section. The provisions of this Section shall be inserted into any such subcontract agreement and a copy of the Jury Service Program shall be attached to the agreement.

- c. If a contractor does not fall within the Jury Service Program's definition of "Contractor" or if it meets any of the exceptions to the Jury Service Program, then the contractor must so indicate in the Certification Form and Application for Exception and include with its submission all necessary documentation to support the claim such as tax returns or a collective bargaining agreement, if applicable. Upon reviewing the contractor's application, the County will determine, in its sole discretion, whether the contractor falls within the definition of Contractor or meets any of the exceptions to the Jury Service Program. The County's decision will be final.
- d. If a contractor is not required to comply with the Jury Service Program when the contract commences, the contractor will have a continuing obligation to review the applicability of its "exception status" from the Jury Service Program, and the contractor must immediately notify the County if the contractor at any time either comes within the Jury Service Program's definition of "contractor" or if the contractor no longer qualifies for an exception to the Program. In either event, the contractor must immediately implement a written policy consistent with the Jury Service Program. The County may also require, at any time during the contract and at its sole discretion, that a contractor demonstrate to the County's satisfaction that the contractor either continues to remain outside the Jury Service Program's definition of "Contractor" and/or the contractor continues to qualify for an exception to the Program.
- e. If a contractor uses a subcontractor to perform services for the County under the contract, the subcontractor shall also be subject to the provisions of the Jury Service Program, unless the subcontractor 1) does not fall within the definition of "contractor" or 2) meets one of the exceptions to the Jury Service Program. The provisions of the Jury Service Program must be inserted into any applicable agreement and a copy of the Jury Service Program shall be attached to the agreement.
- f. A contractor's violation of the Jury Service Program may constitute a material breach of the contract. In the event of such material breach, County may, in its sole discretion, terminate the contract and/or bar a contractor from the award of future County contracts for a period of time consistent with the seriousness of the breach.

1.28 VENDOR REGISTRATION WITH THE COUNTY OF LOS ANGELES

All potential bidders/proposers with the County of Los Angeles are required to register in WebVen and have a valid vendor number assigned to them. The vendor number is required by the Auditor-Controller and is necessary for any payments to be made to a contractor who is awarded a County project. Vendor registration can

be done online at <http://camisvr.co.la.ca.us/webven> or calling the County's Internal Service Department Central Purchasing Vendor Relations Unit at (323) 267-2650. If you are awarded a contract and you do not have a valid vendor number, your payments will be delayed until you are registered.

1.29 NO PAYMENT FOR SERVICES PROVIDED FOLLOWING EXPIRATION/TERMINATION OF AGREEMENT

Contractor shall have no claim against County for payment for any money or reimbursement, of any kind whatsoever, for any service provided by Contractor after the expiration or other termination of this Agreement. Should Contractor receive any such payment it shall immediately notify County and shall immediately repay all such funds to County. Payment by County for services rendered after expiration/termination of this Agreement shall not constitute a waiver of County's right to recover such payment from Contractor. This provision shall survive the expiration or other termination of this Agreement.

1.30 COUNTY'S PREFERENCE PROGRAM: LOCAL SMALL BUSINESS ENTERPRISE

Overview of County's Preference Program

The County of Los Angeles has The Local Small Business Enterprise (LSBE) preference program. The Board of Supervisors encourages business participation in the County's contracting process by continually streamlining and simplifying our selection process and expanding opportunities for these businesses to compete for County opportunities.

The LSBE Preference Program requires that a business must complete County of Los Angeles certification prior to requesting a preference in a solicitation. This program and how to obtain certification are further explained in this solicitation.

The maximum percentage of a LSBE Preference Program preference shall be 7 percent of the lowest responsible bidder meeting specifications and the maximum financial value shall be one hundred fifty thousand dollars (\$150,000) for any bid.

Sanctions and financial penalties may apply to a business that knowingly, and with intent to defraud, seeks to obtain or maintain certification as a certified LSBE when not qualified.

Local Small Business Enterprise (LSBE) Preference Program

The County will give LSBE preference during the solicitation process to businesses that meet the definition of a LSBE, consistent with Chapter 2.204.030C.1 of the Los Angeles County Code. An LSBE is defined as a business: 1) certified by the State of California as a small business and has

had its principal place of business located in Los Angeles County for at least one year; or 2) certified as a small business enterprise with other certifying agencies pursuant to the Department of Consumer and Business Affairs' (DCBA) inclusion policy that: a) has its principal place of business located in Los Angeles County, and b) has revenues and employee sizes that meet the State's Department of General Services requirements. **The business must be certified by the Department of Consumer and Business Affairs as meeting the requirements set forth above prior to requesting the LSBE Preference in a solicitation.**

To apply for certification as an LSBE, businesses should contact the County of Los Angeles Department of Consumer and Business Affairs at <http://dcba.lacounty.gov>

Certified LSBEs may only request the preference if the certification process has been completed and certification is affirmed. Businesses must complete and submit Section 00 04 38 Request for Preference Consideration Form and submit a letter of certification from the County of Los Angeles Department of Consumer and Business Affairs (DCBA) with their proposal. As shown on the County DCBA letter, the certification must be valid as of the bid due date.

Information about the State's small business enterprise certification regulations is in the California Code of Regulations, Title 2, Subchapter 8, Section 1896 et seq., and is also available on the California Department of General Services Office of Small Business Certification and Resources Web site at <http://www.pd.dgs.ca.gov/smbus/default>.

Should one or more of the Bidders request and be granted the Local Small Business Enterprise (LSBE) Preference, the bid amount shall be adjusted as follows:

Local Small Business Enterprise (LSBE) Preference: Seven percent of the lowest bid amount will be calculated, which shall not exceed \$150,000, and that amount will be deducted from the bid amounts submitted by all LSBE bidders who requested and were granted the LSBE Preference.

The contract award will be the bidder's original bid price, not the price with preference(s) that is used for evaluation purposes.

Preference Program Enterprises (PPEs) - Prompt Payment Program

It is the intent of the County that Certified Preference Program Enterprises (PPEs) receive prompt payment for services they provide to County Departments. Prompt payment is defined as fifteen (15) calendar days after receipt of an approved, undisputed invoice which has been properly matched against documents such as a receiving, shipping, or services delivered report, or any other validation of receipt document consistent with Board Policy 3.035 (Preference Program Payment Liaison and Prompt Payment Program).

1.31 NOTICE TO EMPLOYEES REGARDING THE SAFELY SURRENDERED BABY LAW

The Contractor shall notify and provide to its employees, and shall require each subcontractor to notify and provide to its employees, a fact sheet regarding the Safely Surrendered Baby Law, its implementation in Los Angeles County, and how to safely surrender a baby. The fact sheet is available on the Internet at www.babysafela.org for printing purposes.

The Contractor acknowledges that the County places a high priority on the implementation of the Safely Surrendered Baby Law. The Contractor understands that it is the County's policy to encourage all County Contractors to voluntarily post the County's "Safely Surrendered Baby Law" poster in a prominent position at the Contractor's place of business. The County's Department of Children and Family Services will supply the Contractor with the poster to be used.

1.32 REQUIRED CERTIFICATION/DISCLOSURE

Bids must provide full disclosure on violations and civil/criminal legal actions as provided for on the bidding requirement forms Sections 00 04 70, 00 04 71, 00 04 72, 00 04 73, and 00 04 74. Failure to complete these forms may result in a determination that the Bidder is nonresponsive and/or not responsible.

1.33 NOTIFICATION TO COUNTY OF PENDING ACQUISITIONS/MERGERS BY BIDDING COMPANY

The Bidder shall notify the County of any pending acquisitions/mergers of its company unless otherwise legally prohibited from doing so. If the Bidder is restricted from legally notifying the County of pending acquisitions/mergers, then it should notify the County of the actual acquisitions/mergers as soon as the law allows and provide to the County the legal framework that restricted it from notifying the County prior to the actual acquisitions/mergers. This information shall be provided by the Bidder on Section 00 04 92 - Bidder's Organization Questionnaire/Affidavit. Failure of the Bidder to provide this information may eliminate its bid from any further consideration. Bidder shall have a continuing obligation to notify the County and update any changes to its response in Section 00 04 92 - Bidder's Organization Questionnaire/Affidavit during the solicitation.

1.34 COUNTY'S DEFAULTED PROPERTY TAX REDUCTION PROGRAM

The prospective contract is subject to the requirements of the County's Defaulted Property Tax Reduction Program (Los Angeles County Code, Chapter 2.206). Prospective contractors should carefully read the Defaulted Tax Program Ordinance and the pertinent provisions of the sample contract which are incorporated by reference into and made a part of this solicitation. The Defaulted Tax Program applies to both contractors and their subcontractors.

Bidders/proposers shall be required to certify that they are in full compliance with the provisions of the Defaulted Tax Program and shall maintain compliance during the term of any contract that may be awarded pursuant to this solicitation or shall certify that they are exempt from the Defaulted Tax Program by completing Certification of Compliance with the County's Defaulted Property Tax Reduction Program required forms. Failure to maintain compliance, or to timely cure defects, may be cause for termination of a contract or initiation or debarment proceedings against the non-compliant contractor (Los Angeles County Code, Chapter 2.202).

Bids/proposals that fail to comply with the certification requirements of the Defaulted Tax Program will be considered non-responsive and excluded from further consideration.

1.35 LOCAL AND TARGETED WORKER HIRE PROGRAM

Local and Targeted Worker Hire Program applies to this project.

- A. At least 30 percent of total California construction labor hours worked on each project must be performed by a qualified Local Resident. Where allowable, contractors are encouraged to achieve higher participation levels for Local Residents.
- B. At least 10 percent of total California hours worked shall be performed by County residents classified as a Targeted Worker facing barriers to employment. Hours worked by a Targeted Worker who is also a Local Resident may be applied towards the 30 percent Local Resident hire goal. A Target Worker is a resident of the County who has indices of career-limiting circumstances, specifically, one or more of the following:
 - 1. Has a documented annual income at or below 100 percent of the Federal Poverty Level;
 - 2. No high school diploma or GED;
 - 3. A history of involvement with the criminal justice system;
 - 4. Protracted unemployment (receiving unemployment benefits for at least 6 months);
 - 5. Is a current recipient of government cash or food assistance benefits;
 - 6. Is homeless or has been homeless within the last year;
 - 7. Is a custodial single parent;
 - 8. Is a former foster youth; or
 - 9. Is a veteran, or is the eligible spouse of a veteran of the United States armed forces, under Section 2(a) of the Jobs for Veterans Act (38 U.S.C.4215[a]).
 - 10. Eligible Migrant and seasonal farmworkers
 - 11. English Language Learners
 - 12. Older Individuals (55+)
 - 13. Disabled

14. Individuals with Low Levels of Literacy

- C. A Local Resident is defined as an individual living within the Tier 1 or Tier 2 ZIP Codes of the County. Before employing worker(s) from Tier 2 ZIP Codes, the available pool of local residents whose primary place of residence is within Tier 1 ZIP Codes must first be exhausted. Tier 1 means ZIP Codes within five (5) miles of the proposed project site, and where the average percentage of households living below 200 percent of the Federal Poverty Level (FPL) is greater than the County average for such households. Tier 2 means any ZIP Codes within the County where the average percentage of households living below 200 percent of the FPL is greater than the County average for such households. This definition shall also apply to affordable housing projects and for privately financed developments located on County property.
- D. Contractor shall comply with the provision required under the Local and Targeted Hire Program in the Agreement.
- E. In addition, there shall be a **mandatory** requirement to use a Jobs Coordinator to be hired directly by the contractor, prior to the start of work on the project. The Jobs Coordinator is an independent third-party individual, entity, or employee with whom the Prime Contractor enters into a contract or employs to facilitate the implementation of the Local and Targeted Worker Hiring Requirements of this Agreement. The Jobs Coordinator may be selected from the approved Jobs Coordinators list available as Form 00 09 12-5. If the Prime Contractor utilizes an employee as a Jobs Coordinator, the Jobs Coordinator must be able to demonstrate or document to the County the minimum qualifications and/or experience to fulfill the duties and responsibilities as outlined in Sections 2.02 and 2.03.
- F. Per State Labor Code, a minimum ratio of one apprentice hour for every five journeyman hours shall be enforced, and contractors shall strive to obtain half of all apprentice hours on the project be performed by Local and Targeted Workers. Hours worked by an apprentice who is also a Targeted Worker or a Local Resident may be applied towards the 30 percent Local Resident and/or the 10 percent Targeted Worker hire goals.

1.36 Contractor CARD Track/Monitoring Database

The County maintains the Contractor Alert Reporting Database (CARD), which is used to track/monitor poorly performing contractors. When a County department identifies a significant performance/non-compliance issue(s) with a contractor, the department will provide notice to the contractor and will give the contractor an opportunity to correct the issue(s). If the contractor does not take any appropriate steps to correct the issue(s), the County department will enter the contractor, along with any other relevant information pertaining to the contractor's performance issue(s), into CARD.

The information entered into CARD can be accessed by all County departments, and will be used, along with any other relevant information not included in CARD, in determining bidder responsibility. If a department reviews this information and determines that a finding of non-responsibility should be pursued, the department will adhere to the guidelines specified in the Los Angeles County Code Chapter 2.202, and the County's Implementation Procedures for Determinations of Contractor Non-Responsibility and Contractor Debarment.

1.37 Time Off for Voting

The Contractor shall notify its employees, and shall require each subcontractor to notify and provide to its employees, information regarding the time off for voting law (Elections Code Section 14000). Not less than 10 days before every statewide election, every Contractor and subcontractors shall keep posted conspicuously at the place of work, if practicable, or elsewhere where it can be seen as employees come or go to their place of work, a notice setting forth the provisions of Section 14000.

1.38 ADDITIONAL BIDDER REQUIREMENTS

- a. A pre-bid conference and site visitation will be held on February 18, 2025, at 10 a.m., at the project site to provide information regarding the project, bidding process and answer questions that potential bidders may have. Interested parties are requested to meet promptly at 16350 Filbert St, Sylmar, CA 91342. Attendance is strongly encouraged but not mandatory.
- b. NO ADDITIONAL REQUIREMENTS.

1.39 PUBLIC WORKS CONTRACTOR REGISTRATION PROGRAM

- a. This project is a public work as defined in Section 1720 of the California Labor Code, and subject to compliance monitoring and enforcement by the Department of Industrial Relations (DIR).
- b. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to requirements of Section 4104 of the California Public Contract Code, or engage in the performance of any contract for public works, unless currently registered with the Department of Industrial Relations and qualified to perform public work pursuant to California Labor Code Section 1725.5.
- c. The County shall not accept any bid nor award any contract without proof of the contractor and subcontractor's current registration to perform the project. A copy of the confirmed registration from the Department of Industrial Relations website (<https://services.dir.ca.gov/gsp>) must be attached in

applicable part of the bid package. The bid submitted by an unregistered contractor shall be basis for considering the bid non-responsive [with limited exceptions from this requirement for bid purposes only under Labor Code Section 1771.1].

- d. An inadvertent error in listing an unregistered subcontractor pursuant to Labor Code Section 1725.5 in a bid proposal shall be grounds for considering the bid non-responsive, unless:
 - (1) The subcontractor is registered prior to the bid opening.
 - (2) Within 24 hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in subparagraph (E) of paragraph (2) of subdivision (a) of Section 1725.5.
 - (3) The subcontractor is replaced by another registered subcontractor pursuant to Section 4107 of the Public Contract Code.
- e. All contractors and subcontractors must furnish certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement) in a format prescribed by the Labor Commission.
- f. The prime contractor is required to post job site notices prescribed below:

8 Calif. Code Reg. §16451(d):

“This public works project is subject to monitoring and investigative activities by the Compliance Monitoring Unit (CMU) of the Division of Labor Standards Enforcement, Department of Industrial Relations, State of California. This Notice is intended to provide information to all workers employed in the execution of the contract for public work and to all contractors and other persons having access to the job site to enable the CMU to ensure compliance with and enforcement of prevailing wage laws on public works projects.

“The prevailing wage laws require that all workers be paid at least the minimum hourly wage as determined by the Director of Industrial Relations for the specific classification (or type of work) performed by workers on the project. These rates are listed on a separate job site posting of minimum prevailing rates required to be maintained by the public entity which awarded the public works contract. Complaints concerning nonpayment of the required minimum wage rates to workers on this project may be filed with the CMU at any office of the Division of Labor Standards Enforcement (DLSE).

Local Office Telephone Number:

*Division of Labor Standards Enforcement Office
320 W. Fourth Street, Suite 450
Los Angeles, CA 90013
(213) 620-6330*

"Complaints should be filed in writing immediately upon discovery of any violations of the prevailing wage laws due to the short period of time following the completion of the project that the CMU may take legal action against those responsible.

"Complaints should contain details about the violations alleged (for example, wrong rate paid, not all hours paid, overtime rate not paid for hours worked in excess of 8 per day or 40 per week, etc) as well as the name of the employer, the public entity which awarded the public works contract, and the location and name of the project.

"For general information concerning the prevailing wage laws and how to file a complaint concerning any violation of these prevailing wage laws, you may contact any DLSE office. Complaint forms are also available at the Department of Industrial Relations website found at <http://www.dir.ca.gov/Public-Works/PublicWorks.html>."

In addition, electronic certified payroll records must be submitted to the County through an online system designated by the County when requested by County.

1.40 MENTAL HEALTH SERVICES FOR CRITICAL INCIDENTS

In the event of a serious accident on the Project site, the Los Angeles County Department of Mental Health (DMH) will, if requested, respond. The response may be within a few hours or as long as a few days after the incident, depending on when the request was made. The services DMH will provide include crisis intervention, normalization of the stress response that survivors may be experiencing, stress management techniques and resources if the stress reactions increase in frequency or intensity. Requests for services may be made by calling the DMH Emergency Outreach Bureau Deputy Director, (213) 738-4924, during normal business hours or the ACCESS Center, (800) 854-7771, evenings, holidays, and weekends.

1.41 CONTRACTOR INDEPENDENCE/PROHIBITION FROM PARTICIPATION IN FUTURE SOLICITATION(S)

In accordance with Board Policy No. 5.090, Contractor Independence, The County Board of Supervisors has adopted a countywide policy that prohibits any person, or any firm or any subsidiary of a firm (collectively "firm") from submitting a bid or proposal in any County solicitation process where the person or firm, assisted in the development of the solicitation document(s).

A Bidder/Proposer, or a Contractor or its subsidiary or Subcontractor ("Bidder/Proposer/Contractor"), is prohibited from submitting a bid or proposal in a County solicitation if the Bidder/Proposer/Contractor has provided advice or consultation for the solicitation. A Bidder/Proposer/Contractor is also prohibited from submitting a bid or proposal in a County solicitation if the Bidder/Proposer/Contractor has developed or prepared any of the solicitation materials on behalf of the County. A violation of this provision will result in the disqualification of the Bidder/Contractor/Proposer from participation in the County solicitation or the termination or cancellation of any resultant County contract.

1.42 Background and Security Investigations

Background and security investigations of Contractor's staff may be required at the discretion of the County as a condition of beginning and continuing work under any resulting Contract. The cost of background checks is the responsibility of the Contractor.

1.43 LOCAL SMALL BUSINESS ENTERPRISE/SOCIAL ENTERPRISE/DISABLED VETERANS BUSINESS ENTERPRISE UTILIZATION

Local Small Business Enterprise means a business that is certified by the County of Los Angeles as a Local Small Business Enterprise (Local SBE), consistent with Chapter 2.204 of the Los Angeles County Code.

1. When requested by the County, the contractor shall provide to the County via methods specified by the County, such as submission of electronic live (or dynamic) data on invoices for the prime and all subcontractors using County-designated third party software system or to a County approved website, or other means of submitting expenditure information on subcontractors, including but not limited to the following information: the name, business address, California Contractor License number and telephone number/email address of each subcontractor who will perform work or labor for the contractor on the Project in an amount in excess of one-half of 1 percent of the contractor's total bid. In addition, the contractor shall be required to provide each of the specified subcontractors' Local SBE status (i.e., whether any of the listed subcontractors are Local SBE's), Social Enterprise (SE) status, and Disabled Veterans Business Enterprise status, and the proposed monetary amount of the work the subcontractor will perform on the Project. In addition, at the time of submittal of the final invoice, the contractor shall indicate, via methods specified by the County, the actual dollar amounts paid to each listed subcontractor who performed work on the project.
2. Contractor's failure to comply with the provisions of this Article is a material breach of the Agreement. The parties agree that it will be impracticable or extremely difficult to fix the extent of actual damages resulting from the failure to the Contractor to comply with this Article. The parties agree that under the current circumstances a reasonable estimate of such damages is

specified in the Schedule for Liquidated Damages for Local Small Business Enterprise Utilization hereunder, and that the Contractor shall be liable to the County for said amounts.

If in the judgment of the Director, or his/her designee, the Contractor is deemed to be in non-compliance with the terms and obligations assumed hereby, the Director or his/her designee, at his/her option, in addition to, or in lieu of, other remedies provided herein in this Agreement, may deduct and withhold liquidated damages from County's final payment to the Contractor as follows:

SCHEDULE FOR LIQUIDATED DAMAGES FOR LOCAL SMALL BUSINESS ENTERPRISE/SOCIAL ENTERPRISE/DISABLED VETERANS BUSINESS ENTERPRISE UTILIZATION

<u>Final Invoice Price</u>	<u>Liquidated Damages</u>
Up to \$100,000	\$50.00 plus 0.1% of contract amount
\$100,001 to \$500,000	\$150.00 plus 0.07% of all over \$100,000
Over \$500,000	\$430.00 plus 0.05% of all over \$500,000

1.44 Proposer's Acknowledgement of County's Commitment to Zero Tolerance Human Trafficking

On October 4, 2016, the Los Angeles County Board of Supervisors approved a motion taking significant steps to protect victims of human trafficking by establishing a zero tolerance human trafficking policy. The policy prohibits contractors engaged in human trafficking from receiving contract awards or performing services under a County contract.

Contractors are required to complete 00 04 98 Zero Tolerance Human Trafficking Policy Certification, certifying that they are in full compliance with the County's Commitment to Zero Tolerance Human Trafficking provision as defined in "Compliance with County's Zero Tolerance Human Trafficking" in the Agreement. Further, contractors are required to comply with the requirements under said provision for the term of any contract awarded pursuant to this solicitation.

1.45 Claims

Notwithstanding Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, Section 9204 of the Public Contract Code shall apply to any claim by the Contractor in connection with the Project.

a) Upon receipt of a claim pursuant to Section 9204 of the Public Contract Code, the County will conduct a reasonable review of the claim and, within a period not to exceed 45 Days, provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed.

Upon receipt of a claim, the Contractor and the County may, by mutual agreement, extend the aforementioned time period.

b) The Contractor shall furnish reasonable documentation to support the claim.

c) If Board approval is needed to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the Board does not meet within the 45 Days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the County will have up to 3 Days following the next duly publicly noticed meeting of the Board after the 45-Day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.

d) Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the County issues its written statement. If the County fails to issue a written statement, paragraph (j) shall apply.

e) If the Contractor disputes the County's written response, or if the County fails to respond to a claim issued pursuant to Section 9204 within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the County will schedule a meet and confer conference within 30 Days for settlement of the dispute.

f) Within 10 business days (Monday-Thursday) following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the County will provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the County issues its written statement. Any disputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the County and the Contractor sharing the associated costs equally. The County and the Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside those established in Section 9204.

g) Mediation shall include any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in Section 9204.

h) Unless otherwise agreed to by the County and the Contractor in writing, the mediation conducted pursuant to Section 9204 shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

i) Section 9204 does not preclude the County from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under Section 9204 does not resolve the parties' dispute.

j) Failure by the County to respond to a claim from the Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of Section 9204 shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the County's failure to have responded to a claim, or its failure to otherwise meet the time requirements of Section 9204, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

k) Amounts not paid in a timely manner as required by Section 9204 will bear interest at 7 percent per annum.

l) If a Subcontractor or a lower tier Subcontractor lacks legal standing to assert a claim against the County because privity of the Contract does not exist, the Contractor may present to the County a claim on behalf of a Subcontractor or lower tier Subcontractor. A Subcontractor may request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that the Contractor present a claim for work which was performed by the Subcontractor or by a lower tier Subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the claim be presented to the County shall furnish reasonable documentation to support the claim. Within 45 Days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the claim to the County and, if the original Contractor did not present the claim, provide the Subcontractor with a statement of the reasons for not having done so.

m) A waiver of the rights granted by Section 9204 is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the Contractor and the County may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the County may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of Section 9204, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in Section 9204.

1.46 Proposer's Acknowledgement of County's Commitment to Fair Chance Employment Hiring Practices

On May 29, 2018, the Los Angeles County Board of Supervisors approved a Fair Chance Employment Policy in an effort to remove job barriers for individuals with criminal records. The policy requires businesses that contract with the County to comply with fair chance employment hiring practices set forth in California Government Code Section 12952, Employment Discrimination: Conviction History (Section 12952).

Contractors are required to complete Compliance with Fair Chance Employment Hiring Practices Certification (Required Forms), certifying that they are in full compliance with Section 12952, as indicated in the Sample Contract. Further, contractors are required to comply with the requirements under Section 12952 for the term of any contract awarded pursuant to this solicitation.

1.47 Default Method of Payment: Direct Deposit or Electronic Funds Transfer (EFT)

The County, at its sole discretion, has determined that the most efficient and secure default form of payment for goods and/or services provided under an agreement/contract with the County shall be Electronic Funds Transfer (EFT) or direct deposit, unless an alternative method of payment is deemed appropriate by the Auditor-Controller (A-C).

Upon contract award or at the request of the A-C and/or the contracting department, the Contractor shall submit a direct deposit authorization request with banking and vendor information, and any other information that the A-C determines is reasonably necessary to process the payment and comply with all accounting, record keeping, and tax reporting requirements.

Any provision of law, grant, or funding agreement requiring a specific form or method of payment other than EFT or direct deposit shall supersede this requirement with respect to those payments.

Upon contract award or at any time during the duration of the agreement/contract, a Contractor may submit a written request for an exemption to this requirement. The A-C, in consultation with the contracting department(s), shall decide whether to approve exemption requests.

1.48 Disallowed Cost

If Proposer's compliance with a County contract has been reviewed by the Department of the Auditor-Controller within the last 10 years, Proposer must not have unresolved questioned costs identified by the Auditor-Controller, in an amount over \$100,000.00, that are confirmed to be disallowed costs by the contracting County department, and remain unpaid for six months or more from the date of disallowance, unless such disallowed costs are the subject of current good faith negotiations to resolve the disallowed costs, in the opinion of the County.

1.49 Compliance with the County Policy of Equity

The consultant acknowledges that the County takes its commitment to preserving the dignity and professionalism of the workplace very seriously, as set forth in the County Policy of Equity (CPOE) (<https://ceop.lacounty.gov/>). The consultant further acknowledges that the County strives to provide a workplace free from discrimination, harassment, retaliation and inappropriate conduct based on a protected characteristic, and which may violate the CPOE. The consultant, its employees and subconsultants acknowledge and certify receipt

and understanding of the CPOE. Failure of the consultant, its employees or its subconsultants to uphold the County's expectations of a workplace free from harassment and discrimination, including inappropriate conduct based on a protected characteristic, may subject the consultant to termination of contractual agreements as well as civil liability.

1.50 Integrated Pest Management (IPM) Program Compliance

1.51.1 The County of Los Angeles is a permittee to a National Pollutant Discharge Elimination System Permit (NPDES Permit) issued by the Los Angeles Regional Water Quality Control Board to reduce or eliminate pollutants moved into surface water through storm water management systems and facilities. One of the conditions of the NPDES Permit is the implementation of an Integrated Pest Management Program (IPM Program) crafted to reduce the impact of pesticides and fertilizers to surface water.

1.51.2 The prospective contract is subject to the requirements of the County's IPM Program. Two main components of the Program include a training component for contractor employees who apply pesticides on County owned or maintained property, as well as monthly and annual reporting to the Los Angeles County Department of Agricultural Commissioner/ Weights and Measures (ACWM).

1.51.3 Proposers are required to complete Integrated Pest Management Program Compliance Certification in Required Forms, acknowledging and certifying compliance with the County's Integrated Pest Management Program, Compliance with County's Integrated Pest Management Program in Sample Contract. Further, contractors are required to comply with the requirements under said provision for the term of any contract awarded pursuant to this solicitation.

1.51 COVID-19 Vaccinations of County Contractor Personnel

When applicable and required by the County, the Contractor shall comply with all other applicable local, departmental, State, and federal laws, regulations, and requirements for COVID-19.

1.52 Contractor Development and Bonding Program

Contractor Development and Bonding Program (CDABP) - Administered by the Chief Executive Office of the County of Los Angeles for all County Construction Contracting Departments. The CDABP provides a broad range of contractor technical assistance, training, and support in qualifying for bonds, as well as contract financing for County awarded contracts. CDABP assistance is available to prime and subcontractors. The CDABP is a County funded resource designed to reduce the barriers to small and diverse firms seeking to bid and contract on County projects. For information on the CDABP, please contact Contract Analyst.

1.53 Application of Countywide Community Workforce Agreement

The Countywide Community Workforce Agreement (CWA) with the Los Angeles/Orange Counties Building and Construction Trades Council and its respective unions was fully executed on June 7, 2023. A copy of the Countywide CWA is included as **Exhibit A** of the Project Manual and will become an Exhibit in the final contract for this project. Countywide CWA will apply to this Project. The Contractor shall comply with all terms therein and shall be bound by the terms and conditions of the Countywide CWA applicable to the contractors for all Work on the Project for the entire duration of the Project. Countywide CWA shall be deemed incorporated in full into this agreement including, but not limited to, the provisions regarding the hiring of workers for the Project by the Contractor and all of its subcontractors of all tiers. Contractor shall execute and return to the County the Letter of Assent, attached to the Countywide CWA as Attachment A to the **Exhibit A**, at the time of contract execution and shall cause each of its subcontractors of all tiers to also execute and return to the County a copy of the Letter of Assent.

1.54 Contribution and Agent Declaration

[Government Code Section 84308](#) requires a party to a contract proceeding to disclose any contribution of more than \$250 made to a County officer within the preceding twelve (12) months by the party or their agent. State regulations require this disclosure to be made at the time an application is filed, and, if a contribution is made during the contract proceeding, within 30 days of making a contribution or on the date on which the party first appears before or communicates with the agency regarding the proceeding after making the contribution, whichever is earliest. All Bidders are advised that they and all of their Subcontractors must complete and return as part of the bid, the **Contribution and Agent Declaration Form**. Bidders are further advised that they and their Subcontractors must update the Contribution and Agent Declaration Form throughout the pendency of the solicitation if a contribution is made after the initial disclosure when the proposal is submitted, and as requested at any time by the County prior to contract award. Failure by the Bidder or any Subcontractor(s) to complete and submit the required **Contribution and Agent Declaration Form**, and failure by the Bidder or any Subcontractor(s) to update the declaration as required by law or as otherwise requested by the County, may eliminate the proposal from further consideration and/or the Proposer may be disqualified from a contract award, as determined in the County's sole discretion. Further, all Bidders and their Subcontractors are prohibited under [Government Code Section 84308](#) from making a contribution of more than \$250 to a County officer for twelve (12) months after the date a final decision is made in the contract proceeding involving this solicitation.

Americans with Disabilities Act (ADA) Information



Individuals requiring reasonable accommodations may request written materials in alternate formats, physical accessibility accommodations, sign language interpreters or other reasonable accommodations by contacting our departmental Americans with Disabilities Act Coordinator at (626) 458-7337, from 7:30 a.m. to 5:00 p.m., Monday through Thursday (excluding holidays). Persons who are hearing impaired may make contact by first dialing the California Relay Service at 7-1-1. Requests should be made at least one week in advance to ensure availability. When making a reasonable accommodation request, please reference Business Relations and Contracts Division **[BRC-2]**.

* * *

SECTION 00 03 00**FORM OF BID TO BE USED BY BIDDERS**

The undersigned proposes to furnish all materials, labor, and equipment required for the construction to complete the Barry J. Nidorf Secure Youth Track Facility Security and Kitchen Upgrades Project, in accordance with Drawings and Specifications 7878, including addenda thereto, if any, adopted by the Board of Supervisors, and on file in the office of the Board of Supervisors, as follows:

The lowest bid price shall be determined by adding the following items: Lump Sum Bid in Words (1) + [Extended Overhead Daily Rate (2) x Multiplied by 30 days] = Total Lump Sum Bid. Preference as stated in Section 00 01 00, 1.30, will be applied to the Total Lump Sum Bid, if applicable, to determine the final total bid amount.

1. LUMP SUM BID:

The lump sum bid for the work, including Best Management Practices (BMP) and Construction and Demolition Debris Recycling, and Mandatory Jobs Coordinator requirements complete according to the Drawings and Specifications, will be:

(\$ _____) (_____)
Lump sum bid in figures Lump sum bid in words

2. EXTENDED OVERHEAD DAILY RATE:

The daily rate for the sum of the Contractor's field office and home office overhead applicable to this project, for each day of compensable delay will be:

(\$ _____) (_____)
Daily rate in figures Daily rate in words

3. COUNTY PROGRAM PREFERENCE:

The Local Small Business Enterprise Program Preference is provided by the County for purposes of bid evaluation only, as specified in Article 1.30 of Section 00 01 00. If Bidder is a qualifying Local Small Business Enterprise, check "yes" in the box below. Section 00 04 38 Request for County Program Preference Consideration must be submitted at the time of bid with a copy of the certification letter issued by the County of Los Angeles Department of Consumer and Business Affairs. If non-qualifying, check "no" in the appropriate box.

LSBE Yes

☐

No

☐

NOTE: Any alteration or addition to the Form of Bid may invalidate same. All blank spaces shall be filled out completely. Line out nonapplicable blanks. An incomplete form may invalidate bid. The County reserves the right to waive any informalities or to reject any or all bids or to accept any alternatives when called for.

I (We) certify that on _____, 20____, License No. _____, license classification(s) _____, was issued to me (us), in the name of _____, by the Contractors' State License Board, pursuant to California Statutes of 1929, as amended, and that said license has not been revoked.

Firm Ownership Information

Check where applicable:

1. ☐ Minority-Owned
☐ Woman-Owned
☐ Disadvantaged-Owned
☐ Disabled Veteran-Owned
☐ LGBTQQ-Owned

2. ☐ An individual
☐ A corporation. Name
state or territory of
Incorporation

☐ A copartnership

☐ A joint venture

Race/Ethnic Composition

For statistical purposes only.

- ☐ Black/African American
☐ Hispanic/Latino
☐ Asian or Pacific Islander
☐ Native Americans
☐ Subcontinent Asian
☐ White

If a copartnership or joint venture, list names of individuals comprising same below

Date signed _____, 20____

Respectfully submitted,

Place _____

City and State

Firm Name (if applicable)

Bidder's address, E-mail address, and telephone:

Number and Street

Signature and Print Name

City and State

Zip Code

Title and E-mail Address

Telephone

Signature and Print Name

Fax

Title and E-mail Address

SECTION 00 03 10

BEST MANAGEMENT PRACTICES (BMP) REQUIREMENTS

Best Management Practices (BMPs) shall be defined as any program, technology, process, siting criteria, operating method, measure or device which controls, prevents, removes, or reduces Storm Water pollution. The Contractor shall comply with the Los Angeles County Department of Public Works Construction Site Best Management Practices (BMP's) Manual, latest edition.

BMPs for contractor activities shall be continuously implemented throughout the year. BMPs for erosion and sediment control shall be implemented as required in Section 01 57 00. BMPs for erosion and sediment control shall also be implemented prior to the commencement of any contractor activity or construction operation.

The County, as a permittee, is subject to enforcement actions by the State Water Resources Control Board, Environmental Protection Agency, and private citizens. The County will assess the Contractor a penalty of \$1,000 for each calendar day that the Contractor has not fully implemented the BMPs specified for the Contract and/or is otherwise in noncompliance with these provisions in accordance with Section 01 57 00. In addition, the County will deduct from the final payment due the Contractor, the total amount of any fines levied on the County, plus legal and staff costs, as a result of the Contractor's lack of compliance with these provisions and/or less than complete implementation of the specified BMPs.

Full compensation for the implementation of BMPs, including the construction, deployment, maintenance, removal, and the furnishing of all necessary labor, equipment, and materials, shall be considered as included in the bid price of the total lump sum price bid in Section 00 03 00.

The lump sum bid for the IMPLEMENTATION OF BMPs for construction work according to Sections 01 00 00, 01 57 00, and 01 74 23 Specifications, will be:

(\$ _____) (_____)
BMP's lump sum bid in figures BMP's lump sum bid in words

SECTION 00 03 11

CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING REQUIREMENTS

Contractor shall submit a Construction and Demolition Recycling and Reuse Plan (RRP) for any work done for or on behalf of the County to the Los Angeles County Department of Public Works, Environmental Programs Division in accordance with Part 2.2 of Section 01 74 19.

Full compensation for complying with the Construction and Demolition Debris Recycling Requirements, including the construction, removal, and the furnishing of all necessary labor, equipment, and materials, shall be included in the lump sum price bid.

The lump sum bid for COMPLYING WITH THE CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING REQUIREMENTS according to Section 01 74 19, will be:

(\$ _____) (_____)
Lump sum bid in figures Lump sum bid in words

Name of Bidder (Firm Name)

SECTION 00 03 12

INSURANCE REQUIREMENTS

The premium for the Installation Floater shall be included with the Lump Sum Bid, Section 00 03 00, and shall not be in addition to it.

Builders Risk:

Such coverage is required for this Project and shall supersede Section 00 07 00, Builder's Risk Course of Construction Insurance, Article 45, and shall:

Installation Floater: Such coverage is required for this Project and shall supercede Section 00 07 00, Builder's Risk Course of Construction Insurance, Article 45, and shall:

1. Insure against damage from perils covered by the Causes-of-Loss Special Form (ISO form CP 10 30), and the perils of earthquake, flood, risk of transit loss, loss during storage (both onsite and offsite), and collapse during construction (without restricting collapse coverage to specified perils). If Project involves testing air conditioning systems, boilers, pressure vessels, major machinery or major electrical panels, policy shall include coverage for such testing.
2. Cover all property to be installed (including labor) for the full Contract value (without coinsurance) against loss or damage until completion and acceptance by the County.
3. Such coverage shall be equal to the total Contract cost.

The amount for Builders Risk according to Section 00 08 00 of the Specifications, will be:

(\$ _____)

Amount in figures

(_____)

Amount in words

Name of Bidder (Firm Name)

SECTION 00 03 13

**LOCAL AND TARGETED WORKER HIRE PROGRAM – MANDATORY JOBS
COORDINATOR**

The fee for the mandatory jobs coordinator shall be included with the Lump Sum Bid, Section 00 03 00, and shall not be in addition to it.

Mandatory Jobs Coordinator:

The County of Los Angeles has implemented a **mandatory** Local and Targeted Worker Hire Policy (LTWHP) which can be located in Section 00 09 12. There shall be a **mandatory** requirement to use a Jobs Coordinator to be hired directly by the contractor, prior to the start of work on the project. The Jobs Coordinator is an independent third-party individual, entity, or employee with whom the Prime Contractor enters into a contract or employs to facilitate the implementation of the Local and Targeted Worker Hiring Requirements of this Agreement.

(\$ _____)
Fee Amount in figures

(_____)
Amount in words

Name of Jobs Coordinator _____

Address _____

Phone Number & Email _____

Name of Bidder (Firm Name)

SECTION 00 03 14
CERTIFICATION TO COMPLY WITH COUNTYWIDE COMMUNITY WORKFORCE
AGREEMENT (CWA) FORM

I certify on behalf of the Contractor as follows:

If selected as the Contractor on the Barry J. Nidorf Secure Youth Track Facility Security and Kitchen Upgrades Project:

Contractor, and all of its subcontractors of any tier, agree to become a party to and accept the terms and conditions of the Countywide Community Workforce Agreement (CWA), entitled Countywide Community Workforce Agreement, dated June 7, 2023. A copy of the Countywide CWA is attached as Exhibit A. If awarded contract, Letter of Assent shall be signed by the Prime Contractor prior to the execution of the Contract.

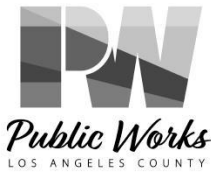
Note: This statement is a Pass/Fail statement. Any bidders that will not verify a commitment to comply with the requirements of Countywide CWA shall not be selected.

Responsible Contractor Representative

Dated: _____

(Signature)

(Company and Position of Signatory)



SECTION 00 04 10
BID BOND

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____

(Bidder and Address)

as Principal and _____

(Surety and Address)

as Surety, as held and firmly bound unto the County of Los Angeles, hereinafter called the County, in the penal sum of ten percent (10%) of the total amount of the bid of the Principal above named, submitted by said Principal to the County, for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION of this obligation of such that:

WHEREAS, the Principal has submitted the above-mentioned Bid to the County, for certain construction specifically described as follows, for which bids are to be opened on _____

_____ for _____
(date of bid opening) (description of work, including location, project name, and project ID as it appears on the bid)

Now, THEREFORE, if the aforesaid Principal is awarded the contract and, within the time and manner required under the bidding or contract documents, after prescribed forms are presented to him for signature, enters into written contract, in the prescribed form, in accordance with the bids, and files the two bonds with the County, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by the law, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue.

In the event suit is brought upon this bond by the County and judgment is recovered, the Surety shall pay all costs incurred by the County in such suit, including a reasonable attorney's fee to be fixed by the court.

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

(SEAL)

Principal

(SEAL)

Signature and Title

Surety

Signature and Title

SECTION 00 04 30

SUBCONTRACTOR LISTING AND SUBCONTRACTING

Prime Contractors shall be governed by the provisions of Sections 4100 to 4113, inclusive, of the Public Contract Code of the State of California and shall set forth in their bids, on forms provided for same, the name and California contractor license number of each Subcontractor who will perform work or labor or render service to the prime Contractor in or about the construction of the work or improvement in amount in excess of one-half (1/2) of one percent (1%) of the prime Contractor's total bid.

Failure by a prime Contractor to specify a Subcontractor for any portion of the work in excess of one-half (1/2) of one percent (1%) of the total bid constitutes an agreement between the prime Contractor and the County that he is fully qualified to perform that portion of the work himself and will perform that portion of the work himself.

No prime Contractor whose bid is accepted shall substitute any person as subcontractor in place of the subcontractor listed, nor shall any subcontract be assigned or transferred except as provided for in the above Sections of the Public Contract Code of the State of California.

Prime Contractors in violation of any of the provisions of Sections 4100 to 4113, inclusive, of the Public Contract Code of the State of California are subject to possible cancellation of contract and monetary penalties as well as disciplinary action by the Contractors' State License Board.

LIST OF SUBCONTRACTORS

The following is a list of the proposed subcontractors to whom I (we) propose to sublet a portion or portions of this work.

<u>NAME</u>	<u>LICENSE NUMBER</u>	<u>LOCATION OF THE PLACE OF BUSINESS</u>	<u>CLASSIFICATION OF WORK TO BE EXECUTED</u>	<u>DIR REGISTRATION NUMBER AND EXPIRATION DATE</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

SECTION 00 04 35

COMMUNITY BUSINESS ENTERPRISES (CBE) PARTICIPATION FORM

Contractors are required to indicate their good faith effort in CBE participation by indicating on this form their proposed involvement on this project. CBEs are Minority/Women/Disadvantaged/Disabled Veteran/Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning owned Business Enterprises (MBE/WBE/DBE/DVBE/LGBTQQ).

LIST OF CBE PARTICIPATION

The following is a list of certified CBE subcontractors or suppliers to whom I (we) propose to sublet or procure a portion or portions of this work.

<u>NAME/ADDRESS</u>	<u>TYPE OF WORK OR PRODUCT</u>	<u>INDICATE MBE/ WBE/DBE/ DVBE/LGBTQQ</u>	<u>PERCENTAGE OF TOTAL CONTRACT VALUE</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

<u>NAME/ADDRESS</u>	<u>TYPE OF WORK OR PRODUCT</u>	<u>INDICATE MBE/ WBE/DBE/ DVBE/LGBTQQ</u>	<u>PERCENTAGE OF TOTAL CONTRACT VALUE</u>

SECTION 00 04 38

**REQUEST FOR PREFERENCE CONSIDERATION—LOW BID
SOLICITATION**

INSTRUCTIONS: Bidders requesting preference consideration must complete and include this form in their bid. In order to qualify for preference, firm must be certified by the County of Los Angeles Department of Consumer and Business Affairs (DCBA). Please reference and ATTACH your Certification Letter issued by DCBA to determine Federal/Non-Federal preference eligibility.

☐ PREFERENCE NOT REQUESTED

OR

☐ PREFERENCE REQUESTED (SELECT ALL THAT APPLY) Preference

Program	Reference
☐ Request for Local Small Business Enterprise (LSBE) Program Preference ☐ Certification for Non-Federally Funded County Solicitations ☐ Certification for Federally Funded County Solicitations	LACC 2.204 PCC 2002

DECLARATION: I DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA THAT THE INFORMATION IS TRUE AND CORRECT.

PRIMARY FIRM NAME: _____

PRINT NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

LOS ANGELES COUNTY COMMUNITY BUSINESS ENTERPRISE (CBE) INFORMATION

TITLE		REFERENCE			
1 FIRM/ORGANIZATION INFORMATION		The information requested below is for statistical purposes only. On final analysis and consideration of award, contractor/vendor will be selected without regard to race/ethnicity, color, religion, sex, national origin, age, sexual orientation or disability.			
Total Number of Employees in California:					
Total Number of Employees (including owners). If the firm has more than one office location, all personnel from all offices must be included:					
Race/Ethnic Composition of Firm. Enter the make-up of Owners/Partners/Associate Partners into the following categories:					
Race/Ethnic Composition		Owners/Partners/ Associate Partners		Percentage of how ownership of the firm is distributed	
		Male	Female	Male	Female
Black/African American				%	%
Hispanic/Latino				%	%
Asian or Pacific Islander				%	%
Native Americans				%	%
Subcontinent Asian				%	%
White				%	%

TITLE		REFERENCE				
2 CERTIFICATION AS MINORITY, WOMEN, DISADVANTAGED, DISABLED VETERAN, AND LESBIAN, GAY, BISEXUAL, TRANSGENDER, QUEER, AND QUESTIONING-OWNED (LGBTQQ) BUSINESS ENTERPRISE		If your firm is currently certified as a minority, women, disadvantaged, disabled veteran or lesbian, gay, bisexual, transgender, queer, and questioning-owned business enterprise by a public agency, complete the following.  Check if not applicable				
Agency Name	Minority	Women	Disadvantaged	Disabled Veteran	LGBTQQ	

SECTION 00 04 40
EQUALS

The undersigned desires to use the material, product, thing, or service described below, as "an equal" to such items as specified. In accordance with the General Conditions, Paragraph 2, Sub-paragraph D, the first, second, and third apparent low bidder will have two (2) calendar days after the bid opening to submit their list of equals and ten (10) calendar days after the bid opening to submit all substantiating data and test results. In accordance with Sub-paragraph E, the County, in its sole discretion, shall determine whether the substantiating data demonstrates that "an equal" submittal(s) is equal in all respects to the item specified in the bid documents. If the County determines that "an equal" submittal(s) has not been substantiated to be equal in all respects, the item specified in the bid documents shall be furnished and/or installed by Contractor without modification of the bid amount or contract documents. If the County finds that "an equal" submittal(s) is equivalent to the respective item(s) specified in the bid documents, then the undersigned may furnish such item(s), together with all necessary labor, materials, equipment, and incidentals required to perform and complete the work.

Date _____, 20____

Phone No. _____

Contractor's Name

Contractor's Address

Materials, apparatus, or equipment specified for which Bidder proposes "an equal." (Indicate where specified and page number.)

Complete description of the materials, apparatus, or equipment the Bidder desires to use as "an equal" and name of Subcontractor if different.

1. _____

2. _____

SECTION 00 04 50

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER

State of California

ss.

County of _____

_____, being first duly sworn, deposes and says that he or she is _____ of _____ the party making the foregoing 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 declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state]."

Signature

Date

SECTION 00 04 60

**ATTESTATION OF WILLINGNESS TO CONSIDER
GAIN/GROW PARTICIPANTS**

As a threshold requirement for consideration for contract award, Bidder/Proposer shall demonstrate a proven record for hiring GAIN/GROW participants or shall attest to a willingness to consider GAIN/GROW participants for any future employment opening if they meet the minimum qualifications for that opening. Additionally, Bidder/Proposer shall attest to a willingness to provide employed GAIN/GROW participants access to the Bidder/Proposer's employee mentoring program, if available, to assist these individuals in obtaining permanent employment and/or promotional opportunities.

To report all job openings with job requirements to obtain qualified GAIN/GROW participants as potential employment candidates, Bidder/Proposer shall email:

GAINGROW@DPSS.LACOUNTY.GOV and BSERVICES@WDACS.LACOUNTY.GOV.

Bidder/Proposers unable to meet this requirement shall not be considered for contract award.

Bidder/Proposer shall complete all of the following information, sign where indicated below, and return this form with their proposal.

A. Bidder/Proposer has a proven record of hiring GAIN/GROW participants.

_____ YES (subject to verification by County) _____ NO

B. Bidder/Proposer is willing to provide DPSS with all job openings and job requirements to consider GAIN/GROW participants for any future employment openings if the GAIN/GROW participant meets the minimum qualifications for the opening. "Consider" means that Proposer is willing to interview qualified GAIN/GROW participants.

_____ YES _____ NO

C. Bidder/Proposer is willing to provide employed GAIN/GROW participants access to its employee-mentoring program, if available.

_____ YES _____ NO _____ N/A (Program not available)

Proposer's Organization: _____

Signature: _____

Print Name: _____

Title: _____ Date: _____

Telephone No: _____ Email: _____

SECTION 00 04 65 3-YEAR CONTRACTING HISTORY

LIST ALL CURRENT AND COMPLETED CONTRACTS WITH THE COUNTY FOR THE PAST THREE YEARS (Begin with the most recent project)

Contract Type/Description _____	Contract Number _____	Contract Type/Description _____	Contract Number _____
Type of Work _____	_____	Type of Work _____	_____
Department _____	Contract Amount _____	Department _____	Contract Amount _____
Address _____	\$ _____	Address _____	\$ _____
County Contact Name/Phone _____ / _____	Date of Contract _____	County Contact Name/Phone _____ / _____	Date of Contract _____
IF CONSTRUCTION Architect Name/Phone _____ / _____	_____	IF CONSTRUCTION Architect Name/Phone _____ / _____	_____
Type of Facility _____		Type of Facility _____	
Contract Type/Description _____	Contract Number _____	Contract Type/Description _____	Contract Number _____
Type of Work _____	_____	Type of Work _____	_____
Department _____	Contract Amount _____	Department _____	Contract Amount _____
Address _____	\$ _____	Address _____	\$ _____
County Contact Name/Phone _____ / _____	Date of Contract _____	County Contact Name/Phone _____ / _____	Date of Contract _____
IF CONSTRUCTION Architect Name/Phone _____ / _____	_____	IF CONSTRUCTION Architect Name/Phone _____ / _____	_____
Type of Facility _____		Type of Facility _____	
Contract Type/Description _____	Contract Number _____	Contract Type/Description _____	Contract Number _____
Type of Work _____	_____	Type of Work _____	_____
Department _____	Contract Amount _____	Department _____	Contract Amount _____
Address _____	\$ _____	Address _____	\$ _____
County Contact Name/Phone _____ / _____	Date of Contract _____	County Contact Name/Phone _____ / _____	Date of Contract _____
IF CONSTRUCTION Architect Name/Phone _____ / _____	_____	IF CONSTRUCTION Architect Name/Phone _____ / _____	_____
Type of Facility _____		Type of Facility _____	

SECTION 00 04 70

FALSE CLAIMS

Bidders/Proposers shall provide either the certification requested below or the information requested on the next page. **Failure to certify or provide the requested information may result in a determination that the Bidder/Proposer is non-responsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder/Proposer is not responsible.**

"False Claims Act", as used herein, is defined as either or both the Federal False Claims Act, 31 U.S.C. Sections 3729 et seq., and the California False Claims Act, Government Code Sections 12650 et seq.

FALSE CLAIMS ACT CERTIFICATION

If the Bidder/Proposer has no False Claims Act violations as described above, complete the following:

I, _____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

(Bidder/Proposer name as shown on Bid/Proposal)

nor _____
(name of responsible managing person licensed by Contractors' State License Board)

has been determined by a court or tribunal of competent jurisdiction to have violated the False Claims Act as defined above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

FALSE CLAIMS ACT VIOLATIONS

With regard to any determinations by a tribunal or court of competent jurisdiction that the False Claims Act, as defined above, has been violated by (1) the Bidder/Proposer submitting this Bid/Proposal, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid/Proposal, or (2) the qualifying person licensed by the State Contractors' License Board to perform the work described in the Bid/Proposal, including any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder/Proposer submitting this Bid/Proposal, Bidder/Proposer shall provide on the following page labeled "False Claim Act Violations Information:" (1) the date of the determination of the violation, (2) the identity of tribunal or court and the case name or number, if any, (3) the identity of government contract or project involved, (4) the identity of government agency involved, 5) the amount of fine imposed, and (6) any exculpatory information of which the County should be aware.

FALSE CLAIMS ACT VIOLATIONS INFORMATION

(1) Date of determination of the violation:

(2) Identity of tribunal or court and the case name or number, if any: _____

(3) Government contract or project involved: _____

(4) Government agency involved: _____

(5) Amount of fine imposed: _____

(6) Exculpatory information: _____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

SECTION 00 04 71
CIVIL LITIGATION HISTORY

Bidder shall provide either the certification requested below or information requested on the next page. **Failure to provide such certification or information may result in a determination that the Bidder is nonresponsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder is not responsible.**

For the two (2) years preceding the date of submittal of this Bid, identify any civil litigation arising out of the performance of a construction contract within the State of California in which the (1) Bidder submitting this Bid, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid, or (2) the qualifying person licensed by the State Contractors' License Board to perform the work described in this Bid/Proposal, including any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder submitting this Bid, was a named plaintiff or defendant in a lawsuit brought by or against the Owner. Do not include litigation which is limited solely to enforcement of mechanics' liens or stop notices. Provide on the following page labeled "Civil Litigation History Information:" (1) the name and court case identification number of each case, (2) the jurisdiction in which it was filed, and (3) the outcome of the litigation, e.g., whether the case is pending, a judgment was entered, a settlement was reached, or the case was dismissed. If a settlement was reached within the two years preceding the date of submittal of this Bid, please provide the dollar value of the settled claim(s). The dollar value may be marked as confidential if Bidder does not want the settlement information to be public record.

CIVIL LITIGATION CERTIFICATION

If the Bidder has no civil litigation history to report as described above, complete the following:

I, _____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid)

(Bidder/Proposer name as shown on Bid)

nor _____
(name of responsible managing person licensed by the Contractors' State License Board)

has been involved in civil litigation as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid)

CIVIL LITIGATION HISTORY INFORMATION

(1) Name of Case: _____

Court case identification number: _____

(2) Jurisdiction in which case was filed: _____

(3) Outcome of the case: _____

(1) Name of Case: _____

Court case identification number: _____

(2) Jurisdiction in which case was filed: _____

(3) Outcome of the case: _____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid)

SECTION 00 04 72
CRIMINAL CONVICTIONS

Bidder shall provide either the certification requested below or information requested on the next page. **Failure to provide such certification or information may result in a determination that the Bidder is nonresponsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder is not responsible.**

For the five (5) years preceding the date this Bid is due, identify on the following page any criminal conviction in any jurisdiction of the United States for a violation of law arising out of the performance of a construction contract (1) by the Bidder submitting this Bid, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid, or (2) by the qualifying person licensed by the State Contractors' License Board to perform the work described in the Bid, including any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder submitting this Bid. Provide on the following page labeled "Criminal Convictions Information:" (1) the date of conviction, (2) the name and court case identification number, (3) the identity of the law violated, (4) the identity of the prosecuting agency, (5) the contract or project involved, (6) the punishment imposed, and (7) any exculpatory information of which the Agency should be aware.

CRIMINAL CONVICTION CERTIFICATION

If the Bidder has no criminal convictions to report as described above, complete the following:

I, _____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid)

(Bidder/Proposer name as shown on Bid)

nor _____
(name of responsible managing person licensed by the Contractors' State License Board)

has been convicted of a criminal violation as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid)

CRIMINAL CONVICTIONS INFORMATION

(1) Date of conviction: _____

(2) Name of case: _____

Court case identification number: _____

(3) Identity of the law violated: _____

(4) Identity of the prosecuting agency: _____

(5) Contract or project involved: _____

(6) Punishment imposed: _____

(7) Exculpatory information: _____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid)

SECTION 00 04 73
DEBARMENTS

Bidder shall provide either the certification requested below or the information requested on the next page. **Failure to provide such certification or information may result in a determination that the Bidder is nonresponsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder is not responsible.**

For the ten (10) years preceding the date this Bid is due, identify on the following page any debarment by any Federal, State, or local public agency arising out of the performance of a construction contract (1) by the Bidder submitting this Bid, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid, or (2) by the qualifying person licensed by the Contractors' State License Board to perform the work described in the Bid, including any debarment of any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder submitting this Bid. Provide on the following page labeled "Debarment Information:" (1) the date of debarment and the duration of the debarment, (2) the project name or contract from which the debarment arose, (3) the identify of the debarring agency, (4) stated reason for debarment, and (5) any exculpatory information of which the Agency should be aware.

HISTORY OF DEBARMENT CERTIFICATION

If the Bidder has no debarments to report as described above, complete the following:

I, _____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid)

(Bidder name as shown on Bid)

nor _____
(name of responsible managing person licensed by Contractors' State License Board)

has been debarred as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid)

DEBARMENT INFORMATION

- (1) Date and duration of debarment: _____

- (2) Project name or contract involved: _____

- (3) Debarring agency: _____

- (4) Stated reason for debarment: _____

- (5) Exculpatory information: _____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid)

SECTION 00 04 74

LABOR LAW/PAYROLL VIOLATIONS

Bidder shall provide the certification requested below or the information requested on the next page. **Failure to provide such certification or information may result in a determination that the Bidder is nonresponsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder is not responsible.**

"Labor law/payroll violation" means for purposes of this disclosure a violation of the Davis-Bacon Act (40 USC section 276a) and/or a violation of California Labor Code sections 1720 through 1861 concerning the payment of prevailing wages, employment of apprentices and hours and working conditions.

For the three (3) years preceding the date this Bid is due, identify on the following page any determination made by any Federal, State, or local public agency of a labor law/payroll violation arising out of the performance of a construction contract (1) by the Bidder submitting this Bid, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid, or (2) by the qualifying person licensed by the Contractors' State License Board to perform the work described in the Bid, including any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder submitting this Bid. Provide on the following page labeled "Labor Law/Payroll Violations Information:" (1) the date of the determination of the violation, (2) the case number, if any, or other identifying information for the proceeding, (3) the identity of the government contract or project involved, (4) the identity of the government agency involved, (5) the description of violation, (6) the amount of any civil wage and penalty assessment, and (7) any exculpatory information of which the Agency should be aware.

LABOR LAW/PAYROLL VIOLATION CERTIFICATION

If the Bidder has no labor law/payroll violations to report as described above, complete the following:

I, _____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid)

(Bidder name as shown on Bid)

nor _____
(name of responsible managing person licensed by Contractors' State License Board)

has been determined to have violated any Federal, State, or local labor laws as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid)

LABOR LAW/PAYROLL VIOLATIONS INFORMATION

(1) Date of violation determination: _____

(2) Case number: _____

(3) Government contract or project involved: _____

(4) Government agency involved: _____

(5) Description of the violation (attach disposition letter): _____

(6) Amount of any civil wage and penalty assessment: _____

(7) Exculpatory information: _____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid)

SECTION 00 04 75

INTEGRATED PEST MANAGEMENT PROGRAM COMPLIANCE CERTIFICATION

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:	Email address:	
Solicitation/Contract for Services		

PROPOSER CERTIFICATION

The County of Los Angeles is a permittee to a National Pollutant Discharge Elimination System Permit (NPDES Permit) issued by the Los Angeles Regional Water Quality Control Board to reduce or eliminate pollutants moved into surface water through storm water management systems and facilities. One of the conditions of the NPDES Permit is the Integrated Pest Management Program (IPM Program) which was developed to reduce the impact of pesticides and fertilizers to surface water. Among other things, the IPM Program imposes requirements to County Purchasing and Contracting, which are outlined in Integrated Pest Management Program Compliance of the proposed Contract. The entire Countywide IPM Program is available at [Los Angeles County Department of Agricultural Commissioner/ Weights and Measures \(ACWM\) and Home Page - Current - Integrated Pest Management \(lacounty.gov\)](#)

Proposer acknowledges and certifies compliance with Integrated Pest Management Program Compliance of the proposed Contract and agrees that proposer or a member of its staff performing work under the proposed Contract will be in compliance, when applicable. Proposer further acknowledges that noncompliance with the County's IPM Program may result in rejection of any proposal, or cancellation of any resultant Contract, at the sole judgment of the County.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

SECTION 00 04 76
CHARITABLE CONTRIBUTIONS CERTIFICATION

Company Name

Address

Internal Revenue Service Employer Identification Number

California Registry of Charitable Trusts "CT" number (if applicable)

The Nonprofit Integrity Act (SB 1262, Chapter 919) added requirements to California's Supervision of Trustees and Fundraisers for Charitable Purposes Act which regulates those receiving and raising charitable contributions.

Check the Certification below that is applicable to your company.

- ☐ Proposer or Contractor has examined its activities and determined that it does not now receive or raise charitable contributions regulated under California's Supervision of Trustees and Fundraisers for Charitable Purposes Act. If Proposer engages in activities subjecting it to those laws during the term of a County contract, it will timely comply with them and provide County a copy of its initial registration with the California State Attorney General's Registry of Charitable Trusts when filed.

OR

- ☐ Proposer or Contractor is registered with the California Registry of Charitable Trusts under the CT number listed above and is in compliance with its registration and reporting requirements under California law. Attached is a copy of its most recent filing with the Registry of Charitable Trusts as required by Title 11 California Code of Regulations, sections 300-301 and Government Code sections 12585-12586.

Signature

Date

Please Print Name and Title of Signer

PROSPECTIVE CONTRACTOR LIST OF TERMINATED CONTRACTS

Contractor's Name: _____

Proposer must list all contracts that have been terminated within the past three years. Terminated contracts are those contracts terminated by an agency or firm before the contract's expiration date. Any and all terminated contracts should be accompanied with "Reason for termination". It should be noted that contracts that naturally expired need not be listed. The County is only seeking information on contracts that were terminated prior to expiration.

1. Name of Firm	Address of Firm	Contact Person	Telephone # ()	Email
Name or Contract No.		Reason for Termination:		
2. Name of Firm	Address of Firm	Contact Person	Telephone # ()	Email
Name or Contract No.		Reason for Termination:		
3. Name of Firm	Address of Firm	Contact Person	Telephone # ()	Email
Name or Contract No.		Reason for Termination:		
4. Name of Firm	Address of Firm	Contact Person	Telephone # ()	Email
Name or Contract No.		Reason for Termination:		

Section 00 04 78
SB 1439 QUESTIONNAIRE
Barry J. Nidorf Secure Youth Track Facility
Security and Kitchen Upgrades Project

Proposers/Subconsultants/Subcontractors are all required to complete the SB 1439 Questionnaire.

If a question is not applicable, enter "N/A."

<i>PARTIES</i> All applicants, bidders, or proposers for a license/permit/franchise or other entitlement for use.	Individual/Company Name: Prime or subcontractor? Parent? Subsidiaries Related Business Entities? Any other entities directed or controlled by the individual or company? Name of party who signs an agreement:
<i>PARTIES' AGENTS</i> List all agents paid by <u>each</u> applicant or bidder for license/permit/franchise, or other entitlement for use.	Name: Company name (if any): Name: Company name (if any):
<i>PARTICIPANTS</i> List all individuals and/or businesses who contacted your Department to oppose or support the application with a financial interest in the decision.	Individual/Company Name: Prime or subcontractor? Parent? Subsidiaries? Related Business Entities? Any other entities directed or controlled by the individual or company?
<i>PARTICIPANTS' AGENTS</i> List all agents paid by <u>each</u> participant who contacted your Department opposed or supported the application who has a financial interest in the decision.	Name: Company name (if any):
<i>CONTRIBUTIONS</i> Did any party, participant or their agents to this agenda item disclose they made a campaign contribution of \$250 or more to a decision-maker during the permit, licensing, leasing or approval process <i>on or after Jan. 1, 2023?</i>	Date of contribution: Name of Contributor: Recipient Name: Amount:

Section 00 04 78
SB 1439 QUESTIONNAIRE
Barry J. Nidorf Secure Youth Track Facility
Security and Kitchen Upgrades Project

It is Proposers'/Subconsultants'/Subcontractors' sole responsibility to inform Public Works immediately of any changes in the submitted information after submission.

Proposers/Subconsultants/Subcontractors declare under penalty of perjury that the information stated in this form is true and accurate.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

SECTION 00 04 79
REQUIRED FORM
CONTRIBUTION AND AGENT DECLARATION FORM

This form must be completed separately by all bidders/proposers, including all prime contractors and subcontractors, and by all applicants for licenses, permits, and other entitlements for use issued by the County of Los Angeles ("County").

Pursuant to the Levine Act (Government Code section 84308), a member of the Board of Supervisors, other elected County officials (the Sheriff, Assessor, and the District Attorney), and other County employees and/or officers ("County Officers") are disqualified and not able to participate in a proceeding involving contracts, franchises, licenses, permits and other entitlements for use if the County Officer received more than \$250 in contributions in the past 12 months from the bidder, proposer or applicant, any paid agent of the bidder, proposer, or applicant, or any financially interested participant who actively supports or opposes a particular decision in the proceeding.

State law requires you to disclose information about contributions made by you, your company, and lobbyists and agents paid to represent you. Failure to complete the form in its entirety may result in significant delays in the processing of your application and potential disqualification from the procurement or application process.

You must fully answer the applicable questions below. You ("Declarant"), or your company, if applicable, including all entities identified below (collectively, "Declarant Company") must also answer the questions below. The term "employee(s)" shall be defined as employees, officers, partners, owners, or directors of Declarant Company.

An affirmative response to any questions will not automatically cause the disqualification of your bid/proposal, or the denial of your application for a license, permit or other entitlement. However, failure to answer questions completely, in good faith, or providing materially false answers may subject a bidder/proposer to disqualification from the procurement.

This material is intended for use by bidders/proposers, including all prime contractors and subcontractors, and by all applicants for licenses, permits, and other entitlements for use issued by the County of Los Angeles and does not constitute legal advice. If you have questions about the Levine Act and how it applies to you, you should call your lawyer or contact the Fair Political Practices Commission for further guidance.

SECTION 00 04 79
REQUIRED FORM
CONTRIBUTION AND AGENT DECLARATION FORM

Complete each section below. State "none" if applicable.

A. COMPANY OR APPLICANT INFORMATION

1) Declarant Company or Applicant Name:

- a) If applicable, identify all subcontractors that have been or will be named in your bid or proposal:
- b) If applicable, variations and acronyms of Declarant Company's name used within the past 12 months:
- c) Identify all entities or individuals who have the authority to make decisions for you or Declarant Company about making contributions to a County Officer, regardless of whether you or Declarant Company have actually made a contribution:

[IF A COMPANY, ANSWER QUESTIONS 2 - 3]

- 2) Identify only the Parent(s), Subsidiaries and Related Business Entities that Declarant Company has controlled or directed, or been controlled or directed by. "Controlled or directed" means shared ownership, 50% or greater ownership, or shared management and control between the entities.
 - a) Parent(s):
 - b) Subsidiaries:
 - c) Related Business Entities:
- 3) If Declarant Company is a closed corporation (non-public, with under 35 shareholders), identify the majority shareholder.
- 4) Identify all entities (proprietorships, firms, partnerships, joint ventures, syndicates, business trusts, companies, corporations, limited liability companies, associations, committees, and any other organization or group of persons acting in concert) whose contributions you or Declarant Company have the authority to direct or control.

SECTION 00 04 79
REQUIRED FORM

CONTRIBUTION AND AGENT DECLARATION FORM

- 5) Identify any individuals such as employees, agents, attorneys, law firms, lobbyists, and lobbying firms who are or who will act on behalf of you or Declarant Company and who will receive compensation to communicate with a County Officer regarding the award or approval of **this** contract or project, license, permit, or other entitlement for use.

*(Do **not** list individuals and/or firms who, as part of their profession, either (1) submit to the County drawings or submissions of an architectural, engineering, or similar nature, **or** (2) provide purely technical data or analysis, **and** who will not have any other type of communication with a County agency, employee, or officer.)*

- 6) If you or Declarant Company are a 501(c)(3) non-profit organization, identify the compensated officers of your organization and the compensated members of your board.

B. CONTRIBUTIONS

- 1) Have you or the Declarant Company solicited or directed your employee(s) or agent(s) to make contributions, whether through fundraising events, communications, or any other means, to a County Officer in the past 12 months? If so, provide details of each occurrence, including the date.

Date (contribution solicited, or directed)	Recipient Name (elected official)	Amount

*Please attach an additional page, if necessary.

SECTION 00 04 79
REQUIRED FORM

- 2) Disclose all contributions made by you or any of the entities and individuals identified in Section A to a County officer in the past 12 months.

Date (contribution made)	Name (of the contributor)	Recipient Name (elected official)	Amount

*Please attach an additional page, if necessary.

CONTRIBUTION AND AGENT DECLARATION FORM

C. DECLARATION

By signing this Contribution and Agent Declaration form, you (Declarant), or you and the Declarant Company, if applicable, attest that you have read the entirety of the Contribution Declaration and the statements made herein are true and correct to the best of your knowledge and belief. (Only complete the one section that applies.)

There are _____ additional pages attached to this Contribution Declaration Form.

COMPANY BIDDERS OR APPLICANTS

I, _____ (Authorized Representative), on behalf of _____ (Declarant Company), at which I am employed as _____ (Title), attest that after having made or caused to be made a reasonably diligent investigation regarding the Declarant Company, the foregoing responses, and the explanation on the attached page(s), if any, are correct to the best of my knowledge and belief. Further, I understand that failure to answer the questions in good faith or providing materially false answers may subject Declarant Company to consequences, including disqualification of its bid/proposal or delays in the processing of the requested contract, license, permit, or other entitlement.

SECTION 00 04 79

REQUIRED FORM

IMPORTANT NOTICE REGARDING FUTURE AGENTS AND FUTURE CONTRIBUTIONS:

By signing this Contribution and Agent Declaration form, you also agree that, if Declarant Company hires an agent, such as, but not limited to, an attorney or lobbyist during the course of these proceedings and will compensate them for communicating with the County about this contract, project, permit, license, or other entitlement for use, you agree to inform the County of the identity of the agent or lobbyist and the date of their hire. You also agree to disclose to the County any future contributions made to members of the County Board of Supervisors, another elected County officer (the Sheriff, Assessor, and the District Attorney), or any other County officer or employee by the Declarant Company, or, if applicable, any of the Declarant Company's proposed subcontractors, agents, lobbyists, and employees who have communicated or will communicate with the County about this contract, license, permit, or other entitlement after the date of signing this disclosure form, and within 12 months following the approval, renewal, or extension of the requested contract, license, permit, or entitlement for use.

Signature

Date

SECTION 00 04 79
REQUIRED FORM
CONTRIBUTION AND AGENT DECLARATION FORM

INDIVIDUAL BIDDERS OR APPLICANTS

I, _____, declare that the foregoing responses and the explanation on the attached sheet(s), if any, are correct to the best of my knowledge and belief. Further, I understand that failure to answer the questions in good faith or providing materially false answers may subject me to consequences, including disqualification of my bid/proposal or delays in the processing of the requested license, permit, or other entitlement.

IMPORTANT NOTICE REGARDING FUTURE AGENTS AND FUTURE CONTRIBUTIONS:

If I hire an agent or lobbyist during the course of these proceedings and will compensate them for communicating with the County about this contract, project, permit, license, or other entitlement for use, I agree to inform the County of the identity of the agent or lobbyist and the date of their hire. I also agree to disclose to the County any future contributions made to members of the County Board of Supervisors, another elected County official (the Sheriff, Assessor, and the District Attorney), or any other County officer or employee by me, or an agent such as, but not limited to, a lobbyist or attorney representing me, that are made after the date of signing this disclosure form, and within 12 months following the approval, renewal, or extension of the requested contract, license, permit, or entitlement for use.

Signature

Date

SECTION 00 04 85
COUNTY OF LOS ANGELES CONTRACTOR EMPLOYEE JURY SERVICE PROGRAM
APPLICATION FOR EXCEPTION AND CERTIFICATION FORM

The County's solicitation for this contract/purchase order (Request for Proposal or Invitation for Bid) is subject to the County of Los Angeles Contractor Employee Jury Service Program (Program), Los Angeles County Code, Chapter 2.203. All bidders or proposers, whether a contractor or subcontractor, must complete this form to either: 1) request an exception from the Program requirements; or 2) certify compliance. Upon review of the submitted form, the County department will determine, in its sole discretion, whether the bidder or proposer is exempted from the Program.

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:		
Solicitation For (Type of Goods or Services):		

If you believe the Jury Service Program does not apply to your business, check the appropriate box in Part I (attach documentation to support your claim); or, complete Part II to certify compliance with the Program. Whether you complete Part I or II, please sign and date this form below.

Part I: Jury Service Program is not Applicable to my Business

- ☐ My business does not meet the definition of "contractor," as defined in the Program as it has not received an aggregate sum of \$50,000 or more in any 12-month period under one or more County contracts or subcontracts (this exception is not available if the contract/purchase order itself will exceed \$50,000). I understand that the exception will be lost and I must comply with the Program if my revenues from the County exceed an aggregate sum of \$50,000 in any 12-month period.

- ☐ My business is a small business as defined in the Program. It: 1) has ten or fewer employees; and, 2) has annual gross revenues in the preceding 12 months which, if added to the annual amount of this contract, are \$500,000 or less; and 3) is not an affiliate or subsidiary of a business dominant in its field of operation as defined below. I understand that the exemption will be lost and I must comply with the Program if the number of employees in my business and my gross annual revenues exceed the above limits.

"Dominant in its field of operation" means having more than ten employees, including full-time and part-time employees, and annual gross revenues in the preceding 12 months, which, if added to the annual amount of the contract awarded, exceed \$500,000.

"Affiliate or subsidiary of a business dominant in its field of operation" means a business which is at least 20 percent owned by a business dominant in its field of operation, or by partners, officers, directors, majority stockholders, or their equivalent of a business dominant in that field of operation.

- ☐ My business is subject to a Collective Bargaining Agreement (attach agreement) that expressly provides that it supersedes all provisions of the Program.

OR

Part II: Certification of Compliance

- ☐ My business has and adheres to a written policy that provides, on an annual basis, no less than five days of regular pay for actual jury service for full-time employees of the business who are also California residents, **or** my company will have and adhere to such a policy prior to award of the contract.

I declare under penalty of perjury under the laws of the State of California that the information stated above is true and correct.

Print Name:	Title:
Signature:	Date:

To be submitted with each Bid for a contract

Project Identification _____

Bid Date _____

This information must include all construction work undertaken in the State of California by the Bidder and any partnership, joint venture, or corporation that any principal of the Bidder participated in as a principal or owner for the last five calendar years and the current calendar year prior to the date of Bid submittal. Separate information shall be submitted for each particular partnership, joint venture, corporate, or individual Bidder. The Bidder may attach any additional information or explanation of data which he would like taken into consideration in evaluating the safety record. An explanation must be attached of the circumstances surrounding any and all fatalities.

SECTION 00 04 90
CONTRACTOR'S INDUSTRIAL SAFETY RECORD
5-Calendar Years Prior to Current Year

	2020	2021	2022	2023	2024	TOTAL	CURRENT YEAR (2025)
1. No. of Contracts							
2. Total dollar amount of contracts (in thousands of dollars)							
*3. No. of fatalities							
*4. No. of lost workdays due to injuries							
*5. No. of days of restricted work activity due to injuries							
*6. Injuries without lost workdays							

*The information required for these items is the same as required for columns 1, 4, 5, and 6, Log and Summary of Occupational Injuries and Illnesses, CAL/OSHA Form 200.

The above information was compiled from the records that are available to me at this time and I declare under penalty of perjury that the information is true and accurate within the limitations of those records.

Name of Bidder (Print)

Signature

Address

Contractors' State License No. & Classification

City

Telephone

SECTION 00 04 91

INJURY AND ILLNESS PREVENTION PLAN (IIPP)
AND CODE OF SAFE PRACTICES (CSP) AFFIDAVIT

The apparent low Bidder shall submit this form to the County which states that the Bidder has an IIPP which complies with Cal/OSHA Regulations and CSP, that all subcontractors supplying employees to the jobsite will be required to prove to the Contractor that they have an IIPP which complies with Cal/OSHA Regulations and a CSP, and that their jobsite employees have been trained on IIPP and CSP.

Failure to submit this affidavit as required may result in a determination that the successful Bidder is nonresponsive and/or nonresponsible.

I, _____, hereby certify to the
County

of Los Angeles on behalf of _____
the following:

1. The Contractor identified above has an injury and illness Prevention Plan (IIPP) and a Code of Safe Practices (CSP) which comply with Cal/OSHA Regulations.
2. The employees of the Contractor identified above who will be assigned to the jobsite have been trained on the IIPP and CSP.
3. All subcontractors supplying employees to the jobsite will be required to prove to the Contractor that they have an IIPP and a CSP which comply with Cal/OSHA Regulations and their jobsite employees have been trained on the IIPP and CSP.

I declare under penalty of perjury under the law of the State of California that the foregoing is true and correct.

Executed this _____ day of _____
(month and year)

at _____

By _____

SECTION 00 04 92

BIDDER'S ORGANIZATION QUESTIONNAIRE/AFFIDAVIT

Please complete, date and sign this form and place it in your Bid. The person signing the form must be authorized to sign on behalf of the Bidder and to bind the applicant in a Contract.

1. If your firm is a corporation, state its legal name (as found in your Articles of Incorporation) and State of Incorporation:

_____	_____	_____
Name	State	Year Inc.

2. If your firm is a partnership or a sole proprietorship, state the name of the proprietor or managing partner:

3. If your firm is doing business under one or more DBA's, please list all DBA's and the County(ies) of registration:

Name	County of Registration	Year Became DBA

_____	_____	_____

_____	_____	_____

4. Is your firm wholly or majority owned by, or a subsidiary of, another firm: _____ if yes,

Name of parent firm: _____

State of incorporation or registration of parent firm: _____

5. Please list any other names your firm has done business as within the last five (5) years.

Name	Year of Name Change

_____	_____

_____	_____

6. Indicate if your firm is involved in any pending acquisition/merger, including the associated company name. If not applicable, so indicate below.

Bidder acknowledges that if any false, misleading, incomplete, or deceptively unresponsive statements in connection with this Bid are made, the Bidder may be rejected. The evaluation and determination in this area shall be at the Director's sole judgment and his/her judgment shall be final:

Bidder's Name

Address:

e-mail

address: _____ Telephone number: _____

Fax number: _____

On behalf of _____ (Bidder's name), I _____
(Name of Bidder's authorized representative), certify that the information contained in this Bidder's Organization Questionnaire/Affidavit is true and correct to the best of my information and belief.

Signature

Internal Revenue Service
Employer Identification Number

Title

California Business License Number

Date

County WebVen Number

SECTION 00 04 93

**CERTIFICATION OF COMPLIANCE WITH THE COUNTY'S
DEFAULTED PROPERTY TAX REDUCTION PROGRAM**

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:	Email address:	
Solicitation/Contract For	Services:	

The Proposer/Bidder/Contractor certifies that:

- ☐ It is familiar with the terms of the County of Los Angeles Defaulted Property Tax Reduction Program, Los Angeles County Code Chapter 2.206; **AND**

To the best of its knowledge, after a reasonable inquiry, the Proposer/Bidder/Contractor is not in default, as that term is defined in Los Angeles County Code Section 2.206.020.E, on any Los Angeles County property tax obligation; **AND**

The Proposer/Bidder/Contractor agrees to comply with the County's Defaulted Property Tax Reduction Program during the term of any awarded contract.

- OR -

-
- ☐ I am exempt from the County of Los Angeles Defaulted Property Tax Reduction Program, pursuant to Los Angeles County Code Section 2.206.060, for the following reasons:

I declare under penalty of perjury under the laws of the State of California that the information stated above is true and correct.

Print Name:	Title:
Signature:	Date:

SECTION 00 04 94

AVOIDANCE OF CONFLICT OF INTEREST

The Los Angeles County Code, Section 2.180.010, provides as follows:

CONTRACTS PROHIBITED

Notwithstanding any other section of this Code, the County shall not contract with, and shall reject any proposals submitted by, the persons or entities specified below, unless the Board of Supervisors finds that special circumstances exist which justify the approval of such contract:

1. Employees of the County or of public agencies for which the Board of Supervisors is the governing body;
2. Profit-making firms or businesses in which employees described in number 1 serve as officers, principals, partners, or major shareholders;
3. Persons who, within the immediately preceding 12 months, came within the provisions of number 1, and who:
 - a. Were employed in positions of substantial responsibility in the area of service to be performed by the contract; or
 - b. Participated in any way in developing the contract or its service specifications; and
4. Profit-making firms or businesses in which the former employees, described in number 3, serve as officers, principals, partners, or major shareholders.

Contracts submitted to the Board of Supervisors for approval or ratification shall be accompanied by an assurance by the department submitting, district or agency that the provisions of this section have not been violated.

Proposer Name (please print)

Proposer's Official Title (please print)

Proposer's Signature

SECTION 00 04 95
FAMILIARITY WITH THE COUNTY LOBBYIST ORDINANCE
CERTIFICATION

The Proposer certifies that it is familiar with the terms of the County of Los Angeles Lobbyist Ordinance, Los Angeles Code Chapter 2.160. The Proposer also certifies that all persons acting on behalf of the Proposer organization have and will comply with it during the proposal process.

Signature:_____

Date:_____

SECTION 00 04 96

PROPOSER'S EEO CERTIFICATION

Company Name

Address

Internal Revenue Service Employer Identification Number

GENERAL

In accordance with provisions of the County Code of the County of Los Angeles, the Proposer certifies and agrees that all persons employed by such firm, its affiliates, subsidiaries, or holding companies are and will be treated equally by the firm without regard to or because of race, religion, ancestry, national origin, or sex and in compliance with all anti-discrimination laws of the United States of America and the State of California.

	CERTIFICATION	YES	NO
1.	Proposer has written policy statement prohibiting discrimination in all phases of employment.	()	()
2.	Proposer periodically conducts a self-analysis or utilization analysis of its work force.	()	()
3.	Proposer has a system for determining if its employment practices are discriminatory against protected groups.	()	()
4.	When problem areas are identified in employment practices, Proposer has a system for taking reasonable corrective action to include establishment of goal and/or timetables.	()	()

Signature

Date

Name and Official Title (please print)

00 04 97
COMPLIANCE WITH FAIR CHANCE EMPLOYMENT
HIRING PRACTICES CERTIFICATION

Company Name:		
Company Address:		
City: Code:	State:	Zip
Telephone Number:	Email address:	
Solicitation/Contract for _____ Services		

PROPOSER/CONTRACTOR CERTIFICATION

The Los Angeles County Board of Supervisors approved a Fair Chance Employment Policy in an effort to remove job barriers for individuals with criminal records. The policy requires businesses that contract with the County to comply with fair chance employment hiring practices set forth in California Government Code Section 12952, Employment Discrimination: Conviction History (California Government Code Section 12952), effective January 1, 2018.

Proposer/Contractor acknowledges and certifies compliance with fair chance employment hiring practices set forth in California Government Code Section 12952 and agrees that Proposer/Contractor and staff performing work under the Contract will be in compliance. Proposer/Contractor further acknowledges that noncompliance with fair chance employment practices set forth in California Government Code Section 12952 may result in rejection of any proposal, or termination of any resultant Contract, at the sole judgment of the County.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

00 04 98

**ZERO TOLERANCE HUMAN TRAFFICKING
POLICY CERTIFICATION**

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:	Email address:	
Solicitation/Contract for _____ Services		

PROPOSER CERTIFICATION

Los Angeles County has taken significant steps to protect victims of human trafficking by establishing a zero tolerance human trafficking policy that prohibits contractors found to have engaged in human trafficking from receiving contract awards or performing services under a County contract.

Proposer acknowledges and certifies compliance with (Compliance with County's Zero Tolerance Human Trafficking Policy) of the proposed Contract and agrees that proposer or a member of his staff performing work under the proposed Contract will be in compliance. Proposer further acknowledges that noncompliance with the County's Zero Tolerance Human Trafficking Policy may result in rejection of any proposal, or cancellation of any resultant Contract, at the sole judgment of the County.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

00 04 99
DISALLOWED COST ATTESTATION

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:	Email address:	
Solicitation/Contract for _____ Services		

PROPOSER ATTESTATION

If Proposer's compliance with a County contract has been reviewed by the Department of the Auditor-Controller within the last 10 years, Proposer must not have unresolved questioned costs identified by the Auditor-Controller, in an amount over \$100,000.00, that are confirmed to be disallowed costs by the contracting County department, and remain unpaid for six months or more from the date of disallowance, unless such disallowed costs are the subject of current good faith negotiations to resolve the disallowed costs, in the opinion of the County.

Proposer acknowledges and certifies compliance with the above paragraph.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

SECTION 00 05 00

AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____ 2XXX,
by and between the COUNTY OF LOS ANGELES, State of California (hereinafter called
the County), and

CONTRACTOR
A California Corporation
ADDRESS
CITY, STATE, ZIP
TELEPHONE

(hereinafter called the Contractor),

WITNESSETH:

1. Contractor's Services

That the Contractor, in consideration of the promises of the County hereinafter set forth, hereby agrees to furnish all tools, equipment, labor, and material necessary to perform and complete in a good and workmanlike manner,

PROJECT NAME
ADDRESS
SPECS NO.

within the time and in accordance with the recommendation of the Director of the Los Angeles County Public Works, dated month-day, 2XXX, Plans and Specifications Number, the Notice Inviting Bids, Notice to Bidders A, etc. (if any), and the lump sum bid of the Contractor, including Additive Alternates 1, all of which are incorporated herein as though fully set forth, and are hereby agreed by the parties to constitute the Contract documents.

2. Consideration

That the County agrees, in consideration of the performance of this Contract, to pay to the Contractor, and the Contractor agrees to accept in full satisfaction for the work done hereunder, a sum of amount in words Dollars (\$ amount: base bid amount minus schedule fee minus extended overhead and minus unit, if applicable) which

Specs. No. 7878

Agreement 00 05 00-1

sum shall be paid to the Contractor at the time and in the manner set forth in the specifications.

3. Extended Overhead Daily Rate

The Contractor's Extended Overhead Daily Rate is \$XXX, as set forth in the Contractor's Form of Bid, Section 00 03 00, which Extended Overhead Daily Rate shall be payable to the Contractor for each day of Compensable Delay to fully compensate the Contractor for any damages resulting from or associated with Compensable Delay, including, but not limited to, home office and field office overhead, as specified in Specification Section 00 01 00, Instructions to Bidders, 1.14c and in accordance with Specification Section 00 07 00, General Conditions, Article 17, Time Extensions and Compensation for Delay.

4. Notice to Employees Regarding the Federal Earned Income Credit

Contractor shall notify its employees, and shall require each subcontractor to notify its employees, that they may be eligible for the Federal Earned Income Credit under the Federal income tax laws. Such notice shall be provided in accordance with the requirement set forth in Internal Revenue Service Notice 1015.

5. County Rights

The County may employ, either during or after performance of this Contract, any right of recovery the County may have against the Contractor by any means it deems appropriate including, but not limited to, set-off, action at law or in equity, withholding, recoupment, or counterclaim. The rights and remedies of the County under this Contract are in addition to any right or remedy provided by California law.

6. Fair Labor Standards Act

Contractor shall comply with all applicable provisions of the Federal Fair Labor Standards Act, and shall indemnify, defend, and hold harmless County, its agents, officers, and employees from any and all liability including, but not limited to, wages, overtime pay, liquidated damages, penalties, court costs, and attorneys' fees arising under any wage and hour law including, but not limited to, the Federal Fair Labor Standards Act for services performed by Contractor's employees for which County may be found jointly or solely liable.

7. Prevailing Wage Requirements

a. Prevailing Wages

The services provided in this Contract constitute "public works" as defined in California Labor Code 1720, and are therefore subject to payment of prevailing wages, compliance monitoring and enforcement by the Department of Industrial Relations (DIR).

The Director of the DIR has established the general prevailing rate of per diem wages for each craft, classification, type of worker, or mechanic needed to execute public works and improvements. The current general prevailing wage rate determinations are available at www.dir.ca.gov/dlsr/pwd/index.htm. The Contractor is required to pay its agents and employees the applicable, current prevailing wage rate and is responsible for selecting the classification of workers required to perform this service.

The Contractor agrees to comply with the provisions of Section 1775 of the California Labor Code relating to the payment of prevailing wages, the utilization of apprentices in accordance to LC 1777.5, and the assessment of penalties determined by the California Labor Commissioner. Pursuant to Section 1773.2 of the California Labor Code, copies of the prevailing rate of per diem wages are on file at the Los Angeles County Public Works, Construction Division, and will be made available for inspection by request to the Contract Analyst. Future effective wage rates will be on file with the Department of Industrial Relations. The new wage rates shall become effective on the day following the expiration date of the current determinations and apply to the Contract in the same manner as if they had been included or referenced in the Contract.

b. Work Records

The Contractor shall comply with the requirements of Section 1812 of the Labor Code. The Contractor shall maintain an accurate written record of all employees working on the project each calendar day. The record shall include each employee's name, Social Security number, job classification, and the actual number of hours worked.

c. Posting of Notices

The Contractor shall comply with the provisions of Section 1773.2 of the Labor Code. The Contractor shall post a copy of the prevailing wage rates at the worksite and comply with applicable law including posting of jobsite notices required by 8 California Code Reg. §16451(d):

"This public works project is subject to monitoring and investigative activities by the Compliance Monitoring Unit (CMU) of the Division of Labor Standards

Enforcement, Department of Industrial Relations, State of California. This Notice is intended to provide information to all workers employed in the execution of the Contract for public work and to all contractors and other persons having access to the jobsite to enable the CMU to ensure compliance with and enforcement of prevailing wage laws on public works projects.

The prevailing wage laws require that all workers be paid at least the minimum hourly wage as determined by the Director of Industrial Relations for the specific classification (or type of work) performed by workers on the project. These rates are listed on a separate jobsite posting of minimum prevailing rates required to be maintained by the public entity, which awarded the public works Contract. Complaints concerning nonpayment of the required minimum wage rates to workers on this project may be filed with the CMU at any office of the Division of Labor Standards Enforcement (DLSE).

Local Office Telephone Number:

*Division of Labor Standards Enforcement Office
320 West Fourth Street, Suite 450
Los Angeles, CA 90013
(213) 620-6330*

Complaints should be filed in writing immediately upon discovery of any violations of the prevailing wage laws due to the short period of time following the completion of the project that the CMU may take legal action against those responsible.

Complaints should contain details about the violations alleged (for example, wrong rate paid, not all hours paid, overtime rate not paid for hours worked in excess of 8 hours per day or 40 hours per week, etc.) as well as the name of the employer, the public entity which awarded the public works Contract, and the location and name of the project.

For general information concerning the prevailing wage laws and how to file a complaint concerning any violation of these prevailing wage laws, you may contact any DLSE office. Complaint forms are also available at the Department of Industrial Relations website found at <http://www.dir.ca.gov/Public-Works/PublicWorks.html>.

d. Certified Payroll Records

The Contractor shall comply with the requirements of Section 1776 of the Labor Code. Contractor and Subcontractors, if any, must furnish certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement) in a format prescribed by the Labor Commissioner.

- e. When requested by the County, electronic certified payroll records must be submitted to the County, through an online system designated by the County.

8. Mental Health Services for Critical Incidents

In the event of a serious accident on the Project site, the Los Angeles County Department of Mental Health (DMH) will, if requested, respond. The response may be within a few hours or as long as a few days after the incident, depending on when the request was made. The services DMH will provide include crisis intervention, normalization of the stress response that survivors may be experiencing, stress management techniques and resources if the stress reactions increase in frequency or intensity. Requests for services may be made by calling the DMH Emergency Outreach Bureau Deputy Director, (213) 738-4924, during normal business hours or the ACCESS Center, (800) 854-7771, evenings, holidays, and weekends.

9. Employment Eligibility Verification

Contractor warrants that it fully complies with all Federal statutes and regulations regarding employment of aliens and others, and that all its employees performing services hereunder meet the citizenship or alien status requirements contained in Federal statutes and regulations. Contractor shall obtain, from all covered employees performing services hereunder, all verifications and other documentation of employment eligibility status required by Federal statutes and regulations as they currently exist and as they may be hereafter amended. Contractor shall retain such documentation for all covered employees for the period prescribed by law. Contractor shall indemnify, defend, and hold harmless County, its officers, and employees from employer sanctions and any other liability which may be assessed against Contractor or County in connection with any alleged violation of Federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Agreement.

10. Contractor Responsibility and Debarment

- a. A responsible Contractor is a Contractor who has demonstrated the attribute of trustworthiness, as well as quality, fitness, capacity, and experience to satisfactorily perform the Contract. It is the County's policy to conduct business only with responsible contractors.

- b. The Contractor is hereby notified that, in accordance with Chapter 2.202 of the County Code, if the County acquires information concerning the performance of the Contractor on this or other Contracts which indicates that the Contractor is not responsible, the County may, in addition to other remedies provided in the Contract, debar the Contractor from bidding or proposing on, or being awarded, and/or performing work on County Contracts for a specified period of time, which generally will not exceed five years but may exceed five years or be permanent if warranted by the circumstances, and terminate any or all existing Contracts the Contractor may have with the County.
- c. The County may debar a Contractor if the Board of Supervisors finds, in its discretion, that the Contractor has done any of the following: (1) violated a term of a Contract with the County or a nonprofit corporation created by the County; (2) committed an act or omission which negatively reflects on the Contractor's quality, fitness or capacity to perform a Contract with the County, any other public entity, or a nonprofit corporation created by the County, or engaged in a pattern or practice which negatively reflects on same; (3) committed an act or offense which indicates a lack of business integrity or business honesty, or (4) made or submitted a false claim against the County or any other public entity.
- d. If there is evidence that the Contractor may be subject to debarment, the Department will notify the Contractor in writing of the evidence which is the basis for the proposed debarment and will advise the Contractor of the scheduled date for a debarment hearing before the Contractor Hearing Board.
- e. The Contractor Hearing Board will conduct a hearing where evidence on the proposed debarment is presented. The Contractor and/or the Contractor's representative shall be given an opportunity to submit evidence at that hearing. After the hearing, the Contractor Hearing Board shall prepare a tentative proposed decision, which shall contain a recommendation regarding whether the Contractor should be debarred, and, if so, the appropriate length of time of the debarment. The Contractor and the Department shall be provided an opportunity to object to the tentative proposed decision prior to its presentation to the Board of Supervisors.
- f. After consideration of any objections, or if no objections are submitted, a record of the hearing, the proposed decision and any other recommendation of the Contractor Hearing Board shall be presented to the

Board of Supervisors. The Board of Supervisors shall have the right to modify, deny or adopt the proposed decision and recommendation of the Hearing Board.

- g. If the Contractor has been debarred for a period longer than five years, that Contractor may, after the debarment has been in effect for at least five years, submit a written request for review of the debarment determination to reduce the period of debarment or terminate the debarment. The County may, in its discretion, reduce the period of debarment or terminate the debarment if it finds that the Contractor has adequately demonstrated one or more of the following: (1) elimination of the grounds for which the debarment was imposed; (2) a bona fide change in ownership or management; (3) material evidence discovered after debarment was imposed; or (4) any other reason that is in the best interests of the County.
- h. The Contractor Hearing Board will consider a request for review of a debarment determination only where (1) the Contractor has been debarred for a period longer than five years; (2) the debarment has been in effect for at least five years; and (3) the request is in writing, states one or more of the grounds for reduction of the debarment period or termination of the debarment and includes supporting documentation. Upon receiving an appropriate request, the Contractor Hearing Board will provide notice of the hearing on the request. At the hearing, the Contractor Hearing Board shall conduct a hearing where evidence on the proposed reduction of debarment period or termination of debarment is presented. This hearing shall be conducted and the request for review decided by the Contractor Hearing Board pursuant to the same procedures as for a debarment hearing. The Contractor Hearing Board's proposed decision shall contain a recommendation on the request to reduce the period of debarment or terminate the debarment. The Contractor Hearing Board shall present its proposed decision and recommendation to the Board of Supervisors. The Board of Supervisors shall have the right to modify, deny, or adopt the proposed decision and recommendation of the Contractor Hearing Board.
- i. These terms shall also apply to subcontractors of County Contractors.

11. Compliance with Jury Service Program

This Contract is subject to provisions of the County's ordinance entitled Contractor Employee Jury Service (Jury Service Program) as codified in Sections 2.203.010 through 2.203.090 of the Los Angeles County Code.

- a. Unless Contractor has demonstrated to the County's satisfaction either that

Contractor is not a Contractor as defined under the Jury Service Program (Section 2.203.020 of the County Code) or that Contractor qualifies for an exception to the Jury Service Program (Section 2.203.070 of the County Code), Contractor shall have and adhere to a written policy that provides that its employees shall receive from the Contractor, on an annual basis, no less than five days of regular pay for actual jury service. The policy may provide that Employees deposit any fees received for such jury service with the Contractor or that the Contractor deduct from the employee's regular pay the fees received for jury service.

- b. For purposes of this Section, Contractor means a person, partnership, corporation or other entity which has a Contract with the County or a subcontract with a County contractor and has received or will receive an aggregate sum of \$50,000 or more in any 12-month period under one or more County Contracts or Subcontracts. Employee means any California resident who is a full-time employee of Contractor. Full-time means 40 hours or more worked per week, or a lesser number of hours if: (1) the lesser number is a recognized industry standard as determined by the County, or (2) Contractor has a long-standing practice that defines the lesser number of hours as full-time. Full-time employees providing short-term, temporary services of 90 days or less within a 12-month period are not considered full-time for purposes of the Jury Service Program. If Contractor uses any subcontractor to perform services for the County under the Contract, the subcontractor shall also be subject to the provisions of this Section. The provisions of this Section shall be inserted into any such subcontract Agreement and a copy of the Jury Service Program shall be attached to the Agreement.
- c. If Contractor is not required to comply with the Jury Service Program when the Contract commences, Contractor shall have a continuing obligation to review the applicability of its exception status from the Jury Service Program, and Contractor shall immediately notify County if Contractor at any time either comes within the Jury Service Program's definition of Contractor or if Contractor no longer qualifies for an exception to the Program. In either event, Contractor shall immediately implement a written policy consistent with the Jury Service Program. The County may also require, at any time during the Contract and at its sole discretion, that Contractor demonstrate to the County's satisfaction that Contractor either continues to remain outside the Jury Service Program's definition of Contractor and/or that Contractor continues to qualify for an exception to the Program.
- d. Contractor's violation of this Section of the Contract may constitute a material breach of the Contract. In the event of such material breach, County may, in

its sole discretion, terminate the Contractor and/or bar Contractor from the award of future County Contracts for a period of time consistent with the seriousness of the breach.

12. No Payment for Services Provided Following Expiration/Termination of Agreement

Contractor shall have no claim against County for payment for any money or reimbursement, of any kind whatsoever, for any service provided by Contractor after the expiration or other termination of this Agreement. Should Contractor receive any such payment it shall immediately notify County and shall immediately repay all such funds to County. Payment by County for services rendered after expiration/termination of this Agreement shall not constitute a waiver of County's right to recover such payment from Contractor. This provision shall survive the expiration or other termination of this Agreement.

13. Notice to Employees Regarding the Safely Surrendered Baby Law

- a. The Contractor shall notify and provide to its employees and shall require each subcontractor to notify and provide to its employees, a fact sheet regarding the Safely Surrendered Baby Law, its implementation in the County of Los Angeles, and where and how to safely surrender a baby. The fact sheet is available on the Internet at www.babysafela.org for printing purposes.
- b. The Contractor acknowledges that the County places a high priority on the implementation of the Safely Surrendered Baby Law. The Contractor understands that it is the County's policy to encourage all County Contractors to voluntarily post the County's Safely Surrendered Baby Law in a prominent position at the Contractor's place of business. The Contractor will also encourage its Subcontractors, if any, to post this poster in a prominent position in the Subcontractor's place of business. The County's Department of Children and Family Services will supply the Contractor with the poster to be used.

14. Assignment by Contractor/Mergers or Acquisitions

- a. The Contractor shall notify the County of any pending acquisitions/mergers of its company unless otherwise legally prohibited from doing so. If the Contractor is restricted from legally notifying the County of pending acquisitions/mergers, then it should notify the County of the actual acquisitions/mergers as soon as the law allows and provide to the County the legal framework that restricted it from notifying the County prior to the actual acquisitions/mergers.

b. The Contractor shall not assign, exchange, transfer, or delegate its rights or duties under this Contract, whether in whole or in part, without the prior written consent of County, in its discretion, and any attempted assignment, delegation, or otherwise transfer of its rights or duties, without such consent shall be null and void. For purposes of this sub-paragraph, County consent shall require a written amendment to the Contract, which is formally approved and executed by the parties. Any payments by the County to any approved delegate or assignee on any claim under this Contract shall be deductible, at County's sole discretion, against the claims, which the Contractor may have against the County.

- c. Any assumption, assignment, delegation, or takeover of any of the Contractor's duties, responsibilities, obligations, or performance of same by any person or entity other than the Contractor, whether through assignment, subcontract, delegation, merger, buyout, or any other mechanism, with or without consideration for any reason whatsoever without County's express prior written approval, shall be a material breach of the Contract which may result in the termination of this Contract. In the event of such termination, County shall be entitled to pursue the same remedies against Contractor as it could pursue in the event of default by Contractor.

15. Contractor's Warranty of Compliance with County's Defaulted Property Tax Reduction Program

Contractor acknowledges that County has established a goal of ensuring that all individuals and businesses that benefit financially from County through contract are current in paying their property tax obligations (secured and unsecured roll) in order to mitigate the economic burden otherwise imposed upon County and its taxpayers.

Unless contractor qualifies for an exemption or exclusion, contractor warrants and certifies that to the best of its knowledge it is now in compliance, and during the term of this contract will maintain compliance, with Los Angeles County Code Chapter. 2.206.

16. Termination for Breach of Warranty to Maintain Compliance with County's Defaulted Property Tax Reduction Program

Failure of contractor to maintain compliance with the requirements set forth in Article X "Contractor's Warranty of Compliance with County's Defaulted Property Tax Reduction Program" shall constitute default under this contract. Without limiting the rights and remedies available to County under any other provision of this contract, failure of contractor to cure such default within 10 days of notice shall be grounds upon which County may terminate this contract and/or pursue debarment of contractor, pursuant to County Code Chapter 2.206.

17. Time Off for Voting

The Contractor shall notify its employees and shall require each subcontractor to notify and provide to its employees, information regarding the time off for voting law (Elections Code Section 14000). Not less than 10 days before every statewide election, every Contractor and Subcontractors shall keep posted conspicuously at the place of work, if practicable, or elsewhere where it can be seen as employees come or go to their place of work, a notice setting forth the provisions of Section 14000.

18. Contractor CARD Track/Monitoring Database

The County maintains the Contractor Alert Reporting Database (CARD), which is used to track/monitor poorly performing contractors. When a County department identifies a significant performance/non-compliance issue(s) with a contractor, the department will provide notice to the contractor and will give the contractor an opportunity to correct the issue(s). If the contractor does not take any appropriate steps to correct the issue(s), the County department will enter the contractor, along with any other relevant information pertaining to the contractor's performance issue(s), into CARD.

The information entered into CARD can be accessed by all County departments, and will be used, along with any other relevant information not included in CARD, in determining bidder responsibility. If a department reviews this information and determines that a finding of non-responsibility should be pursued, the department will adhere to the guidelines specified in the Los Angeles County Code Chapter 2.202, and the County's implementation Procedures for Determinations of Contractor Non-Responsibility and Contractor Debarment.

The County maintains databases that track/monitor contractor performance history. Information entered into such databases may be used for a variety of purposes, including determining whether a bidder is responsible for the purposes of a future County contract.

19. Contractor Independence/Prohibition from Participation in Future Solicitation(s)

The County Board of Supervisors has adopted a countywide policy that prohibits any person, or any firm [collectively "firm"] or any subsidiary of a firm from submitting a bid or proposal in any County solicitation process where the person or firm, assisted in the development of the solicitation document(s).

A Proposer, or a Contractor or its subsidiary or Subcontractor ("Proposer/Contractor"), is prohibited from submitting a bid or proposal in a County solicitation if the Proposer/Contractor has provided advice or consultation for the solicitation. A Proposer/Contractor is also prohibited from submitting a bid or proposal in a County solicitation if the Proposer/Contractor has developed or prepared any of the solicitation materials on behalf of the County. A violation of this provision shall result in the disqualification of the Contractor/Proposer from participation in the County solicitation or the termination or cancellation of any resultant County Contract. This provision shall survive the expiration, or other termination of this Agreement.

20. Background and Security Investigations

- 20.1 Each of Contractor's staff performing services under this Contract, who is in a designated sensitive position, as determined by County in County's sole discretion, shall undergo and pass a background investigation to the satisfaction of County as a condition of beginning and continuing to perform services under this Contract. Such background investigation must be obtained through fingerprints submitted to the California Department of Justice to include State, local, and federal-level review, which may include, but shall not be limited to, criminal conviction information. The fees associated with the background investigation shall be at the expense of the Contractor, regardless of whether the member of Contractor's staff passes or fails the background investigation.
- 20.2 If a member of Contractor's staff does not pass the background investigation, County may request that the member of Contractor's staff be removed immediately from performing services under the Contract. Contractor shall comply with County's request at any time during the term of the Contract. County will not provide to Contractor or to Contractor's staff any information obtained through the County's background investigation.
- 20.3 County, in its sole discretion, may immediately deny or terminate facility access to any member of Contractor's staff that does not pass such investigation to the satisfaction of the County or whose background or conduct is incompatible with County facility access.
- 20.4 Disqualification of any member of Contractor's staff pursuant to this Paragraph shall not relieve Contractor of its obligation to complete all work in accordance with the terms and conditions of this Contract.

21. Local Small Business Enterprise/Social Enterprise/Disabled Veterans Business Enterprise Utilization

Local Small Business Enterprise means a business that is certified by the County of Los Angeles as a Local Small Business Enterprise (Local SBE), consistent with Chapter 2.204 of the Los Angeles County Code.

21.1 When requested by the County, the contractor shall provide to the County via methods specified by the County, such as submission of electronic live (or dynamic) data on invoices for the prime and all Subcontractors using County-designated third party software system or to a County approved website, or other means of submitting expenditure information on Subcontractors, including but not limited to the following information: the name, business address, California Contractor License number and telephone number/email address of each subcontractor who will perform work or labor for the contractor on the Project in an amount in excess of one-half of 1 percent of the Contractor's total bid. In addition, the Contractor shall be required to provide each of the specified Subcontractors' Local SBE status (i.e., whether any of the listed Subcontractors are Local SBE's), Social Enterprise status, and Disabled Veterans Business Enterprise status and the proposed monetary amount of the work the subcontractor will perform on the Project. In addition, at the time of submittal of the final invoice, the Contractor shall indicate, via methods specified by the County, the actual dollar amounts paid to each listed Subcontractor who performed work on the project.

21.2 Contractor's failure to comply with the provisions of this Article is a material breach of the Agreement. The parties agree that it will be impracticable or extremely difficult to fix the extent of actual damages resulting from the failure to the Contractor to comply with this Article. The parties agree that under the current circumstances a reasonable estimate of such damages is specified in the Schedule for Liquidated Damages for Local Small Business Enterprise Utilization hereunder, and that the Contractor shall be liable to the County for said amounts.

If in the judgment of the Director, or his/her designee, the Contractor is deemed to be in non-compliance with the terms and obligations assumed hereby, the Director or his/her designee, at his/her option, in addition to, or in lieu of, other remedies provided herein in this Agreement, may deduct and withhold liquidated damages from County's final payment to the Contractor as follows:

SCHEDULE FOR LIQUIDATED DAMAGES FOR LOCAL SMALL BUSINESS
ENTERPRISE/SOCIAL ENTERPRISE/DISABLED VETERANS BUSINESS
ENTERPRISE UTILIZATION

<u>Final Invoice Price</u>	<u>Liquidated Damages</u>
Up to \$100,000	\$50.00 plus 0.1% of contract amount
\$100,001 to \$500,000	\$150.00 plus 0.07% of all over 100,000
Over \$500,000	\$430.00 plus 0.05% of all over \$500,000

22. Compliance with County's Zero Tolerance Human Trafficking

Contractor acknowledges that the County has established a Zero Tolerance Human Trafficking Policy prohibiting Contractors from engaging in human trafficking.

If a Contractor or member of Contractor's staff is convicted of a human trafficking offense, the County shall require that the Contractor or member of Contractor's staff be removed immediately from performing services under the Contract. County will not be under any obligation to disclose confidential information regarding the offenses other than those required by law.

Disqualification of any member of Contractor's staff pursuant to this paragraph shall not relieve Contractor of its obligation to complete all work in accordance with the terms and conditions of this Contract.

23. Claims

Notwithstanding Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, Section 9204 of the Public Contract Code shall apply to any claim by the Contractor in connection with the Project.

- a. Upon receipt of a claim pursuant to Section 9204 of the Public Contract Code, the County will conduct a reasonable review of the claim and, within a period not to exceed 45 Days, provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, the Contractor and the County may, by mutual agreement, extend the aforementioned time period.
- b. The Contractor shall furnish reasonable documentation to support the claim.
- c. If Board approval is needed to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the Board does not meet within the 45 Days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the County will have up to 3 Days

following the next duly publicly noticed meeting of the Board after the 45-Day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.

- d. Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the County issues its written statement. If the County fails to issue a written statement, paragraph (j) shall apply.
- e. If the Contractor disputes the County's written response, or if the County fails to respond to a claim issued pursuant to Section 9204 within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the County will schedule a meet and confer conference within 30 Days for settlement of the dispute.
- f. Within 10 business days (Monday-Thursday) following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the County will provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the County issues its written statement. Any disputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the County and the Contractor sharing the associated costs equally. The County and the Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside those established in Section 9204.
- g. Mediation shall include any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in Section 9204.
- h. Unless otherwise agreed to by the County and the Contractor in writing, the mediation conducted pursuant to Section 9204 shall excuse any further

obligation under Section 20104.4 to mediate after litigation has been commenced.

- i. Section 9204 does not preclude the County from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under Section 9204 does not resolve the parties' dispute.
- j. Failure by the County to respond to a claim from the Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of Section 9204 shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the County's failure to have responded to a claim, or its failure to otherwise meet the time requirements of Section 9204, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.
- k. Amounts not paid in a timely manner as required by Section 9204 will bear interest at 7 percent per annum.
- l. If a Subcontractor or a lower tier Subcontractor lacks legal standing to assert a claim against the County because privity of the Contract does not exist, the Contractor may present to the County a claim on behalf of a Subcontractor or lower tier Subcontractor. A Subcontractor may request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that the Contractor present a claim for work which was performed by the Subcontractor or by a lower tier Subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the claim be presented to the County shall furnish reasonable documentation to support the claim. Within 45 Days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the claim to the County and, if the original Contractor did not present the claim, provide the Subcontractor with a statement of the reasons for not having done so.
- m. A waiver of the rights granted by Section 9204 is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the Contractor and the County may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the County may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of Section 9204, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in Section 9204.

24. Compliance with Fair Chance Employment Practices

Contractor, and its subcontractors, must comply with fair chance employment hiring practices set forth in California Government Code Section 12952. Contractor's violation of this paragraph of the Contract may constitute a material breach of the Contract. In the event of such material breach, County may, in its sole discretion, terminate the Contract.

25. Default Method of Payment: Direct Deposit or Electronic Funds Transfer

25.1 The County, at its sole discretion, has determined that the most efficient and secure default form of payment for goods and/or services provided under an agreement/ contract with the County shall be Electronic Funds Transfer (EFT) or direct deposit, unless an alternative method of payment is deemed appropriate by the Auditor-Controller (A-C).

25.2 The Contractor shall submit a direct deposit authorization request via the website <https://directdeposit.lacounty.gov> with banking and vendor information, and any other information that the A-C determines is reasonably necessary to process the payment and comply with all accounting, record keeping, and tax reporting requirements.

25.3 Any provision of law, grant, or funding agreement requiring a specific form or method of payment other than EFT or direct deposit shall supersede this requirement with respect to those payments.

25.4 At any time during the duration of the agreement/contract, a Contractor may submit a written request for an exemption to this requirement. Such request must be based on specific legal, business or operational needs and explain why the payment method designated by the A-C is not feasible and an alternative is necessary. The A-C, in consultation with the contracting department(s), shall decide whether to approve exemption requests.

26. Disallowed Cost

If Proposer's compliance with a County contract has been reviewed by the A-C within the last 10 years, Proposer must not have unresolved questioned costs identified by the A-C, in an amount over \$100,000.00, that are confirmed to be disallowed costs by the contracting County department, and remain unpaid for six months or more from the date of disallowance, unless such disallowed costs are the subject of current good faith negotiations to resolve the disallowed costs, in the opinion of the County.

27. Compliance with the County Policy of Equity

The consultant acknowledges that the County takes its commitment to preserving the dignity and professionalism of the workplace very seriously, as set forth in the County Policy of Equity (CPOE) (<https://ceop.lacounty.gov/>). The contractor further acknowledges that the County strives to provide a workplace free from discrimination, harassment, retaliation and inappropriate conduct based on a protected characteristic, and which may violate the CPOE. The contractor, its employees and subcontractors acknowledge and certify receipt and understanding of the CPOE. Failure of the Contractor, its employees or its Subcontractors to uphold the County's expectations of a workplace free from harassment and discrimination, including inappropriate conduct based on a protected characteristic, may subject the contractor to termination of contractual agreements as well as civil liability.

28. Integrated Pest Management Program Compliance

Contractor acknowledges that County has established an Integrated Pest Management Program (the Program) which aims to reduce or eliminate pollutants moved into surface water through storm water management systems and facilities. Contractor certifies compliance on Integrated Pest Management Program Compliance Certification in Required Forms, that contractor has reviewed, understands, and will adhere to the County's IPM Program requirements as set forth in Integrated Pest Management Program Compliance and at: www.lacountyipm.org

Contractor must ensure and certify that its employees who apply pesticides on County owned or maintained property are appropriately trained. The training, which must be conducted on an annual basis, but no later than June 30th of each calendar year, must meet the County's minimum requirements under the Program.

Employee training may be self-certified by Contractors, provided the County has the ability to audit the training, and must include, at a minimum, the following:

- The potential for pesticide-related surface water toxicity;
- Proper use, handling, and disposal of pesticides;
- Least toxic methods of pest prevention and control, including IPM; and
- Reduction of pesticide use.

All users of commercial pesticides are required by State law to provide a monthly pesticide report to the Los Angeles County Department of Agricultural Commissioner/ Weights and Measures (ACWM). In addition to the

mandatory monthly reporting requirement, Contractor shall provide to the Department, with a copy to the ACWM, an annual summary of the pesticides used outdoors on County-owned or maintained property by Fiscal Year (July 1 to June 30). For each pesticide, the summary shall include all of the following:

- Product trade name
- Active ingredient(s)
- EPA Registration Number
- Total amount used

The units reported shall be appropriate to the product (gallons, ounces, pounds, etc.).

29. Termination for Improper Consideration

County may, by written notice to Contractor, immediately terminate the right of Contractor to proceed under this Agreement if it is found that consideration, in any form, was offered or given by Contractor, either directly or through an intermediary, to any County officer, employee, or agent with the intent of securing the Agreement or securing favorable treatment with respect to the award, amendment, or extension of the Agreement or the making of any determinations with respect to Contractor's performance pursuant to the agreement. In the event of such termination, County shall be entitled to pursue the same remedies against Contractor as it could pursue in the event of default by Contractor.

Contractor shall immediately report any attempt by a County officer or employee to solicit such improper consideration. The report shall be made either to County manager charged with the supervision of the employee or to County A-C's Employee Fraud Hotline at (213) 974-0914 or (800) 544-6861.

Among other items, such improper consideration may take the form of cash, discounts, service, the provision of travel or entertainment, or tangible gifts.

30. Gratuities

Contractor is advised that it is improper for any County officer, employee, or agent to solicit consideration, in any form, from Contractor with the implication, suggestion, or statement that Contractor's provision of the consideration, or failure to provide consideration, may cause favorable or unfavorable treatment, respectively, for the Contractor relating to the amendment or extension of the Contract or the making of any determinations with respect to Contractor's performance under this Contract.

A Contractor shall not offer or give, either directly or through an intermediary, such

improper consideration, in any form, to a County officer, employee, or agent for the purpose of securing favorable treatment as described herein.

A Contractor shall immediately report any attempt by a County officer, employee, or agent to solicit such improper consideration. The report shall be made either to the County manager charged with the supervision of the employee or to the County Auditor-Controller's Employee Fraud Hotline at (800) 544-6861.

Among other items, such improper consideration may take the form of cash; discounts; services; and the provision of travel, entertainment, or tangible gifts.

Note that Contractor's failure to adhere to this requirement could subject this Contract to Termination for Improper Consideration paragraph in this Agreement.

31. Facsimile/Electronic Representations

The County and the Contractor hereby agree to regard facsimile/electronic representations of original signatures of authorized officers of each party, when appearing in appropriate places on the Agreement, Change Orders and amendments prepared, and received via communications facilities, as legally sufficient evidence that such original signatures have been affixed to amendments to this Contract, such that the parties need not follow up facsimile/electronic transmissions of such documents with subsequent (non-facsimile/electronic) transmission of "original" versions of such documents. Electronic signatures include facsimile or e-mail electronic signatures. Each executed counterpart shall be deemed an original. All counterparts, taken together, constitute the executed Agreement. The parties hereby acknowledge and agree that electronic records and electronic signatures, as well as facsimile signatures, used in connection with the execution of this Agreement and electronic signatures, facsimile signatures or signatures transmitted by electronic mail in so-called pdf format shall be legal and binding and shall have the same full force and effect as if a paper original of this Agreement had been delivered had been signed using a handwritten signature. Contractor and County (i) agree that an electronic signature, whether digital or encrypted, of a party to this Agreement is intended to authenticate this writing and to have the same force and effect as a manual signature, (ii) intend to be bound by the signatures (whether original, faxed or electronic) on any document sent or delivered by facsimile or, electronic mail, or other electronic means, (iii) are aware that the other party will rely on such signatures, and (iv) hereby waive any defenses to the enforcement of the terms of this Agreement based on the foregoing forms of signature. If this Agreement has been executed by electronic signature, all parties executing this document are expressly consenting under the United States Federal Electronic Signatures in Global and National Commerce Act of 2000 ("E-SIGN") and California Uniform Electronic Transactions Act ("UETA")(Cal. Civ. Code § 1633.1,

et seq.), that a signature by fax, e-mail or other electronic means shall constitute an Electronic Signature to an Electronic Record under both E-SIGN and UETA with respect to this specific transaction.

32. Advertising and Other External Communications About the Project

Consultant/Contractor shall obtain the County's prior written approval before disclosing or communicating any information concerning the award of the contract, the progress of the work, or the completion of the work, to any non-party, including but not limited to outside media and news organizations. This requirement includes, but is not limited to: (1) a Consultant/Contractor's application for an award or any other recognition of the project; and (2) any advertising or promotion of the project and/or the Consultant/Contractor's role on the project. The County retains the sole discretion as to the release of such information, including the right to deny the request for disclosure, the right to direct the timing of the disclosure, and/or the right to direct Consultant/Contractor to make revisions to the information prior to disclosure.

33. COVID-19 Requirement for County Contractor Personnel

When applicable and required by the County, the Contractor shall comply with all other applicable local, departmental, State, and federal laws, regulations, and requirements for COVID-19.

34. Countywide Community Workforce Agreement

On February 28, 2023, the County Board of Supervisors authorized the County to execute the Countywide Community Workforce Agreement (CWA) with the Los Angeles/Orange Counties Building and Construction Trades Council and its respective unions, attached as Exhibit XXX of this agreement. Pursuant to the Board's direction and executed Countywide CWA, Countywide CWA will apply to this Project. The Contractor shall comply with all terms therein and shall be bound by the terms and conditions of the Countywide CWA applicable to the contractors for all Work on the Project for the entire duration of the Project. Countywide CWA shall be deemed incorporated in full into this agreement including, but not limited to, the provisions regarding the hiring of workers for the Project by the Contractor and all of its subcontractors of all tiers. Contractor shall execute and return to the County the Letter of Assent, attached to the Countywide CWA as Attachment A, at the time of contract execution and shall cause each of its subcontractors of all tiers to also execute and return to the County a copy of the Letter of Assent.

35. Campaign Contribution Prohibition Following Final Decision in Contract Proceeding

Pursuant to Government Code Section 84308, Contractor and its Subcontractors, are prohibited from making a contribution of more than \$250 to a County officer for twelve (12) months after the date of the final decision in the proceeding involving this Contract. Failure to comply with the provisions of Government Code Section 84308 and of this paragraph, may be a material breach of this Contract as determined in the sole discretion of the County.

36. Federally Funded Work

This provision will apply when federally funded or potentially federally funded work is needed by County. In accordance with Federal Executive Order 12549 and 12689 (Debarment and Suspension), individuals or entities that have been debarred by the Federal government may not receive work under this Contract as a Contractor or Subcontractor. Contractors and/or Subcontractors listed on the governmental exclusions in the System for Award Management (SAM) are not eligible to receive federally funded work under this contract. See Office of Management and Budget guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension". The SAM exclusions contains the names of parties debarred, suspended, or otherwise excluded by Federal agencies as well as parties declared ineligible under statutory or regulatory authority.

For federally funded work, the Project Manager will, before assigning work or Notice to Proceed to the Contractor, verify that the Contractor is not listed on the governmental exclusions in the SAM as a party excluded or ineligible by Federal agencies to participate in federally funded projects. For your reference, a List of Debarred Contractors by U.S. Department of Labor's (DOL) Office of Federal Contract Compliance Programs (OFCCP) may be obtained by going to the following website: <https://sam.gov/content/home>.

If the Contractor is listed on the governmental exclusions in the SAM as a party excluded or ineligible by Federal agencies to participate in federally funded projects, then said Contractor will not be offered the work. The Project Manager will notify the Contractor of their negative standing in the SAM. The Project Manager will also notify the Contractor of their ineligibility to receive any federally funded work under this contract, until the Contractor is able to satisfactorily correct the issue. The Contractor shall notify the Project Manager when the Contractor has corrected their

negative standing in the SAM, and the Contractor is no longer listed on the governmental exclusions in the SAM.

If the Contractor is not listed on the governmental exclusions in the SAM as a party excluded or ineligible by Federal agencies to participate in federally funded projects, Public Works may offer said Contractor the federally funded work. In addition, if applicable, the Contractor is required to verify that its subcontractors/subconsultants are not listed on the governmental exclusions in the SAM, before assigning federally funded work to its subcontractors/subconsultants.

IN WITNESS WHEREOF, the County has, by order of its Board of Supervisors, caused these presents to be subscribed by the Director of the Los Angeles County Public Works, and the Contractor has hereunto subscribed its corporate name and affixed its corporate seal by its duly authorized officers the day, month, and year herein first above written.

COUNTY OF LOS ANGELES

NAME OF CONTRACTOR

By _____
Deputy Director
Los Angeles County Public Works

By _____
President

Type/Print Name

By _____
Secretary

Type/Print Name

CLASSIFICATION LICENSE NO.
Contractor

APPROVED AS TO FORM:

DAWYN R. HARRISON
County Counsel

By _____
Senior Deputy County Counsel

Type/Print Name

BOND FOR FAITHFUL PERFORMANCE

KNOW ALL PERSONS BY THESE PRESENTS:

That we, Contractor, a California Corporation, as principal, and

(name and address)

as surety, are held and firmly bound unto the County of Los Angeles, State of California, in the sum of AMOUNT IN WORDS DOLLARS (\$ amount), lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that whereas said principal has been awarded and is about to enter into the annexed Contract with the County of Los Angeles, State of California, for

PROJECT
PLACE
SPECS.

and is required by said County to give this bond in connection with the execution of said Contract.

NOW, THEREFORE, if the said principal shall well and truly do and perform all of the covenants and obligations of said Contract on its part to be done and performed at the times and in the manner specified therein, then this obligation shall be null and void, otherwise it shall be and remain in full force and effect. No premature payment by said County to said principal shall exonerate any surety unless the Board of Supervisors of said County shall have actual notice that such payment is premature at the time it is ordered by said Board, and then only to the extent that such payment shall result in loss to such surety, but in no event more than the amount of such premature payment. The surety hereby waives notice of any change, including changes of time, to said Contract or related subcontractors, purchase orders and other obligations.

BOND FOR FAITHFUL PERFORMANCE

Page 2

WITNESS our hands this _____ day of _____, 2XXX.

NAME OF Contractor

President

Type/Print Name

Secretary

Type/Print Name

APPROVED AS TO FORM:

DAWYN R. HARRISON
County Counsel

Surety

By _____
Senior Deputy County Counsel

Attorney-in-Fact

Type/Print Name

Type/Print Name

PAYMENT BOND FOR LABOR AND MATERIALS

KNOW ALL PERSONS BY THESE PRESENTS:

That we, Contractor, a California corporation, as principal, and

(name and address)

as surety, are held firmly bound unto the County of Los Angeles, State of California, hereinafter referred to as the County, in the sum of AMOUNT IN WORDS DOLLARS (\$XXXXXXX) lawful money of the United States, for the payment of which sum, well and truly made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the above obligation is such that, whereas said principal has been awarded and is about to enter into a written Contract with the County for:

PROJECT
PLACE
SPECS. NO. XXXX

which is hereto attached, made a part hereof, and to which reference is hereby made for all, and is required by said County to give this bond in connection with the execution of said Contract.

NOW, THEREFORE, if said principal, as contractor in said Contract, or principal's Subcontractor, fails to pay any of the persons referred to in Section 9100 of the Civil Code of the State of California for labor performed, skills, or other necessary services bestowed, site improvement made, equipment leased, or appliances, equipment, implements, machinery, materials, power, provender, provisions, teams, or trucks furnished or used in, upon, or about the performance of this work contracted to be done, or for amounts due under the Unemployment Insurance Code with respect to work or labor performed by such claimant, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and Subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with Respect to such work and labor, said surety shall pay for the same in an amount not exceeding the sum specified above, and if suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court. This bond is executed pursuant to Chapter 7 of Division 3, Part 4, Title 15 of the Civil Code of the State of California, and shall inure to the benefit of any of the persons referred to in said Civil Code Section 9100, as it now exists or

Specs. No. 7878

Agreement 00 05 00-27

PAYMENT FOR BOND FOR LABOR AND MATERIALS

Page 2

may hereafter be amended, so as to give a right of action to such persons or their assigns in any suit brought upon this bond. No premature payment by said County to said principal shall exonerate any surety unless the Board of Supervisors of said County shall have actual notice that such payment is premature at the time and it is ordered by said Board, and then only to the extent that such payment shall result in loss to such surety, but in no event more than the amount of such premature payment.

It is agreed that any alterations in the work to be done or increase or decrease of the materials to be furnished, which may be made pursuant to the terms of said Contract shall not in any way release either the principal or surety hereunder, nor shall any extensions of time granted under the provisions of said Contract release either the principal or surety, and notice of such alterations or extensions of this Contract is hereby waived by the surety.

WITNESS our hands this _____ day of _____, 2XXX

NAME OF Contractor

President

Type/Print Name

Secretary

Type/Print Name

APPROVED AS TO FORM:

DAWYN R. HARRISON
County Counsel

Surety

By _____
Senior Deputy County Counsel

Attorney-in-Fact

Type/Print Name

Type/Print Name

Specs. No. 7878

Agreement 00 05 00-28

CERTIFICATION

SUBJECT: PROJECT
ADDRESS
CITY, STATE
SPECS. NO.

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract.

NAME OF Contractor

Contractor's Signature

Print Name

Date

STATEMENT OF UNDERSTANDING

SUBJECT: PROJECT
ADDRESS
CITY, STATE
SPECS.

As the Contractor of the project, I have reviewed the Best Management Practices Handbooks, California Storm Water Quality Association, Menlo Park, CA and have proposed the implementation of the Best Management Practices (BMPs) applicable to effectively minimize the negative impacts of this Project's construction activities on the surrounding water quality. The selected BMPs will be installed, monitored, and maintained to ensure their effectiveness. The BMPs that I have not chosen for implementation are redundant or deemed not applicable to the proposed construction activities. If at any time, site conditions and/or the County official warrant re-evaluation and revisions of the chosen BMPs, the appropriate changes will be made without unnecessary delay. I am aware that failure to properly implement and maintain the BMPs necessary to prevent the discharge of pollutants from this project could result in significant penalties and/or delays.

NAME OF Contractor

Signature

Print Name

Date

SECTION 00 06 10
BOND FOR FAITHFUL PERFORMANCE

KNOW ALL PERSONS BY THESE PRESENTS:

That we, CONTRACTOR, a California Corporation, as principal, and _____, as surety, are held and firmly bound unto the COUNTY OF LOS ANGELES, State of California, in the sum of XXX DOLLARS (\$), lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that whereas said principal has been awarded and is about to enter into the annexed contract with the County of Los Angeles, State of California, for

PROJECT
PLACE
SPECS. NO.

and is required by said County to give this bond in connection with the execution of said contract;

NOW, THEREFORE, if the said principal shall well and truly do and perform all of the covenants and obligations of said contract on its part to be done and performed at the times and in the manner specified therein, then this obligation shall be null and void, otherwise it shall be and remain in full force and effect. No premature payment by said County to said principal shall exonerate any surety unless the Board of Supervisors of said County shall have actual notice that such payment is premature at the time it is ordered by said Board, and then only to the extent that such payment shall result in loss to such surety, but in no event more than the amount of such premature payment. The surety hereby waives notice of any change, including changes of time, to said contract or related subcontracts, purchase orders and other obligations. The surety hereby waives notice of any change, including changes of time, to said contract or related subcontractors, purchase orders and other obligations.

WITNESS our hands this _____ day of _____, 20

CONTRACTOR

President

APPROVED AS TO FORM:

DAWYN R. HARRISON
County Counsel

Secretary

Surety

By _____
Senior Deputy County Counsel

Attorney-in-Fact

SECTION 00 06 20
PAYMENT BOND FOR LABOR AND MATERIALS

KNOW ALL PERSONS BY THESE PRESENTS:

That we, CONTRACTOR, a California corporation, as principal, and _____ as surety, are held firmly bound unto the COUNTY OF LOS ANGELES, State of California, hereinafter referred to as the County, in the sum of DOLLARS (\$) lawful money of the United States, for the payment of which sum, well and truly made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the above obligation is such that, whereas said principal has been awarded and is about to enter into a written contract with the County for:

NAME OF PROJECT
PLACE
SPECS. NO.

which is hereto attached, made a part hereof, and to which reference is hereby made for all particulars, and is required by said County to give this bond in connection with the execution of said contract.

NOW, THEREFORE, if said principal, as contractor in said contract, or principal's subcontractor, fails to pay any of the persons referred to in Section 9100 of the Civil Code of the State of California for labor performed, skills or other necessary services bestowed, site improvement made, equipment leased, or appliances, equipment, implements, machinery, materials, power, provender, provisions, teams, or trucks furnished or used in, upon, or about the performance of this work contracted to be done, or for amounts due under the Unemployment Insurance Code with respect to work or labor performed by such claimant, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the contractor and subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, said surety shall pay for the same in an amount not exceeding the sum specified above, and if suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court. This bond is executed pursuant to Chapter 7 of Division 3, Part 4, Title 15 of the Civil Code of the State of California, and shall inure to the benefit of any of the persons referred to in said Civil Code Section 9100, as it now exists or may hereafter be amended, so as to give a right of action to such persons or their assigns in any suit brought upon this bond. No premature payment by said County to said principal shall exonerate any surety unless the Board of Supervisors of said County shall have actual notice that such payment is premature at the time and it is ordered by said Board, and then only to the extent that such payment shall result in loss to such surety, but in no event more than the amount of such premature payment.

It is agreed, that any alterations in the work to be done, or increase or decrease of the materials to be furnished, which may be made pursuant to the terms of said contract shall not in any way release either the principal or surety hereunder, nor shall any extensions of time granted under the provisions of said contract release either the principal or surety, and notice of such alterations or extensions of this contract is hereby waived by the surety.

WITNESS our hands this _____ day of _____, 20

CONTRACTOR

President

APPROVED AS TO FORM:

Secretary

DAWYN R. HARRISON
County Counsel

Surety

By _____
Senior Deputy County Counsel

Attorney-in-Fact

SECTION 00 07 00

GENERAL CONDITIONS

A. Bid Form, Equals, Use of Drawings & Manual

1. Bid Forms
2. Equals
3. Additional Sets of Drawings and Project Manual

B. Drawings & Specifications

4. Drawings and Specifications
5. Contract Documents and Order of Precedence
6. Interpretation of Drawings and Specifications
7. Project Manual
8. Standard Specifications
9. Substitutions Required Because of Federal Government Restrictions or Lack of Product Availability
10. As-Built Drawings
11. Reference Materials

C. Schedule, Changes in Work

12. Construction Schedule
13. County's Right to Delay Commencement of the Work
14. Updated Schedules
15. Changes in the Work
16. Provisions for Extras
17. Time Extensions and Compensation for Delay

D. Inspection/Permits, Tests, Quality, Warranties

18. Observation
19. Permits, Licenses, and Inspections
20. Tests

E. Substantial Completion, Occupancy by County

21. Substantial Completion
22. Occupancy by County

F. Employment Requirements

23. Workers
24. Hours of Work
25. Saturday, Sunday, Holidays, and Overtime Work
26. Prevailing Wage Scale
27. Employment of Indentured Apprentices
28. Affirmative Action Plan for Equal Employment Opportunity

G. Contractor Responsibilities, Restrictions

- 29. Payroll Records
- 30. Quality of Work and Material
- 31. Responsibility of Contractor and of Contractor's Representative on the Work
- 32. Repairing Damaged Work
- 33. List of Subcontractors and Subletting Work
- 34. Advertising
- 35. Certificate as to Compliance with Certain Regulations
- 36. Coordination with Others and Other Contracts
- 37. Contractor's Construction Equipment
- 38. Contractor Personnel
- 39. Audits and Records
- 40. Warranty and Corrections to Work
- 41. Hazardous Material
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H. Indemnification and Insurance

- 43. Indemnification
- 44. General Insurance Requirements
- 45. Insurance Coverage Requirements--Types and Limits
- 46. Not used.
- 47. Not used.

I. Legal/Other

- 48. Assignment
- 49. Patents
- 50. Suspension and/or Termination of Work and/or Contract
- 51. Contractor's Warranty of Adherence to County's Child Support Compliance Program
- 52. Contractor's Acknowledgment of County's Commitment to Child Support Enforcement
- 53. Limitation of Liability
- 54. Forum Selection
- 55. Waiver
- 56. Prior Agreements
- 57. Progress Payments
- 58. Acceptance of Final Payment as Release
- 59. Substitution of Securities for Retention
- 60. Resolution of Construction Claims
- 61. Conflict of Interest
- 62. Anti-Trust Claims
- 63. County's Quality Assurance Plan
- 64. Laws, Codes and Regulations to Be Observed

SECTION 00 07 00

GENERAL CONDITIONS

1. BID FORMS:

One copy of the Bid Forms accompany this Project Manual for Bidder's use.

Should these specifications be issued without the Bid Forms, or should the copy be lost or damaged, the Bidder must notify the Department of Public Works, in order that he/she may receive the forms or he/she may copy the forms bound into the Project Manual. All bids must be submitted on these forms or a facsimile thereof.

The Bidder shall not attach his bid to the returned Project Manual, nor use the Bid Forms, which are bound therein.

2. EQUALS:

- A. Except as may be provided in the Proprietary Specification Section of these General Conditions, whenever any material, product, thing or service is specified or indicated in the Bid Documents by brand, trade, patent or proprietary name and/or by the name of the manufacturer, the item so specified or indicated shall be deemed to be followed by the words "or equal."
- B. While preparing the bid, the Bidder may, at its own risk, submit an item not specified in the Bid Documents as an "or equal" for consideration by the County. Failure to do so within the time frame described in Subparagraph D below shall bar the Bidder from proposing or substituting an "or equal" item for an item specified in the Bid Documents.
- C. If the Bidder includes an "or equal" item with the bid, the Bidder must submit sufficient data to the County to substantiate the specific characteristics and qualities which make the "or equal" item the equivalent in all respects of the item specified in the Bid Documents as described in Subparagraph D below. The Bidder shall furnish such substantiating data or arrange for any necessary tests to verify the equivalent qualities of the "or equal" item at the Bidder's sole expense.
- D. The first, second and third apparent low bidder will have two (2) calendar days after the bid opening to submit their list of Equals (Section 00 04 40) and ten (10) calendar days after the bid opening to submit all substantiating data and test results. No list of Equals will be accepted after the close of

business two (2) calendar days after bids are opened. Likewise, no substantiating data and test results will be accepted after the close of business ten (10) calendar days after bids are opened.

- E. The County, in its sole discretion, shall determine whether the substantiating data demonstrates that an "or equal" item is equal in all respects to the item specified in the Bid Documents. If the County determines that the "or equal" item has not been substantiated to be equal in all respects, the item specified in the Bid Documents shall be furnished and/or installed by Contractor without modification of the bid amount or Contract Documents.
- F. The Contract Time for completion of the Work specified in the Contract Documents shall not be affected by any circumstances whatsoever arising from the provisions of this article.
- G. The Contract Documents, Drawings, and Specifications have been prepared to complement and accommodate certain specified equipment, products, or systems and any modifications, adjustment, or redesign required to assimilate any County approved substitution or "or equal" equipment, products, or systems shall be at the Contractor's expense. Contractor shall provide a complete and workable application and shall satisfy design criteria and aesthetic values to the sole satisfaction of the County.

3. ADDITIONAL SETS OF DRAWINGS AND PROJECT MANUAL:

Upon award of contract, the Contractor will be furnished with a full-size set of Drawings. Project Manuals will be issued with each set of Drawings for construction use.

4. DRAWINGS AND SPECIFICATIONS:

Specifications are intended to establish the standards for quality, performance, and technical requirements for all labor, workmanship, material, methods, and equipment necessary to complete the Work shown or reasonably implied on the Drawings and Specifications. The Drawings are intended to establish the scope, arrangement, graphic detail, and to illustrate the contract requirements. The Drawings and Specifications are intended to compliment and supplement one another, and any part of the Work that may be mentioned or indicated in the one and not represented in the other shall be done the same as if it had been mentioned or represented in both. Work, materials, or equipment of a minor nature which may not be specifically mentioned in the specifications or indicated on the Drawings, but which may be reasonably assumed as necessary for the completeness of the Work,

shall be performed and or supplied by the Contractor the same as if it were shown on the Drawings or described in the Specifications. In case of discrepancy either in the figures, on the drawings, or in the specifications, the matter shall be promptly submitted to the Director, or the Director's representative, who shall promptly make a determination in writing.

5. CONTRACT DOCUMENTS AND ORDER OF PRECEDENCE:

- A. In the event that any provision(s) in any component part of the Contract Documents conflicts with any provision(s) of any other component part, the following order of precedence among the Contract Documents' component parts shall govern:
 - 1. Written Amendments and Change Orders to the Contract in reverse chronological order
 - 2. Addenda and Notices to Bidders in reverse chronological order
 - 3. County-Contractor Agreement
 - 4. Project Manual and Drawings
 - 5. Performance Bond
 - 6. Labor and Material Payment Bond
- B. In the event there is a conflict between or among any provisions within one of the component parts of the Contract Documents, the higher standard or the more stringent requirement shall govern.

6. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS:

- A. The Director, or his/her authorized representative, will interpret the meaning of any part of the Drawings and Specifications about which any misunderstanding may arise. Should there appear to be any inconsistency or discrepancy in or between the Drawings and Specifications, the Contractor shall refer the matter to the Director, and then proceed without delay to complete the Work under question after the matter has been resolved by the Director. Should the Contractor proceed with the Work without referring the matter to, or obtaining resolution from the Director, Contractor does so on Contractor's own responsibility and without recourse to the County or County's employees, agents, etc.
- B. If the Contractor disagrees with the interpretation of the Director, or his/her authorized representative, they shall promptly, and within ten (10) days after receipt of the interpretation, file a written request for a hearing before the Disputes Review Board as provided herein. Such written request shall

outline in detail areas and scope of the Contractor's disagreement with the interpretation. The Contractor shall continue with the Work in accordance with the Director's interpretation, maintaining accurate and complete records of all cost and time impacts related to the Work involved in the disputed interpretation. These records shall be filed with the Director in a timely manner as the Work progresses.

- C. The Disputes Review Board selected by the Director is composed of three County personnel having a grade of Section Head or higher. The Board will convene to hear all matters related to the dispute within forty-five (45) calendar days after receipt of an acceptable request to convene. An acceptable "request for hearing" is defined as a request that outlines in detail the following:

1. Areas and scope of disagreement with the interpretation.
2. All areas of inconsistency/discrepancy in the drawings and/or specifications related to the dispute. Cite the specific drawings, details, specification sections, and paragraphs.

The Director shall determine whether a hearing will be conducted and may reject the request for hearing on the basis of information presented in the request.

- D. The hearing will be informal and formal rules of evidence will not apply. The Board will submit its recommendation within a reasonable period of time following conclusion of the hearing. The Director will promptly render an interpretation notice to the Contractor.

7. PROJECT MANUAL:

- A. The Project Manual is divided for convenience into divisions and sections as set forth in the Table of Contents preceding these General Conditions. Format is based upon the CSI Master Format for Construction Specifications. Schedules of Work included in these sections are given for convenience and shall not be considered as a comprehensive list of items necessary to complete the Work of any section.
- B. Where devices or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items, or parts as are required to properly complete the Work.

8. STANDARD SPECIFICATIONS:

- A. Where these Specifications or the Building Code stipulate that a material shall conform to the American Society for Testing Materials (ASTM) specifications or other recognized standards, the Contractor shall, when so required, deliver to the Department an affidavit or certificate in triplicate, signed by the manufacturer or supplier that the material furnished conforms to specifications or standards mentioned. When tests are required, the results of such tests shall be delivered to the Department.
- B. References to the "Building Code" are to the edition of the applicable Building Code listed on the drawings, including any amendments thereto.

9. SUBSTITUTIONS REQUIRED BECAUSE OF FEDERAL GOVERNMENT RESTRICTIONS OR LACK OF PRODUCT AVAILABILITY:

- A. In the event that certain materials or equipment specified are entirely unobtainable or not obtainable in sufficient quantities or within a reasonable time, due to Federal Government restrictions or other causes growing out of the national defense or war programs, the awarding entity may permit the use of equal and equivalent materials of other type of manufacture in their place. Before such substitutions can be made, the Contractor shall submit a written statement to the awarding entity setting forth in full the reasons why the materials specified are unobtainable and describing in full the materials which he proposed to supply in their place. Substitutions shall not be made until the approval of the awarding entity, in writing, has first been obtained.
- B. Should a specified item not be obtainable due to product unavailability, the awarding entity may permit the use of equal and equivalent materials of other type of manufacture in their place. Contractor shall follow the procedure identified in Paragraph A above in order to obtain approval.

10. AS-BUILT DRAWINGS:

- A. The Contractor shall keep one (1) complete and up-to-date set of prints at all times on the job, reserved for use as a record set of changes from the bid set. Throughout the duration of the construction work, this set of prints shall be the responsibility of the Contractor to maintain as a record of all field changes including underground runs, which are installed in locations other than those indicated on the Contract Drawings and those that have been indicated as to be field run as located. The lines shall be located on the Drawing dimensionally from a fixed point, such as a street-curb line, or

centerline, or a permanent structure. A copy of the updated as-built prints and as-built specifications shall be made available to the County Project Manager with the monthly progress payment requests.

- B. Contractor progress payment will be contingent upon the as-built drawings and specifications being maintained in current status, and the County Inspector will not approve progress payments unless these as-built drawings and specifications are current.
- C. As a condition to certifying the final payment under this Contract, within 30 calendar days after substantial completion, the Contractor will submit to the Project Manager the original set of as-built prints as well as the set of as-built specifications. If needed, a complete set of blue line prints of the Drawings will be furnished to the Contractor for which the as-built drawings are required. All variations from the Contract Drawings and any additional information required by the Specifications shall be entered on the as-built drawings and specifications as they occur, neatly and legibly, in ink of a contrasting color or otherwise marked as approved by the County. Each set of as-built drawings and specification shall be signed and dated before being accepted by the County representative at the completion of the Work.

11. REFERENCE MATERIALS:

The Contractor shall furnish and maintain on-site reference material including at least one copy of all applicable codes referenced in the Contract Documents as necessary for the performance of the Work specified.

12. CONSTRUCTION SCHEDULE:

- A. All time limits stated in the Contract Documents are of the essence of the Contract. The Contractor shall prosecute the Work at such time and in such manner that Substantial Completion of the Work shall occur in accordance with the Contract and the Contract Time, including authorized adjustments thereto.
- B. The Contractor shall provide a Contract Schedule for the Work in accordance with the requirements of Section 01 32 00, Construction Schedule.
- C. The term "day" when used in the Contract Documents shall mean calendar day unless otherwise specifically designated.

13. COUNTY'S RIGHT TO DELAY COMMENCEMENT OF THE WORK:

The Department, on behalf of the County, shall have the right to direct that the Contractor shall withhold actual commencement of the Work of construction until sufficient material, in the opinion of the Department, has been delivered to the site of the Work to insure completion of the Work without interruption, and the Contractor shall comply with such instructions when issued. The Contractor shall be granted an extension of the completion time of the contract equal to the number of working days delay caused to Contractor pursuant to Contractor's compliance with such instructions.

14. UPDATED SCHEDULES:

Updated schedules shall be attached with the Contractor's request for payment and shall be a condition required prior to payment. Each schedule shall include a narrative report defining problem areas, anticipated delays, and their impact on the schedule, and the corrective action that shall be taken by the Contractor and its affect.

15. CHANGES IN THE WORK:

A. Written Changes

1. The County may, at any time, without notice to the Surety, make changes in the Work within the general scope of the Contract, including changes:
 - a. in the Specifications and the Drawings;
 - b. in the method or manner of performance of the Work;
 - c. in the facilities, equipment, materials, services, or site to be furnished by the County;
 - d. directing acceleration in the performance of the Work; or
 - e. directing the Contractor to suspend, delay, or interrupt all or any part of the Work for such period of time as the County may determine to be appropriate for the convenience of the County.
2. Such changes shall be made in accordance with either of the following methods:

- a. By a written Supplemental Agreement ordered by the County (or awarding authority if other than the County) in the manner specified by Public Contract Code Sections 20136, 20137, 20138, or 20145, or other successor statutes.
 - b. By written Change Order, signed by the Director, in the manner and amounts specified by Public Contract Code Section 20142 or its successor statutes.
3. If any change or proposed change under this paragraph causes or would cause an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the Work, whether changed or not changed by any such order, the Contractor may request an equitable adjustment under the terms of this paragraph and under "Construction Schedule," Section 01 32 00. At County's option, the County may negotiate an equitable adjustment for the price and time impact for the proposed changed Work either prior to, or after, directing the Contractor to proceed.
4. In the event the County elects to evaluate a bid prior to directing the Contractor to proceed, the County will issue a notice describing the proposed Change Order in the form of a Request for "Quotations" (RFQ). If the Contractor does not respond within fourteen (14) days after receipt of the notice, or such other time as agreed upon, with an equitable adjustment requested in accordance with Paragraph B.5.(b) under "Equitable Adjustments," the County may issue a Change Order with no change in the Contract Amount or Contract Time. The Contractor shall not proceed with any aspect of the proposed changed Work, or delay, suspend, or interrupt any unchanged Work until the County issues the Change Order.
5. If, in the opinion of the Director, it is in the County's best interest and it is deemed necessary to proceed with a required change in the Contract Documents, and time precludes thorough analysis of the Contractor's proposal, or the parties fail to reach an agreement, the Director may order the Contractor to proceed (Proceed Order) on the basis of a tentative price based on the best estimate available at the time, with the firm price to be determined later. If a Proceed Order is issued, the Contractor shall submit his proposal for the changes in the Work within thirty (30) days after the Proceed Order or completion of the changed Work, whichever is later. All charges arising out of a

Proceed Order are to be documented and verified in a manner acceptable to the Director.

6. In the event that the County requires certain Work to be accomplished and the Contractor fails in the discharge of any or all of his responsibilities described hereinbefore, the County may issue a Unilateral Change Order which is a change order issued by or at the direction of the County without the full and timely agreement of the Contractor.
 - a. A Unilateral Change Order may be issued before, during or after the changed Work is physically accomplished under the following conditions:
 1. The Contractor fails to submit price and/or time extension proposal for the changed Work within thirty (30) days of receipt of the request for "Quotations" or within a reasonable time thereafter as specified by the County.
 2. The Contractor fails or refuses to execute a Change Order by affixing his signature thereto within thirty (30) days of receipt or within a reasonable time thereafter as specified by the County.
 3. The County notifies the Contractor in writing that the Change Order is considered to be unilateral and is to be an effective change to the Contract. A notation will be made on the face of the Change Order that it is unilateral and the effective date thereof. Normal distribution of copies will then be made.
7. Any other written order including direction, instruction, interpretation, or determination from the County that causes a change in the Contractor's obligations may be treated as a proposed Change Order as provided in Part B of this Article, "Constructive Changes."
8. Except as provided in this Article, no order, statement, or conduct of the County shall be treated as a Change Order under this clause or entitle the Contractor to an equitable adjustment.

9. No equitable adjustment request by the Contractor shall be allowed if asserted after Final Payment of the Contract.

B. Constructive Changes

1. Notice: The primary purpose of this paragraph is to obtain prompt reporting of County conduct or changed conditions either caused by an act of God (Public Contract Code Section 7105) or digging trenches or other excavations that extend deeper than four feet below the surface (Public Contract Code Section 7104) that the Contractor considers to constitute a change to this Contract. Except for changes identified as such in writing and signed by the County or the Director, the Contractor shall notify the County in writing within fourteen (14) days from the date of County conduct (including actions, inactions, and written communications) that the Contractor regards as a change to the Contract. On the basis of the most accurate information available to the Contractor, the notice shall state:
 - a. The date, nature, and circumstances of the conduct regarded as a change;
 - b. The name, function, and activity of each Contractor official, agent, or employee involved in or knowledgeable about such conduct;
 - c. The identification of any documents and the substance of any communication involved in such conduct;
 - d. In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;
 - e. The particular elements of Contract performance for which the Contractor may seek an equitable adjustment under this clause, including:
 1. What specific Contract Drawings or specific sections of the Specifications have been, or may be, affected by the alleged change;
 2. What labor or materials or both have been, or may be, added, deleted, or wasted by the alleged change;

3. To the extent practical, what delay and disruption in the manner and sequence of performance and effect on continued performance have been, or may be, caused by the alleged change in accordance with Section 01 32 00, "Construction Schedule;" and
 4. What adjustments to Contract Amount and other provisions affected by the alleged change are estimated;
- f. The Contractor's estimate of the time by which the County must respond to the Contractor's notice to minimize cost, delay, or disruption of performance, in accordance with Section 01 32 00, "Construction Schedule."
2. Continued Performance: Following submission of the notice required by Paragraph B.1 of this Article above, the Contractor shall diligently continue performance of this Contract as though not changed by the conduct reported under Paragraph B.1 until notified of the County's response under Paragraph B.3 of this paragraph, below.
3. Response: The County will, within fourteen (14) days after receipt of notice, respond to the notice in writing. In responding, the County will either:
 - a. Confirm that the conduct of which the Contractor gave notice constitutes a change and, when necessary, direct the mode of further performance in accordance with Part A of this Article, "Written Changes;"
 - b. Countermand any communication regarded as a change;
 - c. Deny that the conduct of which the Contractor gave notice constitutes a change, and when necessary, direct the mode of further performance; or
 - d. In the event the Contractor's notice information is inadequate to make a decision under A, B, or C above, advise the Contractor what additional information is required, and establish the date by which it should be furnished and the date thereafter by which the County will respond.

4. Appeals: In the event the Contractor does not agree with the County's response under B.3 above, the Contractor may submit a request to the Disputes Review Board.
5. Equitable Adjustment:
 - a. If the County confirms that the County's conduct effected a change as alleged by the Contractor, the Contract will be modified in writing accordingly in conformance with Part A of this Article, "Written Changes". Except for a proposed change to the Drawings or Specifications, no request for equitable adjustment under this paragraph shall be allowed for any costs incurred more than fourteen (14) days before the Contractor gives written notice under Part B of this Article.
 - b. In the case of a necessary change to the Drawings or Specifications for which the County is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the Drawings or Specifications before the necessary change is identified. When the cost of property made obsolete or in excess as a result of a change confirmed by the County under this paragraph is included in the equitable adjustment, the County will have the right to prescribe the manner of disposition of the property or its proceeds. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided respectively in Paragraphs (1) and (2) above of this part.

C. Compensation for Changes in the Work

1. Changes in the Work issued and signed by the Contractor pursuant to the requirements of this Contract represent and constitute full and final settlement for all costs and time (hereinafter referred to as compensation) associated with the Work (or event) described therein. Compensation is defined to include all direct and indirect labor costs, all material and equipment expenses, and all impact costs related to and/or occasioned by the Work described therein, as well as all taxes, insurance, and profit. It is agreed that the basis of compensation to the Contractor for Work either added or deleted by Changes in the Work shall be determined by one or more of the following methods

below. All amounts for overhead, profit, insurance, and all other direct and indirect costs of the changes in the Work (except for bonds as provided in Paragraph C.2 shall be computed in accordance with percentages set forth in Paragraph C.1.c and C.8.c of this Article.

a. Method A

By unit prices for items of Work scheduled to be done under the unit price provisions of the Contract. The cost or credit for such added or omitted Work shall be determined by multiplying the number of units added to or omitted from the Work by the applicable unit price.

b. Method B

By agreed lump sum. All lump sum quotations prepared by the Contractor shall be supported by legible and itemized cost by trades. The itemized breakdown accompanying the quotation shall quantify all added and deleted labor, material, and construction equipment directly involved. The Contractor must also obtain and furnish with quotation, itemized breakdown(s) as described above, signed by each subcontractor or vendor participating in the change regardless of tier. All labor cost, including associated fringe benefits and insurance costs, shall be verified by certified payrolls and/or standard rates in accordance with the Prevailing Wage Scale.

c. Method C

If neither Method A nor Method B are agreed upon before the changes to the Work are commenced, then the Contractor shall be paid as follows:

The actual cost, documented to the satisfaction of the County, of labor, materials, and equipment furnished by the Contractor and/or the actual cost of subcontractor Work incurred by the Contractor as provided in Paragraph C.8, plus the following percentages which are considered fair and reasonable compensation for overhead, profit, insurance, and all other direct and indirect costs of the Changes in the Work (except for bonds as provided in Paragraph C.2:

- 18% of the cost of labor as provided in Paragraph C.3 where furnished by the Contractor;
- 15% of the cost of materials as provided in Paragraph C.4 where furnished by the Contractor;
- 10% of the actual cost of equipment as provided in Paragraph C.5; and
- 5% of the actual cost of the first tier subcontract Work as provided in Paragraph C.8.

Overhead charges shall include those charges as specified in Paragraph C.3.c below.

d. Unilateral Change Order

1. The terms of a Unilateral Change Order, including the change in Contract price and/or completion date shall, in the County's judgment, be fair and reasonable.
 2. When a Unilateral Change Order has been issued, it will have the full force and effect of a Contract modification. It will be included in schedules, payment applications, reports, and all official records of the Contract. The issuance of a Unilateral Change Order will not prejudice any of the Contractor's rights to make claims or appeal disputed matters under other provisions of the Contract.
 3. If the Contractor objects to a Unilateral Change Order, Contractor shall state, in writing, specific objections to, or specific points of disagreement with, the Work described in the Unilateral Change Order within thirty (30) days of receipt of such Change Order.
2. To the total additional cost of the Work as computed by any of the three above methods, the Contractor may add, upon furnishing to the County satisfactory evidence of the cost thereof, the actual cost of additional bond premiums incurred by the Contractor as a result of the additional cost to the Work up to a sum not to exceed 1.5 percent (1.5%) of the additional cost to the Work.

3. Labor: The cost of labor used in performing the Work, whether the employer is the Contractor, Subcontractor, or other forces, will be the sum of the following:
 - a. The gross actual wages paid including income tax withholdings but not including any employer payments to or on behalf of the workmen for health and welfare, pension, vacation, insurance, and similar purposes.
 - b. To the actual gross wages, as defined above, a percentage will be applied based upon current applicable labor rates concerning payments made to or on behalf of workmen other than actual wages. This percentage shall constitute full compensation for all payments other than actual gross wages as specified below. The Contractor shall compute a separate percentage for each craft, or a composite percentage for all crafts if so approved by the County. All computed percentages shall be submitted to the County for approval within thirty (30) days after receipt of Notice to Proceed with the changes to the Work or as directed by the County prior to any changed Work being performed.
 - c. The charges for labor shall include all classifications through foremen when engaged in the actual and direct performance of the Work. They shall not include charges for such overhead personnel as superintendents, assistant superintendents, office personnel, timekeepers, and maintenance mechanics.
4. Materials: The cost of materials required for the accomplishment of the Work shall be the delivered cost to the purchaser, whether Contractor, subcontractor, or other forces, from the supplier thereof, except as the following are applicable:
 - a. If cash trade discount by the actual supplier is offered or available to the purchaser, it shall be credited to the County if such discount was taken.
 - b. If materials are procured by the purchaser by any method which is not a direct purchase from and a direct billing by the actual supplier, to such purchaser, the cost of such materials, including handling, shall be deemed to be the price to the actual supplier as determined by the County.

- c. If the materials are obtained from a supply or source owned wholly or in part by the purchaser, payment therefore will not exceed the lesser of the price paid by the purchaser for similar materials furnished from said source on Contract items or the current wholesale price for such materials delivered to the worksite, whichever price is lower.
 - d. The cost of such materials shall not exceed the lowest current wholesale price at which such materials are available in the quantities concerned, delivered to the job site, less discounts as provided in Subparagraph 4.a.
 - e. If the Contractor does not furnish satisfactory evidence of the cost of such materials from the actual supplier thereof, the cost shall then be determined in accordance with Subparagraph 4.d.
5. Equipment: Equipment rented/leased by the Contractor or subcontractor and utilized on this project for the purposes of this Article shall be paid for on the basis of arms-length rental agreements entered into and invoices paid by the Contractor or subcontractor for that equipment. These invoices shall be submitted as evidence of the expense incurred.
- a. The Contractor or subcontractor shall be paid for the use of owned equipment at prices for the use of machinery and equipment determined by using 80 percent (80%) of equipment use costs published by the Associated Equipment Distributors, which edition is in effect at the time of the change. Contractor or subcontractor-owned equipment required to be on stand-by or to be present on the site, even though idle, shall be paid for at 50 percent (50%) of the owned equipment rate established above.
 - b. The Contractor or subcontractor shall furnish all data which might assist the County in the establishment of such rates.
 - 1. Operators of equipment will be paid for as provided under Subparagraph C.3 above.

2. All equipment shall be in good working condition and suitable for the purpose for which the equipment is to be used. Contractor is responsible for any necessary repairs and ongoing maintenance of said equipment.
3. Unless otherwise specified, manufacturer's ratings and manufacturer modifications shall be used to classify equipment for the determination of applicable equipment rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.
4. Individual pieces of equipment or tools having a new value of five hundred dollars (\$500.00) or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore.
6. **Equipment Located at the Site:** The time to be paid for equipment located at the site shall be the time the equipment is required for the changed Work being performed. Moving time, loading, unloading, and hauling will not be paid for if the equipment is already located at the Site.
7. **Equipment Not Located at the Site:** For the use of equipment moved to the Site and used exclusively for changed Work, the Contractor will be paid the rates hereinbefore specified, as follows:
 - a. The period shall begin at the time the equipment is unloaded at the site; shall include each day that the equipment is at the site, excluding Saturdays, Sundays, and other legal holidays unless the changes to the Work are performed on such days; and shall terminate at the end of the day on which the County directs the Contractor to discontinue the use of such equipment. The maximum time to be paid per day will not exceed eight (8) hours without prior written approval from the Director.
 - b. Payment for transporting, loading, and unloading equipment will be made only when such equipment has been moved to the site for the sole and express purpose of accomplishing the changed Work.

8. Subcontracts: The cost for Subcontract work will be the actual cost to the Contractor or subcontractor for Work performed by a Subcontractor as follows:
- a. The cost incurred by the first tier subcontractor for labor, materials, and equipment as limited by Paragraphs C.3, C.4, and C.5; plus
 - b. The following percentages which are considered fair and reasonable compensation for overhead, profit, insurance and all other direct and indirect costs of the changes in the Work (except for bonds as provided in Paragraph C.2:
 - 18% of the cost of labor as provided in Paragraph C.3;
 - 15% of the cost of materials as provided in Paragraph C.4;
 - 10% of the cost of equipment as provided in Paragraph C.5.
 - c. To the total additional cost to the Work as computed in accordance with Paragraphs 8.a and 8.b above, the subcontractor, upon furnishing satisfactory evidence of the cost thereof, the actual cost of additional bond premiums incurred by the Subcontractor as a result of the additional cost to the Work up to a sum not to exceed 1.5 percent (1.5%) of the additional cost to the Work.

16. PROVISIONS FOR EXTRAS:

No new Work of any kind performed hereunder shall be considered as extra Work outside the scope of the Contract unless a separate estimate is given for said Work before it is commenced, the same is approved by the Department as reasonable and equitable, and it has been ordered under one of the three methods set forth in article, "CHANGES IN THE WORK," Paragraphs A, B, or C. Except for extra Work ordered by the Department according to unit prices or by changes or additions in the Work embraced in a Change Order issued by it, any extra Work performed will not be paid for by the County. The Contractor will prepare and submit change order requests as directed by the County Project Manager.

17. TIME EXTENSIONS AND COMPENSATION FOR DELAY:

- A. Adjustments in the Contract Time shall be governed by the principles of this Article and shall be made in accordance with the conditions stated in Specification Section 01 32 00, Construction Schedule.
- B. Actions or inactions of the County, or events for which the County has assumed contractual responsibility, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as Compensable delays.
- C. Events which are outside the control of, and without the fault or negligence of either the County or the Contractor, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as Excusable delays. Unless the County considers that extreme circumstances warrant consideration, extensions of time because of inclement weather will not be granted.
- D. Actions or inactions of the Contractor, or events for which the Contractor has assumed contractual responsibility, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as non-excusable delays.
- E. Concurrent delay is any combination of the above three types of delay occurring on a calendar date, except in cases where the combination consists of two or more instances of the same type of delay occurring on a calendar date.
- F. Any event, action, inaction, or other cause which may give rise to a delay shall constitute a basis for adjustment in:
 - 1. Contract Time, only if it can be demonstrated that the date of Substantial Completion will be delayed beyond the current Contract Completion Date and that the delay is classified as a Compensable or Excusable delay; and/or
 - 2. Contract Amount, only if it can be demonstrated that the Contractor's time-related costs to complete the Work will be increased and the delay is classified as a Compensable delay.

18. OBSERVATION:

- A. All Work shall meet with the approval of the Department and shall be completed in conformity with the Drawings and Project Manual approved by, and on file with, the Los Angeles County Board of Supervisors, such Drawings and the Project Manual will be made part of the Contract to be entered into for the Work referred to herein. The County at its discretion may require the contractor to obtain approval/clearance from the Inspector of Record for certain items to ensure the quality of the work.
- B. The Department or its representative will have access to the Work at all times. The Contractor will furnish all facilities for inspection at the construction site, and at shops or yards, and shall not cover up any Work until the same has been approved by the Department. If Work should be covered up before being inspected, the Contractor will be required to remove such portions of the Work as may be necessary to disclose the part in question.
- C. The County of Los Angeles or its authorized representatives will be given access to the Work at all times. Such access will not be subject to restrictions which are not directly related to the provision and maintenance of health and safety.
- D. The Contractor will be issued a "Notice of Noncompliance" for any portion of the contract Work that does not satisfy the requirements of the Drawings and Specifications. No Work subject to a "Notice of Noncompliance" will be paid for by the County until such Work is brought into full compliance with the Drawings and Specifications to the satisfaction of the County. The Contractor must obtain the County's approval for all corrected deficiencies and/or non-compliant work prior to proceeding with work that may be affected by the deficient and/or non-compliant work. The Contractor shall not build on or conceal work that is deficient and/or non-compliant. Furthermore, work that is built or dependent upon item(s) that are deficient and/or not-compliant will not be approved on the progress payment request.
- E. An Inspection Notice will be issued if the contract Work has not been executed in full compliance with the Drawings and Specifications. The Contractor is responsible for bringing all Work subject to an Inspection Notice into full compliance with the Drawings and Specifications at no additional cost to the County.

- F. Technical Reports may be generated for the purpose of evaluating the quality, correctness, functionality, etc., of the Contractor's Work or performance under this contract in accordance with the requirements of the Drawings and Specifications.

19. PERMITS, LICENSES, AND INSPECTIONS:

- A. The Contractor will obtain and pay for all permits required for the Work except the following "no-fee" permits: building, electrical, mechanical, plumbing, and sewer Work. Further, the Contractor will obtain and pay for all permits incidental to the Work or made necessary by Contractor's operation. This includes Contractor/Manufacturer designated structures such as prefabricated buildings, light poles, special shoring, and the like. The Contractor shall also pay for the plan check of prefabricated buildings.
- B. To comply with Section 3800 of the Labor Code of the State of California, the Contractor and all Subcontractors requiring a permit (building, plumbing, grading, electrical, etc.) shall file a Workers' Compensation Certificate with the Department of Public Works, Business Relations and Contracts Division, Contracts Administration Section.
- C. Exclusive of off-site inspection specified to be the County's responsibility, the Contractor will arrange and pay for all off-site inspection of the Work including certification thereof required by the specifications, drawings, or by governing authorities.
- D. The County will provide on-site inspection of the Work and will arrange for off-site inspection when noted on the drawings and/or when specified in the various technical sections of the Specifications as the responsibility of the County. All other required inspection will be the responsibility of the Contractor.
- E. The County will not pay any costs for licenses required in the performance of the Work. The Contractor shall assume this responsibility in total.

20. TESTS:

A. County's Responsibilities

- 1. The County reserves the right to test or require the Contractor to obtain "called tests" of any materials or performance over and above "required tests" as defined in the following Paragraph B.1, and

provided such "called tests" show the Work meets the specified requirements, the County will pay for the cost of the tests. If the Contractor was required to obtain the test from a third party, the County will reimburse the Contractor on the basis of Contractor's certified statement of the results and costs, with appropriate supporting documentation.

B. Contractor's Responsibilities

1. The Contractor will arrange and pay for all tests of materials or performance as required by the Specifications or by ordinance or governing authority. These are defined as "required tests".
2. The Contractor shall pay for all "called tests" as defined in preceding subparagraph A.1, when the test results show the materials or performance fails to meet the specified requirements. Immediately thereafter, the Contractor, at Contractor's own expense, shall remove the improper Work and replace same with materials or performance meeting the specified requirements. The Contractor shall also bear the expense of any tests required of the replaced Work, and of any subsequent removal, replacement, and testing as may be necessary to obtain materials or performance meeting the specified requirements.

21. SUBSTANTIAL COMPLETION:

- A. The date of Substantial Completion of the Work, or designated portion thereof as set forth in the Contract Documents, is the date certified by the County when construction is sufficiently complete, in accordance with the Contract Documents, so the County may occupy or use the Work, or designated portion thereof, for the use for which it is intended.
- B. When the Contractor considers that the Work, or designated portion thereof as set forth in the Contract Documents, is substantially complete as defined above, the Contractor shall prepare for submission to the County a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the County determines that the Work or designated portion thereof is substantially complete, it will issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion. The Certificate shall state the responsibilities of the County and the Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall list remaining items to be corrected or

completed. The Work not fully completed or corrected shall be completed to the satisfaction of the County within thirty (30) calendar days after Substantial Completion, or within a period of time mutually agreed upon between the Contractor and the County. In the event the Contractor fails to complete or correct the remaining items within the allotted time, the County may complete or correct the items and deduct the cost thereof from the Contract amount.

- C. Warranties required by the Contract Documents, as discussed in Article 40 of the General Conditions, shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.
- D. Upon Substantial Completion of the Work or designated portions thereof, and upon application of the Contractor, the County, in County's sole discretion, may release and/or reduce the amounts retained subject to the limitations of Public Contract Code Section 9203.
- E. In accordance with the General Conditions, the County reserves the right to occupy substantially completed portions of the Work and any such portion shall be subject to the above provisions for Substantial Completion.

22. OCCUPANCY BY THE COUNTY:

- A. The Contractor, Contractor's employees, and representatives will be admitted by the County to the premises for the purpose of executing the Work to be performed under this contract, but they shall have no tenancy.
- B. It is further understood that the County shall have the right to take temporary possession of, or use any portion of, any substantially completed part of the Work. Before taking possession of any Work, the County shall furnish the Contractor a list of items of Work remaining to be performed or corrected on those portions of the Work that the County intends to take possession of or use. However, a failure of the County to list any item of Work shall not relieve the Contractor of responsibility for complying with the terms of the Contract. The County's possession or use shall not be deemed an acceptance of any Work under the Contract.
- C. While the County has such possession or use, the Contractor shall be relieved of the responsibility for the loss of, or damage to, the Work in place resulting from the County's possession or use. If prior possession or use by the County delays the progress of the Work or causes additional expense to the Contractor, an adjustment may be made in the Contract Amount or the

Contract Time, under the applicable scheduling and cost provisions of this Contract.

23. WORKERS:

None but workers skilled in the various trades required on this contract shall be employed upon the Work. Any mechanic or laborer employed upon the Work who, in the opinion of the Department, is non-cooperative or who shall prove careless or incompetent, shall be immediately removed from the Work by the Contractor, when notified to do so, and shall not be re-employed upon the Work.

24. HOURS OF WORK:

Work in excess of eight (8) hours per day will be permitted by employees of contractors under this Contract only so long as Section 1815 of the Labor Code of California is complied with by such contractors.

25. SATURDAY, SUNDAY, HOLIDAY, AND OVERTIME WORK:

A. No construction Work shall be done on Saturdays, Sundays, or holidays recognized by the County government and no Work shall be performed outside of normal Working hours without the consent of the Department, unless required under these specifications. In any event, all Work shall be subject to approval of the Department. Prior to the start of such Work, the Contractor shall arrange with the Department for the continuous or periodical inspection of the Work and tests of materials, when necessary. If requests are made by contractors for permission to Work overtime, nights, Saturdays, Sundays, or holidays, and such requests are granted, the Contractor shall bear all extra expense to the County or the awarding entity for inspection and other incidental expenses caused by such overtime work. If Contractor is requested, in the interest of the awarding entity, to work overtime by the Department; or if overtime Work is specifically required by these Specifications, all extra expense of inspection will be paid by the County. Should the Contractor find it necessary in order to complete the Work according to schedule to perform certain of Contractor's operations on Saturdays, Sundays, holidays or overtime, these operations shall be performed as part of the Work included in the contract price and shall not constitute a basis for additional payments. Refer to above paragraph for the obligations for the Contractor to assume the cost of inspections.

- B. The County reserves the right to order in writing Work outside of normal working hours to avoid inconvenience of occupants of existing facilities or to perform special operations that, in the judgment of the Department best serve the intent of the Contract Documents and the orderly prosecution of the Work. If the County elects to order Work outside of normal working hours, the Contractor shall make all arrangements to supply an adequate Work force for the task to be accomplished and will be compensated for the premium portion of the wages paid, plus labor burdens applicable to the premium portion only of the wages paid. Contractor shall submit copies of Contractor's payrolls indicating the premium wages actually paid, and the County will issue a Change Order to reimburse the Contractor for Contractor's actual costs only.

26. PREVAILING WAGE SCALE:

- A. The Contractor shall comply with all provisions of the Labor Code of the State of California.
- B. Under the provisions of said Labor Code, the State Department of Industrial Relations will ascertain the prevailing hourly rate in dollars and details pertinent thereto for each craft, classification or type of workers, or mechanic needed to execute any contract which may be awarded by the awarding entity.
- C. Particulars of the current Prevailing Wage Scale, which are applicable to the Work contemplated under these Specifications, are filed with the awarding entity and the Department and must be posted at the project site.

27. EMPLOYMENT OF INDENTURED APPRENTICES:

- A. Contractor shall comply with Section 1777.5 and 1777.7, Labor Code, State of California.
- B. All Contractors shall employ registered apprentices at a ratio of not less than one hour of apprentice's work for every five hours of labor performed by a journeyman. Contractors shall be responsible for the compliance of all Subcontractors.
- C. Contractor and Subcontractors shall keep an accurate record showing the name of the craft and wage rate of each apprentice and journeyman employed by each entity. Subcontractor shall provide, weekly, such records to the Contractor. Records shall be made available to the Division of

Apprenticeship Standards and the County of Los Angeles or the awarding entity, for the purpose of determining compliance. Failure to comply may result in withholding payments and other penalties as provided by the Labor Code.

28. AFFIRMATIVE ACTION PLAN FOR EQUAL EMPLOYMENT OPPORTUNITY:

- A. The following provisions pertaining to equal employment opportunity are incorporated into this Contract. All references herein to "Contractor" shall be deemed to refer to the "general" Contractor.
- B. During the performance of any construction Contract in excess of \$10,000, the Contractor agrees as follows:
 - 1. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor certifies and agrees that all persons employed by such firm, Contractor's affiliates, subsidiaries, or holding companies are, and will be, treated equally by the firm without regard to or because of race, color, religion, sex, or national origin and in compliance with all anti-discrimination laws of the United States of America and the State of California.
 - 2. In all advertisements for labor or other personnel, or requests for employment of any nature, the Contractor shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
 - 3. The Contractor shall deal with Contractor's Subcontractors without regard to or because of race, color, religion, sex or national origin.
 - 4. The Contractor shall comply with current Federal employment and reporting requirements for County-funded construction contracts. Specifically, the Contractor shall make a good faith effort to comply with federal employment goals for minority and female employment and shall report minority and female employment data in a timely manner on the federal form provided by the contract awarding authority.
 - 5. The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract of understanding, a notice, to be provided by the contract

awarding authority, advising the said labor union or workers' representative of the Contractor's commitments under this section.

6. The Contractor shall allow the County access to Contractor's employment records during regular business hours to verify compliance with these provisions when so requested by the County.
7. The Contractor agrees that if the County finds that any of the above provisions has been violated, the same shall constitute a material breach of contract upon which the County may determine to cancel, terminate, or suspend the Contract. While the County reserves the right to determine independently that the anti-discrimination provisions of the Contract have been violated, in addition, a determination by the Federal Equal Employment Opportunity Commission or the California Fair Employment and Housing Commission that the Contractor has violated federal or state anti-discrimination laws may constitute a finding by the County of Los Angeles that the Contractor has violated the anti-discrimination provisions of the Contract.
8. At County's option, and in lieu of canceling, terminating, or suspending the Contract, the County may impose damages for any violation of the anti-discrimination provisions of this paragraph, in the amount of two hundred dollars (\$200) for each violation found and determined. The County and Contractor specifically agree that the aforesaid amount shall be imposed as liquidated damages, and not as a forfeiture or penalty. It is further specifically agreed that the aforesaid amount is presumed to be the amount of damages sustained by reason of any such violation, because, from the circumstances and the nature of the violation, it is impracticable and extremely difficult to fix actual damages.
9. The Contractor shall include the provisions of the foregoing Paragraphs B.1. through B.8. in every subcontract, so that such provisions will be binding upon each Subcontractor performing Work required by this contract.

29. PAYROLL RECORDS:

- A. The Contractor shall comply with the requirements of Section 1771.4 and Section 1776 of the Labor Code, State of California. The Contractor and its subcontractors shall furnish the records specified in Section 1776 directly to the Labor Commissioner in an electronic format, in the manner prescribed by

the Labor Commissioner, on the Department of Industrial Relations website. The Contractor and its subcontractors shall maintain payroll records as enumerated in Labor Code Section 1776 (a). When requested by the County, the Contractor and its subcontractors shall submit to the County a copy of all weekly certified payrolls, indicating that the wage rates are not less than those determined by the State of California Department of Industrial Relations and the classifications set forth for each laborer or mechanic conform with the Work they performed. Contractor shall submit a weekly payroll report" (Form 347, A-1-131, or similar) shall accompanied by a written declaration, made under penalty of perjury. The Contractor shall be responsible for the submission of copies of payrolls for all subcontractors within ten (10) days after their payroll period. Failure of the Contractor to comply with the Labor Code requirements to pay prevailing wages and to maintain certified payroll records may result in withholding from progress payments amounts for underpaid wages and penalties as authorized by the Labor Code.

- B. When requested by the County, the Contractor, all subcontractors, and some subconsultants will be required to submit certain certified payrolls and labor compliance documentation electronically at the discretion of, and in the manner specified by the County.

Electronic submittal will be a web-based system, accessed on the World Wide Web by a web browser. The Contractor, its subcontractors, and certain subconsultants will be given a log on identification and password to access the web-based labor compliance reporting system.

Use of the web-based system will entail additional data entry of weekly payroll information including; employee identification, labor classification, total hours worked and hours worked on this project, wage and benefit rates paid, etc. In addition, the Contractor may use payroll and accounting software that is capable of interfacing with the web-based system. The payroll and accounting software must be capable of generating a 'comma delimited file' or 'comma separated value (CSV) file' that will interface with the web-based system.

This requirement applies to all subcontractors, subconsultants, and vendors required to submit certified payrolls and provide labor compliance documentation. The information may be used to provide statistical informational data to public or jurisdictional agencies.

30. QUALITY OF WORK AND MATERIAL:

- A. All materials, parts, and equipment furnished by the Contractor shall be new, first quality, and free from defects and imperfections. Workmanship shall be in accordance with the best standard practices.
- B. Any item or Work installed by the Contractor, but not in conformance with the drawings and specifications, shall be removed by and at the Contractor's expense upon written request from the County.
- C. If such items or Work are not removed or satisfaction obtained by the County within thirty (30) calendar days of such request, then the County may have such items or Work removed and Work completed to conform to drawings and specifications at the Contractor's expense.

31. RESPONSIBILITY OF CONTRACTOR AND OF CONTRACTOR'S REPRESENTATIVE ON THE WORK:

The Contractor shall give personal attention and supervision to the Work until same is entirely completed. In the absence of the Contractor from the Work, he shall have a representative in charge who shall be competent to superintend and direct the progress of the Work and who shall be authorized to receive instructions and to act for the Contractor on all matters related to the Work. The name of this representative shall be sent by letter to the Department immediately after the awarding of the contract.

32. REPAIRING DAMAGED WORK:

- A. All portions of the Work that may be damaged by accident or in the course of or on account of building operations, or by reason of any other cause whatsoever during the progress of the Work, shall be carefully and neatly repaired or reconstructed and the whole left in first-class condition and turned over to the County ready for use.
- B. Should any part of the Work of this contract be cut into or damaged by other Contractors, the Contractor and party causing such damage shall make adjustments between themselves relative to reconstruction or repairs and payment for same.

33. LIST OF SUBCONTRACTORS AND SUBLETTING WORK:

- A. No part of the construction Work shall be done as piece Work, nor shall it be let to a Subcontractor after the execution of the original contract except as provided by law. In case part of the Work should be sublet, these General

Conditions shall govern each trade insofar as they may apply to the Work of that trade.

- B. Where more than one Contractor or where Subcontractors are engaged upon the Work, they shall coordinate their efforts (in accordance with Article 36 of these General Conditions regarding other contractors, or under the control and guidance of the General Contractor), and shall be responsible, one to the other, for any damage or injury to the work.
- C. Bidders and Contractor shall be governed by the provisions of Sections 4100 to 4113, inclusive, of the Public Contract Code of the State of California. Bidders shall set forth in their Bids, on forms provided for same, the name and location of the mill, shop, or office of each Subcontractor who shall perform the Work or labor or render service to the Contractor in or about the construction of the Work, and the portion of the Work which shall be done by each Subcontractor.
- D. No subcontract shall be assigned or transferred except as provided in the above sections of the Public Contract Code of the State of California.
- E. In case any Work is let to a Subcontractor, the Contractor shall be at all times responsible for the Work so done to same extent as if the Contractor were doing or had done the Work.
- F. If a Subcontractor is named who shall perform the Work or labor or render service to the Contractor with respect to a material specified or indicated by patent or proprietary name and/or by the name of the manufacturer, and such Subcontractor cannot reasonably act with like respect to the material offered as an equal then, the Bidder shall, in his Bid Form, include with the pertinent data to be listed on the "Equals" page(s), the name and address of the Subcontractor who shall act with respect to the equal material.
- G. In accordance with Public Contract Code Sections 4100, et seq., the Bidder must list all subcontractors who shall perform in excess of one-half of one percent of the Work. (See Subcontractors' Section of the Instructions to Bidders.)

34. ADVERTISING:

No advertising matter shall be attached or painted on surfaces of buildings, fences, or canopies, except that names of Contractors and Subcontractors, with their addresses and the designation of their particular branch, may be shown on signs of a removable type. Size and location of such signs shall be subject to approval of

the Department. The Contractor shall provide a project identification signboard as specified.

35. CERTIFICATE AS TO COMPLIANCE WITH CERTAIN REGULATIONS:

- A. The Contractor shall file with the Department, prior to the acceptance of the Work, a certificate in form, substantially as follows:
- B. I (We) hereby certify that all Work has been performed and materials supplied in accordance with the drawings, specifications, and contract documents for the above Work, and that:
 - 1. Not less than the prevailing rates of wages as ascertained by the Department has been paid to laborers, workers, and mechanics employed on this Work.
 - 2. There have been no unauthorized substitution of Subcontractors; nor have any unauthorized subcontracts been entered into.
 - 3. No subcontract was assigned or transferred or performed by anyone other than the original Subcontractor; except as provided in Sections 4100-4113, inclusive, of the Public Contract Code.

(Signed) _____
Contractor

36. COORDINATION WITH OTHERS AND OTHER CONTRACTS:

- A. The County reserves the right to award other contracts for any Work on any portion of the project not included in this Contract.
- B. Where coordination with other Contractors is required, the Contractor shall make the appropriate provisions in Contractor's CPM schedule for the access to the site by those Contractors, the schedules of Work developed by them, and any coordination required between any of those Contractors and between any of them and this Contractor.
- C. The Contractor shall perform the Work of the Contract so that it will properly coordinate and fit the Work performed by other Contractors. He shall give the other Contractors every reasonable opportunity to perform their Work, store materials, and place equipment thereof, and fit their Work to the Work of other Contractors. They shall furnish to the other Contractors all information necessary in order that they may properly connect and fit their

Work to Contractor's in ample time, so that they may have reasonable opportunity to prepare their Work therefore. They shall make the Work of this Contract ready to receive the Work of the other Contractors at the time fixed thereof, and shall fit this Work to that of the other Contractors at the time fixed therefore.

- D. The Contractor shall cooperate with others in the prosecution of all Work and shall not interfere with material, equipment, or workers of the County or other Contractors engaged by the County at the site of the Work.
- E. All Contractors engaged in Work at the site shall have, insofar as practical, equal use of the premises and facilities. In case of disagreement regarding such use, the matter shall be referred to the Department, whose decision relative to said use shall govern.
- F. If any part of the Contractor's Work depends on proper execution or results upon the Work of any other separate Contractor, the Contractor shall inspect and promptly report to the Director any apparent discrepancies or defects in such Work that render it unsuitable for such proper execution and results. Failure of the Contractor to inspect and report shall constitute an acceptance of the other contractor's Work as fit and proper to receive the Contractor's Work, except as to defects which may develop in the other separate contractor's Work after the execution of the Contractor's Work.
- G. Should the Contractor cause damage to the Work or property of any separate Contractor on the project, the Contractor shall, upon due notice, settle with such other Contractor by agreement or arbitration if it will so settle. If such separate Contractor sues the County or initiates an arbitration proceeding on account of any damage alleged to have been so sustained, the County shall notify the Contractor who shall defend such proceedings at the Contractor's expense, and if any judgment or award against the County arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the County for all attorney's fees and court or arbitration costs which the County has incurred.

37. CONTRACTOR'S CONSTRUCTION EQUIPMENT:

The Contractor shall furnish and maintain all equipment such as stairs, ramps, runways, scaffolds, hoists, etc., required for the proper execution of the Work. All such equipment and construction shall meet all requirements of all ordinances and laws applicable thereto.

38. CONTRACTOR PERSONNEL:

- A. The Contractor agrees to employ only orderly and competent workers, skillful in the performance of the type of Work required under this Contract, to do the Work and agrees that whenever the County informs the Contractor in writing that any workers on the Site are incompetent or disorderly, such Worker shall be discharged from the Work and shall not again be employed on the Work without the County's written consent.
- B. The Contractor shall give adequate attention to the faithful prosecution and completion of this Contract and shall keep on the Site at all times during project's progress, competent personnel superintendent and any necessary assistants to supervise and direct the Work. Grounds for removal of Contractor personnel specifically include (but is not limited to) the failure or refusal of such personnel to adhere to the Contractor's planned Construction Schedule as developed by the Contractor under Section 01 32 00.

39. AUDITS AND RECORDS:

The Contractor shall maintain all data and records pertinent to the Work performed under this Contract, in accordance with generally accepted accounting principles, and shall preserve and make available all data and records until the expiration of four (4) years from the date of final payment under this Contract, or for such longer period, if any, as is required by applicable statute or by other articles of this Contract. The authorized representatives of the County shall have access to all such data and records for such time period to inspect, audit, and make copies thereof during normal business hours. Contractor covenants and agrees that it shall require that any subcontractor utilized in the performance of this Contract shall permit the authorized representatives of the Los Angeles County Department of Public Works to similarly inspect and audit all data and records of said Subcontractors relating to the performance of said Subcontractors under this Contract for the same time period.

40. WARRANTY AND CORRECTIONS TO WORK:

- A. In addition to any other warranties in the Contract Documents, the Contractor warrants that Work performed under this Contract conforms to the Contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any Subcontractor or supplier at any tier.

- B. Corrections to the Work may be required during construction or any applicable warranty period. At the County's option, the cost of such corrections may be withheld from progress payments.
- C. This warranty shall continue for a period of one (1) year from the date of Substantial Completion of the Work. If the County takes occupancy of any part of the Work before Substantial Completion, a warranty covering that specific portion of the Work shall begin for a period of one year from the date the County takes beneficial occupancy. The County will notify the Contractor in writing of the scope of any partial occupancy and the specific items under warranty.
- D. The Contractor shall remedy at the Contractor's expense any failure to conform to the requirements of the Contract Documents or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to County-owned or controlled real or personal property, when that damage is the result of:
 - 1. The Contractor's failure to conform to or comply with Contract requirements; or
 - 2. Any defect of Contractor-furnished equipment, material, workmanship, or design.
- E. The Contractor shall restore any Work damaged in fulfilling the terms and conditions of this Article. The Contractor's warranty with respect to Work repaired or replaced shall be extended for one (1) year from the date of repair or replacement.
- F. The Director shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.
- G. If the Contractor fails to remedy any failure, defect, or damage within ten (10) working days (or immediately in the case of an emergency where delay would cause serious risk of loss or damage) after receipt of notice, the County shall have the right to remove, replace, repair, or otherwise remedy the failure, defect, or damage, and all direct and indirect costs of such removal, replacement, repair, and correction, including compensation for additional professional services, shall be paid by the Contractor.
- H. With respect to all warranties, express or implied, from Subcontractors, manufacturers, or suppliers for Work performed and materials furnished under this contract, the Contractor shall:

1. Obtain all warranties that would be given in normal commercial practice;
 2. Require all warranties to be executed, in writing, for the benefit of the County, if directed by the Director; and
 3. Enforce all warranties for the benefit of the County, if directed by the Director.
- I. In the event the Contractor's warranty has expired, the County may bring suit at County's expense to enforce a Subcontractor's, manufacturer's or supplier's warranty.
- J. Unless a defect is caused by the Contractor or Subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the County, nor for the repair of any damage that results from any defect in County-furnished material or design.
- K. This warranty shall not limit the County's rights under other articles of this Contract or as provided by law with respect to latent defects, gross mistakes, or fraud.
- L. The terms of this Article do not relieve the Contractor of any legal liability for defects discovered after one year from the date of occupancy. The obligations imposed by this article shall survive termination of the Contract.

41. HAZARDOUS MATERIAL

- A. Hazardous Material is any product, substance, chemical, crude oil (or any products, by-products, or fractions thereof), whose nature, quantity, and/or intensity of existence, use, manufacture, disposal, transportation, spill, release or effect, either by itself or in combination with other material or materials in, on or about the project site: (a) is or becomes potentially injurious to the public health, safety or welfare, environment, or the project site; (b) is or becomes regulated or monitored by any governmental authority; or (c) may, according to statutory or common law theory, such as nuisance (public or private), waste, trespass, negligence, strict liability, or tort, be a basis for liability in tort, or be a basis for liability to third parties.

- B. Contractor shall notify the County when the Contractor has reason to suspect the presence of any Hazardous Material on the project site, whether or not such material was generated by Contractor or the County.
- C. In the event the presence of hazardous material is suspected or discovered on the project site, the County shall retain an independent testing laboratory to determine the nature of the material encountered and whether corrective measures or remedial action is required.
- D. Except as may be otherwise provided herein, the Contractor shall not be obligated to commence or continue Work in the affected area until any known or suspected hazardous material discovered on the project site has been removed, or rendered or determined to be harmless by the County, as certified by an independent testing laboratory and approved by the appropriate government agency.
- E. In the event the presence of hazardous materials on the project site is not caused by the Contractor, the County shall pay for all costs of testing and remediation, if any, and shall compensate Contractor any additional costs incurred or project delay in accordance with the applicable provisions of changes in the work herein. In addition, the County shall defend indemnify and hold harmless the Contractor and its agents, officers, directors and employees from and against any and all claims, damages, losses, costs, and expenses incurred in connection with or arising out of relating to the performance of the Work in the area affected by the hazardous material.
- F. In the event the presence of hazardous materials on the project site is caused by the Contractor, the Contractor shall pay for all costs of testing and remediation, if any, and shall compensate the County for any additional costs incurred as a result of Contractor's generation of hazardous material on the project site. In addition, the Contractor shall defend, indemnify, and hold harmless the County and its Special Districts and agents, officers, and employees from and against any and all claims, damages, losses, costs, and expenses incurred in connection with, or arising out of, or relating to, the presence of hazardous material on the project site.
- G. The terms of this hazardous material provision shall survive the completion of the Work and/or any termination of this Contract.

42. CONTRACTOR SAFETY REQUIREMENTS:

In the performance of this Contract, the Contractor shall comply with all applicable federal, state, and local laws governing safety, health, and sanitation.

- A. **Jobsite Safety:** The Contractor shall be solely responsible for ensuring that all work performed under the Contract is performed in strict compliance with all applicable Federal, State and local occupational safety regulations. The Contractor shall provide at its expense all safeguards, safety devices, and protective equipment, and shall take any and all actions appropriate to providing a safe jobsite.
- B. **Project Safety Official:** The Contractor shall designate in writing a Project Safety Official who shall be at the jobsite at all times, and who shall be thoroughly familiar with the Contractor's Injury and Illness Prevention Program (IIPP) and Code of Safe Practices (CSP). The Project Safety Official shall be available at all times to abate any potential safety hazards and shall have the authority and responsibility to shut down an operation, if necessary. Failure by the Contractor to provide the required Project Safety Official shall be grounds for the County to direct the cessation of all work activities and operations at no cost to the County until such time as the Contract is in compliance.
- C. **Safety Indemnification:** To the extent allowed by law, the Contractor agrees to defend, indemnify and hold harmless the County and its officers, employees, and agents from and against any and all investigations, complaints, citations, liability, expense (including defense costs and legal fees), claims and/or causes of action for damages of any nature whatsoever, including but not limited to injury or death to employees of the Contractor, its subcontractors or County attributable to any alleged act or omission of the Contractor or its subcontractor which is in violation of any CAL/OSHA regulation. The obligation to defend, indemnify and hold harmless includes all investigations and proceedings associated with purported violations of Section 336.10 of Title 8 of the California Code of Regulations pertaining to multi-employer work sites. The County may deduct from any payment otherwise due the Contractor any costs incurred or anticipated to be incurred by the County, including legal fees and staff costs, associated with any investigation or enforcement proceeding brought by CAL/OSHA arising out of the Project.

43. INDEMNIFICATION:

- A. Until the Work is completed and accepted by the awarding entity, the Contractor shall indemnify, defend, and hold harmless the County, its Special Districts, elected and appointed officials, officers, employees, agents, and trustees (the indemnified parties) from and against any and all liability, loss, injury, or damage including (but not limited to) demands, claims, actions,

fees, costs and expenses (including attorney and expert witness fees) arising from or connected with the Contractor's acts and/or errors and omissions arising from and/or relating to the Project. This indemnification does not apply to liability caused by the active negligence of the County.

- B. The Contractor shall assume all risks and bear all cost for loss of, damage to, or missing or stolen equipment, tools, vehicles, and materials owned, hired, leased, or used by the Contractor for this Project.

44. GENERAL INSURANCE REQUIREMENTS:

Without limiting the Contractor's indemnification, the Contractor shall provide and maintain, during the term of this Agreement, the insurance specified in this Agreement. Such insurance shall be primary to, and not contributing with, any insurance or self-insurance programs maintained by the County and such coverage shall be provided and maintained at the Contractor's own expense.

- A. Evidence of Insurance: Certificate(s) or other evidence of coverage satisfactory to the County shall be delivered to the project contract administrator (as identified in the Invitation for Bids) at Los Angeles County Department of Public Works, Business Relations and Contracts Division, Contracts Administration Section, P.O. Box 1460, Alhambra, CA 91802-1460, prior to commencing services under this Agreement. Such certificate(s) or other evidence shall:
 - 1. Specifically identify this Agreement, including the project name and specification number.
 - 2. Clearly evidence all insurance required in this Agreement.
 - 3. Contain the express condition that the County is to be given written notice by the issuing insurance company by mail at least 30 days in advance of cancellation for all policies evidenced on the certificate of insurance.
 - 4. Include a copy of the additional insured endorsement to the commercial general liability policy, adding the indemnified parties (the County of Los Angeles and its Special Districts) as insureds for all activities arising from this Agreement.
 - 5. Show the Contractor's insurance as primary to the County's insurance and self-insurance programs. This may be evidenced by adding the following statement to the additional insured endorsement, "It is

further agreed that the insurance afforded by this policy is primary to any insurance or self-insurance programs maintained by the additional insureds, and the additional insureds insurance and self-insurance programs are excess and non-contributing to the named insureds insurance.”

6. Confirm deductibles or self-insured retentions shall not exceed \$25,000, and the deductibles/retentions apply on a “per occurrence” or “per loss” basis. The County retains the right to require the Contractor to provide a bond guaranteeing payment of all such retained losses and costs attributable to the Contractor’s retention, or, withhold payment to Contractor in the amount of all or any deductibles/retentions as the County deems appropriate.
-
- B. Insurer Financial Ratings: Insurance is to be provided by an insurance company authorized to do business in California and acceptable to the County, with an A.M. Best rating of not less than A:IX, unless otherwise approved by the County.
 - C. Waiver of Subrogation: The Contractor agrees to release the indemnified parties and waive its rights of recovery against the indemnified parties under the insurance policies specified in this Agreement.
 - D. Cancellation of or Changes in Insurance: Contractor shall provide County with, or Contractor’s insurance policies shall contain a provision that County shall receive, written notice of cancellation or any change in Required Insurance, including insurer, limits of coverage, term of coverage or policy period. The written notice shall be provided to County at least ten (10) days in advance of cancellation for non-payment of premium and thirty (30) days in advance for any other cancellation or policy change. Failure to provide written notice of cancellation or any change in Required Insurance may constitute a material breach of the Contract, in the sole discretion of the County, upon which the County may suspend or terminate this Contract.
 - E. Failure to Maintain Insurance: Contractor’s failure to maintain or to provide acceptable evidence that it maintains the Required Insurance shall constitute a material breach of the Contract, upon which County immediately may withhold payments due to Contractor, and/or suspend or terminate this Contract. County, at its sole discretion, may obtain damages from Contractor resulting from said breach. Alternatively, the County may purchase the Required Insurance, and without further notice to Contractor, deduct the premium cost from sums due to Contractor or pursue Contractor reimbursement.

- F. Sub-Contractor Insurance Coverage Requirements: Contractor shall include all Sub-Contractors as insureds under Contractor's own policies, or shall provide County with each Sub-Contractor's separate evidence of insurance coverage. Contractor shall be responsible for verifying each Sub-Contractor complies with the Required Insurance provisions herein, and shall require that each Sub-Contractor name the County and Contractor as additional insureds on the Sub-Contractor's General Liability policy. Contractor shall obtain County's prior review and approval of any Sub-Contractor request for modification of the Required Insurance.

45. INSURANCE COVERAGE REQUIREMENTS--TYPES AND LIMITS:

The County's insurance requirements specify that Contractors should obtain coverage from insurance companies acceptable to the County who have a current A.M. Best rating of not less than A:IX. A Best rating of A:IX indicates that the company evidences strong financial strength and ability to meet their ongoing financial obligations to policyholders.

A. Builders Risk Course of Construction Insurance: Such coverage shall:

1. Insure against damage from perils covered by the Causes-of-Loss Special Form (ISO form CP 10 30), and be endorsed to include earthquake, flood, ordinance or law coverage, coverage for temporary offsite storage, debris removal, pollutant cleanup and removal, testing, preservation of property, excavation costs, landscaping, shrubs and plants and full collapse coverage during construction (without restricting collapse coverage to specified perils).
2. If Contractor's work involves testing air conditioning systems, boilers, pressure vessels, major machinery or major electrical panels, policy shall include coverage for such testing.
3. Be written on a completed-value basis and cover the entire value of the construction Project, including County-furnished materials and equipment, against loss or damage until completion and acceptance by the County. See Supplementary Conditions, Section 00 08 00, Article 7, Insurance Coverage Requirements—Types and Limits, for additional information regarding replacement value of County-furnished materials and equipment.

- B. General Liability Insurance: Such coverage shall be written on ISO policy form CG 00 01 or its equivalent. See Supplementary Conditions, Section 00 08 00, Article 7, Insurance Coverage Requirements—Types and Limits, for additional information regarding limits, occurrence, policy aggregate, and products/completed operations aggregate.
- C. Automobile Liability Insurance: Such coverage shall be written on ISO form CA 00 01 or its equivalent. Such insurance shall include coverage for all “owned,” “hired,” and “non-owned” automobiles, or coverage for “any auto.” See Supplementary Conditions, Section 00 08 00, Article 7, Insurance Coverage Requirements—Types and Limits, for additional information regarding liability limits.
- D. Workers Compensation and Employers Liability Insurance: Such coverage shall provide workers compensation benefits, as required by the Labor Code of the State of California. Such policy shall be endorsed to waive subrogation against the County for injury to the Contractor’s employees. If the Contractor’s employees will be engaged in maritime employment, the coverage shall provide the benefits required by the U.S. Longshore and Harbor Workers Compensation Act, Jones Act, or any other Federal law to which the Contractor is subject.
1. In all cases, the above insurance shall include Employers Liability coverage with limits not less than:
- | | | |
|----|--------------------------|-------------|
| a. | Each accident: | \$1 million |
| b. | Disease – policy limit: | \$1 million |
| c. | Disease – each employee: | \$1 million |

E. Performance Security Requirements:

Prior to execution of the Contract, the Contractor shall file surety bonds with the County in the amounts and for the purposes noted below, and on bond forms provided by the County. All bonds issued in compliance with the Contract shall be duly executed by a solvent surety company that is authorized by the State of California, is listed in the U.S. Department of Treasury’s Listing of Approved Sureties (Annual Circular 570) and is satisfactory to the County, and it shall pay all premiums and costs thereof and incidental thereto (see <http://www.fms.treas.gov/c570/>).

1. Materials and Labor Bond (Payment Bond): Shall be in the sum of not less than 100% of the Contract price to assure the payment of claims of material men supplying materials to the Contractor, subcontractors, mechanics, and laborers employed by the Contractor on the Work. This bond shall be so conditioned as to inure to the benefit of persons furnishing materials for or performing labor upon the Work. This bond shall be maintained by the Contractor in full force and effect until the Work is completed and accepted by the County, and until all claims for materials, labor, and subcontracts are paid.
2. Bond for Faithful Performance: Shall be in the sum of not less than 100% of the Contract price to assure the faithful performance of the Contract. This bond shall be so conditioned as to assure the faithful performance by the Contractor of all Work under said Contract, within the time limits prescribed, including any maintenance and warranty provisions, in a manner that is satisfactory and acceptable to the County, that all materials and workmanship supplied by the Contractor will be free from original or developed defects, and that should original or developed defects or failures appear within a period of one year from the date of acceptance of the Work by the County, the Contractor shall, at Contractor's own expense, make good such defects and failures and make all replacements and adjustments required, within a reasonable time after being notified by the County to do so, and to the approval of the Department of Public Works. This bond shall be maintained by the Contractor in full force and effect during the performance of the Work of the Contract and for a period of one year after acceptance of the Work by the County.

Each bond shall be signed by both the Contractor (as Principal) and the surety.

Should any surety or sureties upon said bonds or any of them become insufficient or be deemed unsatisfactory by the County, the Contractor shall replace said bond or bonds with good and sufficient sureties within ten days after receiving notice from the County that the surety or sureties are insufficient or unsatisfactory. Should any surety or sureties be deemed insufficient or unsatisfactory, no payment(s) shall be deemed due or will be made under this Contract until the new sureties shall qualify and be accepted by the County.

46. Not used.

47. Not used.

48. ASSIGNMENT:

- A. The Contractor shall not assign this Contract without the consent of the County. The Contractor shall be bound by and comply with all applicable provisions of the Labor Code of the State of California and shall keep informed of and observe and comply with and cause all of Contractor's agents and employees to observe and comply with all federal, state, and local laws which in any way affect the conduct of the Work of this Contract.
- B. Work performed on County-owned property, irrespective of political subdivision location, shall be governed by the County Building Laws, and Work performed outside the property lines of County-owned property shall be governed by the local laws of the County, city, or other municipal government having jurisdiction.

49. PATENTS:

In the event that any patented article, material, or process is to be installed or used in the performance of the Work as shown on the drawings or particular specifications therefore, the Contractor shall pay the royalty chargeable and shall save, keep, and bear the County harmless from all damage, costs, and expenses by reason of any infringement of the patent therefor, or by reason of the failure to pay the royalty chargeable for use thereof, and any loss to the County or the awarding entity in the event that the County is enjoined from using such patented article or material and the incidental damage caused by the loss of use and damage to County property or awarding entity in removing same, and cost of replacing the article or material the use of which is enjoined. Provided further the Bond for Faithful Performance shall be deemed to expressly apply to this provision of the specifications.

50. SUSPENSION AND/OR TERMINATION OF WORK AND/OR CONTRACT:

A. Suspension of Work

- 1. The Director may order the Contractor in writing to suspend, delay or interrupt all or any part of the Work for such period of time as he may determine to be appropriate for the convenience of the County.
- 2. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize incurring costs allocable to the Work covered by the order during the period of Work stoppage.

3. If the performance of all or any part of the Work is, for an unreasonable period of time, suspended, delayed, or interrupted by (a) an act of the County in the administration of this Contract, or (b) by the County's failure to act within the time specified in this Contract (or, if no time is specified, within a reasonable time), an adjustment shall be made for any increase in cost of performance of this Contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption, and the Contract modified in writing accordingly. However, no adjustment shall be made under this Article for any suspension, delay, or interruption to the extent (a) that performance would have been suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or (b) for which an adjustment is provided for or excluded under any other provision of this Contract.
4. No claim under this paragraph shall be allowed (a) for any costs incurred more than fourteen (14) calendar days before the Contractor shall have notified the County in writing of the act or failure to act involved, (but this requirement shall not apply as to a claim resulting from a suspension order), and (b) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment. No part of any claim based on the provisions of this clause shall be allowed if not supported by adequate evidence showing that the cost would not have been incurred but for a delay within the provisions of this Article.

B. Termination for Convenience

1. The Director may, whenever the interests of the County so require, terminate this Contract, in whole or in part, for the convenience of the County. The County shall give written notice of the termination to the Contractor specifying the part of the Contract terminated and the date termination becomes effective.
 - a. The Contractor shall incur no further obligations in connection with the terminated Work, and, on the date set in the notice of termination, the Contractor shall stop Work to the extent specified. The Contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated Work. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with

the terminated Work. The County may direct the Contractor to assign the Contractor's right, title, and interest under the terminated orders or subcontracts to the County. The Contractor must still complete the Work not terminated by the notice of termination and may incur obligations as are necessary to do so.

- b. The County may require the Contractor to transfer title and deliver to the County in the manner and to the extent directed by the County: (a) the fabricated or unfabricated parts, Work in process, completed Work, supplies, and other material produced or acquired for the Work terminated; and (b) the completed or partially completed plans, drawings, information, and other property that, if the Contract had been completed, would be required to be furnished to the County. The Contractor shall, upon direction of the County, protect and preserve property in the possession of the Contractor in which the County has an interest. If the County does not exercise this right, the Contractor shall use its best efforts to sell such supplies and manufacturing materials for the benefit of the County.
- c. If the parties are unable to agree on the amount of a termination settlement, the County shall pay the Contractor the following amounts:
 - 1. For Contract Work performed before the effective date of termination, the total (without duplication of any items) of:
 - (a) The percentage of the Contract price which equals the percentage (%) of Work completed in accordance with the schedule of values, less prior progress payments, and any applicable Liquidated Damages. The amounts of outstanding Stop Notices shall be withheld until the Stop Notices are resolved as provided by law.
 - (b) The cost of settling and paying terminated subcontracts and orders that are properly chargeable to the terminated portion of the Work;

2. The reasonable costs of effectuating the settlement of the Work terminated, including:
 - (a) Accounting, clerical, and other expenses reasonably necessary for the preparation of termination settlement bids and supporting data;
 - (b) The termination and settlement of subcontracts (excluding the amounts of such settlements); and
 - (c) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

C. Termination for Default

1. If the Contractor refuses or fails (a) to commence the Work within the time required by this Contract, (b) to prosecute the Work or any separable part with the diligence that will ensure completion within the time specified in this Contract, including any authorized extension, (c) to provide sufficient and properly skilled workers or proper materials or equipment to complete the Work in an acceptable manner and without delay, (d) to promptly pay its subcontractors, laborers, and materialmen, (e) to perform any of Contractor's other obligations under this Contract, or (f) to complete the Work within the time specified in this Contract ("events of default"), the County may, by written notice to the Contractor, terminate the right to proceed with the Work (or the separable part of the Work). In this event, the County may take over the Work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the site necessary for completing the Work. The Contractor and Contractor's sureties shall be liable for any damage to the County resulting from events of the default, whether or not the Contractor's right to proceed with the Work is terminated. This liability includes any increased costs incurred by the County in completing the Work.
2. The Contractor's right to proceed shall not be terminated because of delays, nor will the Contractor be charged with damages under this article, if:

- a. The delay in completing the Work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor (examples of such causes include: (i) acts of God, (ii) acts of the public enemy, (iii) acts of the County in either its public or contractual capacity, (iv) acts of another Contractor in the performance of a contract with the County, (v) fires, (vi) floods, (vii) epidemics, (viii) quarantine restrictions, (ix) strikes, (x) freight embargoes, (xi) unusually severe weather, or (xii) delays of Subcontractors or Suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the Subcontractors or Suppliers); and,
 - b. The Contractor, within fourteen (14) calendar days from the beginning of any delay (unless extended by the County), notifies the County in writing of the causes of the delay in accordance with Specification Section 001310, Construction Schedule. The County shall ascertain the facts and the extent of the delay. If, in the judgment of the County, the findings warrant such action, the time for completing the Work shall be extended by Change Order. The findings of the County will be final and conclusive on the parties.
3. If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the County.
4. The rights and remedies of the County in this article are in addition to any other rights and remedies provided by law or under this Contract. Time is of the essence for all delivery, performance, submittal, and completion dates in this Contract.

D. Termination for Improper Consideration

1. County may, by written notice to Contractor, immediately terminate the right of Contractor to proceed under this Contract if it is found that consideration, in any form, was offered or given by Contractor, either directly or through an intermediary, to any County officer, employee, or agent with the intent of securing the Contract or securing favorable treatment with respect to the award, amendment, or extension of the Contract or the making of any determinations with respect to the

Contractor's performance pursuant to the Contract. In the event of such termination, County shall be entitled to pursue the same remedies against Contractor as it could pursue in the event of default by the Contractor.

2. Contractor shall immediately report any attempt by a County officer or employee to solicit such improper consideration. The report shall be made either to the County manager charged with the supervision of the employee or to the County Auditor-Controller's Employee Fraud Hotline at (213) 974-0914 or (800) 544-6861.
3. Among other items, such improper consideration may take the form of cash, discounts, services, the provision of travel or entertainment, or tangible gifts.

E. Notice of suspension or termination for any reason shall be given in writing and shall be complete one day after deposit in the United States mail in a sealed envelope with postage prepaid and directed to the Contractor at Contractor's address as filed with the County, or upon personal delivery to any person whose actual knowledge of such suspension or termination would be sufficient notice to the Contractor. Actual knowledge of such suspension or termination by an individual Contractor or by a copartner, if the Contractor be a partnership or by the president, vice-president, secretary or general manager, if the Contractor be a corporation, or by the managing agent regularly in charge of the Work on behalf of said Contractor, shall in any case be sufficient notice.

51. CONTRACTOR'S WARRANTY OF ADHERENCE TO COUNTY'S CHILD SUPPORT COMPLIANCE PROGRAM:

- A. Contractor acknowledges that County has established a goal of ensuring that all individuals who benefit financially from County through Contract are in compliance with their court-ordered child, family, and spousal support obligations in order to mitigate the economic burden otherwise imposed upon County and its taxpayers.
- B. As required by County's Child Support Compliance Program (County Code Chapter 2.200) and without limiting Contractor's duty under this Contract to comply with all applicable provisions of law, Contractor warrants that it is now in compliance and shall, during the term of this Contract, maintain compliance with employment and wage reporting requirements as required by the Federal Social Security Act (42 USC Section 653a) and California Unemployment Insurance Code Section 1088.5, and shall implement all

lawfully serviced Wage and Earnings Withholding Orders or District Attorney Notices of Wage and Earnings Assignment for Child or Spousal Support, pursuant to Code of Civil Procedure Section 706.031 and Family Code Section 5246(b).

- C. Failure of Contractor to maintain compliance with these requirements shall constitute a default by Contractor under this Contract. Without limiting the rights and remedies available to County under any other provision of this Contract, failure to cure such default within ninety (90) days of notice by the Los Angeles County District Attorney shall be grounds upon which the County Board of Supervisors may terminate this Contract.

52. CONTRACTOR'S ACKNOWLEDGMENT OF COUNTY'S COMMITMENT TO CHILD SUPPORT ENFORCEMENT:

Contractor acknowledges that County places a high priority on the enforcement of child support laws and the apprehension of child support evaders. Contractor understands that it is County's policy to encourage all County Contractors to voluntarily post County's L.A.'s Most Wanted: Delinquent Parents poster in a prominent position at Contractor's place of business. County's District Attorney will supply Contractor with the poster to be used.

53. LIMITATION OF LIABILITY:

- A. This project may be awarded by or the Contract may be assigned to a joint powers authority or a nonprofit corporation established by the awarding entity. Bonds, certificates of participation, or other evidences of indebtedness will be issued by a joint powers authority or nonprofit corporation or the awarding entity or the County, for the purpose of constructing the Work contemplated by these Drawings and Specifications. The proceeds of said sale shall be the sole source of funds for payment of all Work to be done and all claims of any kind that may be made under the provisions of this Contract. Neither the awarding entity, nor (if different) the issuing entity, nor any individual parties thereto, nor the County, nor the County's agents and Special Districts, shall have any liability whatsoever to the Contractor or others arising out of, or in any way connected with, Work to be performed hereunder, save and except as such liability may be paid and discharged out of said proceeds, and except as specifically provided for in these specifications. Contractor shall look solely to said proceeds for payment of Work to be done or any claims whatsoever that may be asserted hereunder. Contractor expressly releases and discharges the awarding entity, the issuing entity, and the County and each of them from any and all

liability, cost, or expenses save and except such liability, cost, and expense as may be paid for out of said proceeds.

- B. The issuing entity will adopt a policy to sell and issue bonds, certificates of participation, or other evidences of indebtedness at such times and in sufficient amounts to ensure that funds are provided for the prompt payment, as installments become due, for Work performed hereunder.

54. FORUM SELECTION:

Contractor hereby agrees to submit to the jurisdiction of the courts of the State of California. The exclusive venue of any action brought by Contractor, on Contractor's behalf or on the behalf of any Subcontractor, which arises from this agreement or is concerning or connected with services performed pursuant to this agreement, shall be deemed to be in the courts of the State of California located in Los Angeles County, California.

55. WAIVER:

The waiver by the County of any term, covenant, or condition herein contained shall not be deemed to be a waiver of such term, covenant, or condition on any subsequent breach of the same or any other term, covenant, or condition herein contained.

56. PRIOR AGREEMENTS:

This Contract contains all of the agreements of the parties hereto with respect to any matter covered or mentioned in this agreement and no prior agreements or understanding pertaining to any such matter shall be effective for any purpose. No provision of this Contract may be amended or added to except by an agreement in writing signed by the parties hereto or their respective successor-in-interest.

57. PROGRESS PAYMENTS:

In accordance with Public Contract Code Section 20104.50, the County shall make progress payments within thirty (30) days after receipt of an undisputed and properly submitted payment request from a Contractor on a construction contract. Interest shall be paid to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure if the County fails to make payment within the thirty (30) days. If the payment request is determined not to be a proper payment request suitable for payment, it shall be returned to the Contractor

as soon as practicable, but not later than seven (7) days after receipt accompanied by a document setting forth in writing the reasons why the payment request is not proper. The Contractor will prepare and submit progress payments as directed by the County Project Manager.

58. ACCEPTANCE OF FINAL PAYMENT AS RELEASE:

The acceptance by the Contractor of the final payment shall be and shall operate as a release to the County and the awarding entity of all claims and all liability to the Contractor for all things done or furnished in connection with this Work and for every act and neglect of the County, awarding entity, and others relating to or arising out of this Work. No payment, however final or otherwise, shall operate to release the Contractor or his sureties from any obligation under this contract or the Performance and Payment Bond.

59. SUBSTITUTION OF SECURITIES FOR RETENTION:

In accordance with Public Contracts Code Section 22300 et seq., the Contractor may substitute securities for retention monies to be withheld to ensure performance under this Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld may be deposited with the County, or with an approved State or Federally chartered bank as the escrow agent. The County will then pay such retention moneys to the Contractor. It is the Contractor's obligation to secure the services of a state or federally chartered bank to act as escrow agent. Securities eligible for investment include those listed in Government Code Section 16430 or bank or savings and loan certificates of deposit. The Contractor shall be the beneficial owner of any securities substituted for retention monies withheld and shall receive any interest earned by the securities. The standard form of the County's Escrow Agreement is on file at the Business Relations and Contracts Division of the Department of Public Works. The terms of that Agreement are incorporated by reference.

60. RESOLUTION OF CONSTRUCTION CLAIMS:

The provision of Public Contract Code 20104 et seq. relating to the resolution of construction claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a Contractor and a local agency are hereby incorporated in this Contract.

61. CONFLICT OF INTEREST:

No County employee whose position in County enables him to influence the award of this agreement or any competing agreement, and no spouse or economic dependent of such employee, shall be employed in any capacity by Contractor herein, or have any other direct or indirect financial interest in this Agreement.

62. ANTI-TRUST CLAIMS:

In entering into a public works Contract or a Subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the 44 Cartwright Act (Chapter 2, commencing with Section 16700, of Part 2, Division 7, of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works Contract or Subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

63. COUNTY'S QUALITY ASSURANCE PLAN:

The County or its agent will evaluate Contractor's performance under this agreement on not less than an annual basis. Such evaluation will include assessing Contractor's compliance with all contract terms and performance standards. Contractor deficiencies which County determines are severe or continuing, and that may place performance of the agreement in jeopardy if not corrected, will be reported to the Board of Supervisors. The report will include improvement/corrective action measures taken by the County and Contractor. If improvement does not occur consistent with the corrective action measures, County may terminate this agreement or impose other penalties as specified in this agreement.

64. LAWS, CODES AND REGULATIONS TO BE OBSERVED:

- A. The Contractor shall become familiar and comply with all Federal, State, County and City laws, ordinances or regulations controlling the action or operation of those engaged in the work, or affecting materials used, and operate in accordance therewith.
- B. In accordance with this requirement, it has not been considered necessary to enumerate all wiring, plumbing and other requirements covered by the codes. The Contractor, in making a bid, agrees that the requirements of such ordinances will be as carefully adhered to as if they were specifically set forth in the specifications.

- C. The Contractor shall hold harmless the County and all of its officers, agents and servants against any claims or liability arising from, or based upon the violation of such laws, by-laws, ordinances, regulations, orders or decrees, whether by the Contractor or the Contractor's employees, except where the instance of violation is done in accordance with the specifications.
- D. Work performed on County-owned property, irrespective of political subdivision location, shall be governed by the County Building Laws; and work performed outside the property lines of County-owned property shall be governed by the local laws of the County, City, or other municipal government having jurisdiction.

* * *

(00700.REV 5/2008)

SECTION 00 08 00

SUPPLEMENTARY CONDITIONS

1. **DEFINITIONS:**

Whenever the following words appear in the Contract Documents, they will be construed to have the following meanings:

- a. "County" means the County of Los Angeles.
- b. "Awarding Entity/County" means either the County; the County, as agent for such joint powers authority or nonprofit corporation as may be involved in the issuance of bonds, certificates of participation or other evidences of indebtedness to finance the work contemplated herein; or said joint powers authority or nonprofit corporation.
- c. "Board of Supervisors" means the Board of Supervisors, County of Los Angeles, California.
- d. "Department" means the Department of Public Works.
- e. "Owner" means the County of Los Angeles, represented by the Department of Public Works.
- f. "Director" means the Director of the Department of Public Works or his authorized representative.
- g. "Architect" means JTC Architects, or their authorized representative.
- h. "Project Manual" means the manual prepared for the project, consisting of the Bid and Contract Requirements, Conditions of the Contract, and Technical Specifications.
- i. "Contract" means the agreement which has been executed by the Contractor and the County.
- j. "Contract Documents" means those documents identified in Paragraph 5 of the General Conditions.
- k. "Contractor" means the Prime Contractor awarded the Contract by the Board of Supervisors.

- l. "Award of Contract" means the date the Board of Supervisors awards the construction Contract to the Contractor.
- m. "Notice to Proceed" means the date the Director authorizes the Contractor to proceed with the Contract work.
- n. "Acceptance of the Project" means Los Angeles County Board of Supervisors or Director's acceptance of the work.
- o. "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The work may constitute the whole or a part of the project.
- p. "The Project" is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include Work by the County or others.
- q. "Substantial Completion" means the Date of Substantial Completion of the Work, or designated portion thereof as set forth in the Contract Documents, certified by the County when construction is sufficiently complete, in accordance with the Contract Documents, so the County may occupy or use the Work, or designated portion thereof, for the use for which it is intended.
- r. "Disputes Review Panel" reviews all matters related to disputes over the interpretation of the Drawings and Specifications.
- s. "Notice to Bidders" means any written modification to the Contract Documents issued prior to the bid date.
- t. "Day" means calendar day unless otherwise specified.
- u. "Drawings" means the graphical and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the work, generally including plans, elevations, sections, details, schedules, and diagrams.
- v. "Specifications" means that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the work, and performance of related services.

- w. "Inspection Notice": A sequentially numbered written notice issued to the Contractor for the purpose of, but not limited to, the following:
- 1) Define items/installations that deviate from the Contract Documents and which payment may be withheld.
 - 2) Alert as to problem areas prior to issuing Noncompliance.
 - 3) Void previously issued Inspection or Noncompliance Notice when corrections have been made.
 - 4) Give notice of approval.
 - 5) Provide general project information.
 - 6) Define delinquent submittals.
 - 7) Advise Contractor of not complying with safety requirements.
- x. "Noncompliance Notice": A sequentially numbered written notice issued to the Contractor that defines materials, installations, and/or situations that do not comply with codes or the Contract Documents and which payment cannot be made. The statement "remove and replace" will be included when required.

2. PAYMENTS:

Payments on account of the Work comprising the original Contract shall be made upon demand of the Contractor as follows:

- a. A working day of the month shall be selected by the County and the Contractor, which day shall remain constant throughout the life of the project, and vary only as needed to fall on a working day. A payment request equal to ninety-five percent (95%) of the labor performed and material actually installed in the work during the previous thirty (30) days or since the last payment request shall be submitted by the Contractor and presented to the County for payment.
- b. A payment request for the 5% withheld from the monthly progress payments shall be submitted by the Contractor to the County upon completion and acceptance by the County of all the work called for under the original Contract.

- c. In the event of payment on account of additional work for a Change Order, supplemental agreement, or unit price authorization, the retention shall be as stipulated by the original Contract.
- d. When progress payments are to be made, no payment on account of the work and at any time while there is work in progress, will be considered an acknowledgment that any or certain portions of the work have been done in accordance with the Drawings and Specifications. Should there be any balance due the Contractor at the time of the acceptance of the work such balance shall be paid upon said acceptance.
- e. All demands for payment shall be itemized and rendered in six (6) copies by the Contractor and shall be certified by the Director when found by him to be correct. Payment will be made to the Contractor within thirty (30) days after the approval by the Director.
- f. Cost of bonds or liability insurance shall not be included as an item in the demands for monthly progress payments. In the compilation of demands for progress payments, neither stipulated nor bid unit prices for deductions shall be used as the basis for computing prices for the work completed.
- g. When the Contractor has requested payments that would bring his total payment to fifty percent (50%) of the Contract, all subcontractors and material suppliers on record with the Contract Administrator will be notified by U. S. Mail regarding the status of such payment.

Subcontractors and material suppliers of record will be advised to refer to their rights under the Civil Code relating to the "Stop Notices" and other means or methods of securing payment for their work or materials.

3. PAYMENT FOR STORED MATERIAL:

The Department, at its discretion, may authorize "Progress Payments" at the invoiced price, minus retention specified under "Payments", for:

- a. Material and equipment delivered to the site but not incorporated in the Work.
- b. Material and equipment delivered and stored off the site in a bonded warehouse or other location within Los Angeles County, which warehouse or other location is satisfactory to and has been approved by the Department.

- c. The provisions allowing prepayment for materials will be applied to large items of equipment and construction materials of special manufacture or order for the job, such as:
1. Electrical switchgear, generators, and transformers over 15 KVA.
 2. Mechanical items including air handlers over 15 horsepower, boilers, chillers, and fabricated ductwork.
 3. Reinforcing steel and structural steel when fabricated to job requirements.
 4. Carpeting, floor tile or ceiling tiles.
 5. Electrical fixtures (less lamps) and light standards.
 6. Door and security hardware.
 7. Window wall assemblies.
 8. Precast concrete members such as wall panels, "tees" or girders.

Contractor must furnish with his Request for Payment acceptable evidence showing such material and/or equipment has been paid for in full, together with a verified statement that same is/are free from all liens and encumbrances and will be utilized in the Work covered by this Contract and a material list sufficient for physical inventory at the storage location. All shop drawings and material submittals must be approved prior to authorizing payments.

All storage, handling and rehandling costs, insurance and responsibility for protection and proper installation of such material and equipment, is the obligation of the Contractor. No payment, pursuant to this provision for material or equipment, shall in any way relieve the Contractor of its responsibility to obtain or provide, at its expense, any such material or equipment, or release the Contractor from any of its obligations under this Contract.

Department may enter upon the premises where the material and/or equipment is stored for inspection, checking, or any other purpose it deems necessary. The Contractor will be reimbursed for any Los Angeles County taxes levied against such material or equipment while so stored, upon presentation of a receipted tax bill for same.

4. EQUIPMENT LAYOUT DRAWINGS:

When any section of the specifications requires the submittal of an "Equipment Layout Drawing", the Contractor shall coordinate all work under various sections of the Specifications to assure that no interferences occur in the rooms or areas for which such drawings have been required and that necessary clearances are provided.

Installation of affected equipment shall not proceed until required drawings have been approved by the Department.

5. AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS:

The following forms and reports are required to be completed by the Contractor and/or Subcontractors according to the instructions furnished for each and at the time shown below for each:

- a. Within ten (10) working days of subcontract award:
 - Contractor's Notification of Subcontracts Awarded
- b. Prior to commencement of work:
 - Notice of EEO Commitment
- c. During the construction period:
 - Monthly Employment Utilization Report (form CC257)

6. SURVEY OPERATIONS:

The Contractor shall be responsible for all survey and layout operations and shall be responsible for the following:

- a. Locate elevations of all improvements, establish control points and bench marks adequate for the use of all trades so that all parts of the work are within the specified and indicated tolerances.
- b. As the work proceeds, verify all grades, lines, and dimensions indicated on the drawings, and report errors and inconsistencies to the Architect in writing. Do not proceed until errors and inconsistencies are corrected.

- c. Maintain staking as required by construction progress and maintain construction progress and maintain control points and benchmarks until final completion of the project.

7. INSURANCE COVERAGE REQUIREMENTS—TYPES AND LIMITS:

A. Installation Floater: Such coverage is required for this Project and shall supercede Section 00 07 00, Builder's Risk Course of Construction Insurance, Article 45 , and shall:

1. Insure against damage from perils covered by the Causes-of-Loss Special Form (ISO form CP 10 30), and the perils of earthquake, flood, risk of transit loss, loss during storage (both onsite and offsite), and collapse during construction (without restricting collapse coverage to specified perils). If Project involves testing air conditioning systems, boilers, pressure vessels, major machinery or major electrical panels, policy shall include coverage for such testing.
2. Cover all property to be installed (including labor) for the full Contract value (without coinsurance) against loss or damage until completion and acceptance by the County.
3. Such coverage shall be equal to the total Contract cost.

B. General Liability Insurance:

Minimum coverage requirements shall provide limits of not less than \$2,000,000 per occurrence, \$4,000,000 policy aggregate, and \$4,000,000 products/completed operations aggregate. The products/completed operations coverage shall continue to be maintained in the amount herein for at least two (2) years from the date the Project is completed and accepted by the County.

C. Automobile Liability Insurance:

Minimum coverage requirements shall provide a limit of not less than \$2,000,000 per accident.

D. Workers Compensation and Employers Liability Insurance: Such coverage shall provide workers compensation benefits, as required by the Labor Code of the State of California. Such policy shall be endorsed to waive subrogation

against the County for injury to the Contractor's employees. If the Contractor's employees will be engaged in maritime employment, the coverage shall provide the benefits required by the U.S. Longshore and Harbor Workers Compensation Act, Jones Act, or any other Federal law to which the Contractor is subject.

1. In all cases, the above insurance shall include Employers Liability coverage with limits not less than:

- i. Each accident: \$1 million
- ii. Disease – policy limit: \$1 million
- iii. Disease – each employee: \$1 million

8. CERTIFICATE OF INSURANCE:

- a. Refer to General Conditions, Articles 43, 44, and 45, regarding insurance.

- b. Certificate of Insurance shall include the following statement:

"It is further understood and agreed that these insurance policies comply with the Contract requirements of this project."

- c. The cancellation clause shall be modified to read as follows:

"Should any of the above-described policies be canceled before the expiration date thereof, the issuing company will mail 30 days written notice to the below-named certificate holder.

- d. The Certificate of Insurance shall clearly state that the County of Los Angeles and its Special Districts are named as Additional Insured.

- e. Include the name of the project and specification number on all insurance certificates.

9. CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT:

The Contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act of 1970 (42 U.S.C. 1857 et seq.) and the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) as amended. Violations shall be reported to the County and the Regional Office of the Environmental Protection Agency.

10. LOBBYING OF COUNTY OFFICIALS:

Contractor and each County lobbyist or County lobbying firm as defined in Los Angeles County Code Section 2.160.010, retained by Contractor, shall fully comply with the County Lobbyist Ordinance, Los Angeles County Code Chapter 2.160. Failure on the part of Contractor or any County lobbyist or County lobbying firm retained by Contractor to fully comply with the County Lobbyist Ordinance shall constitute a material breach of this Contract upon which County may immediately terminate or suspend this Contract.

11. CORRESPONDENCE:

All correspondence shall be addressed to the County of Los Angeles, Department of Public Works, P.O. Box 1460, Alhambra, California 91802-1460, Attention: Project Management Division. This address shall be included in all contracts with subcontractors and suppliers.

12. EMPLOYMENT OF LAID-OFF COUNTY EMPLOYEES - SKILLED TRADES AND OTHERS:

- a. Should Contractor, or any Subcontractor performing more than \$250,000 of the Contract value, require additional or replacement personnel to perform services under this Contract, other than the performance of a skilled trade, Contractor shall give first consideration for such employment openings to qualified former County employees who are on a re-employment list.
- b. Should Contractor, or any Subcontractor performing more than \$250,000 of the Contract value, require additional or replacement personnel to perform a skilled trade not covered by an existing union hiring agreement under this Contract, Contractor is encouraged to consider for such employment openings qualified County employees who are targeted for layoff or qualified former County employees who are on a re-employment list. In no event shall the County be liable for any cost, delay, or impact claims arising out of efforts to hire such present and former County employees.

* * *

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10/2009

SECTION 00 09 12

COUNTYWIDE LOCAL AND TARGETED WORKER HIRE PROGRAM - MANDATORY

PART 1 – GENERAL

1.01 SUMMARY

This Section 00 09 12 includes:

Part 1 – General

1.01 – Summary

1.02 – Definitions

1.03 – Local and Targeted Worker Hire Program (LTWHP)

Part 2 – Administration

2.01 – Administration & Compliance

2.02 – Jobs Coordinator Minimum Qualifications

2.03 – Responsibilities of the Jobs Coordinator

2.04 – Community Service Providers

Part 3 – Forms

3.01 – Form 00 09 12-A: LTWHP Craft Employee Request Form

3.02 – Form 00 09 12-B: LTWHP Workforce Utilization Plan

3.03 – Form 00 09 12-C: FPL List of Zip Codes

3.04 – Form 00 09 12-D: Local and Targeted Worker Hire Status Report

3.05 – Form 00 09 12-E: Approved Jobs Coordinators List

1.01 MANDATORY HIRING GOALS FOR THIS PROJECT

The County of Los Angeles has implemented a Local and Targeted Worker Hire Policy (LTWHP) to facilitate the hiring of Local and Targeted workers. Pursuant to this policy, this project has a **mandatory goal** of at least 30 percent of total California Construction Labor Hours worked be performed by a qualified Local Resident and at least 10 percent of total California Construction Labor Hours worked on this project shall be performed by County residents classified as a Targeted Worker. Hours worked by a Targeted Worker who is also a Local Resident may be applied towards both the mandatory 30 percent Local Hire and 10 percent Targeted Worker Hire goals.

Including, a minimum ratio of one apprentice hour for every five journeyman hours shall be enforced, per State Labor code requirement, and the Contractor will strive to obtain half of all apprentice hours on the project be performed by Local and Targeted Workers. In addition, there shall be a **mandatory** requirement to use a Jobs Coordinator to be hired directly by the Contractor, prior to the start of work on the project. The Jobs Coordinator is an independent third-party individual, entity, or employee with whom the Contractor enters into a contract or employs to facilitate the implementation of the Local and Targeted

Worker Hiring Requirements of this Agreement. The Jobs Coordinator may be selected from the approved Jobs Coordinators list available as Form 00 09 12-E. If the Contractor utilizes an employee as a Jobs Coordinator, the Jobs Coordinator must be able to demonstrate or document to the County the minimum qualifications and/or experience to fulfill the duties and responsibilities as outlined in Sections 2.02 and 2.03.

1.02 DEFINITIONS

Terms used in the implementation of the LTWHP shall be defined as follows:

- A. **California Construction Labor Hours** – Includes all craft worker hours performed on the project by California residents, excluding the hours performed by off-site material fabricators, designers, project office staff, or vendors.
- B. **Certified Payroll Reports** – The Contractor shall comply with the requirements of Section 1776 of the Labor Code, State of California for the submission of Certified Payroll Reports (CPR). The Contractor and its subcontractors shall submit a copy of all CPR's to the County on a monthly basis, no later than on the first Monday of the subsequent month. Contractor and its subcontractors shall submit all CPR's to the County electronically if an online system is designated by the County.
- C. **Community Service Providers** – A network of public and private partners working to support workers and businesses by serving their employment and training needs. These providers include local one-stop job/career centers funded by the Federal Workforce Innovation and Opportunities Act (WIOA). These centers help businesses find skilled workers and connect customers to work related training and education; most services are available at no cost. Examples of Community Service Providers are listed in Section 2.04.
- D. **Craft Employee Request Form** – The form used by the Contractor and its subcontractors to request dispatch of craft workers (including, but not limited to, apprentices and journeymen), who are Local Residents or Targeted Workers, from a Community Service Provider or union hiring hall in the event that assistance in obtaining such workers is needed. The request form is submitted by the Contractor/subcontractors, completed and executed by the Community Service Provider or union hiring hall, and a copy retained by the Contractor for auditing purposes.
- E. **Jobs Coordinator** – An individual or firm that facilitates implementation of the Targeted Worker hiring requirements of the County of Los Angeles for the Contractor/subcontractors. The Jobs Coordinator must be able to demonstrate or document to the County the requisite qualifications and/or experience to fulfill the duties and responsibilities as outlined in Section 2.02 and 2.03.
- F. **Local and Targeted Worker Hire Status Report** – A monthly report required to be submitted to the County as listed on Form 00 09 12-D.
- G. **Local Resident** – A Local Resident is defined as an individual whose primary place of residence is within the Tier 1 or Tier 2 ZIP Codes of the County, as listed in Forms 00 09 12-A and 00 09 12-C.

- H. **Workforce Utilization Plan** – Form 00 09 12-B submitted by the Contractor on behalf of itself and its subcontractors prior to commencing work, specifying a Workforce Utilization Plan, which contains the workforce plan and schedule for the hiring of qualified Local Residents and Targeted Workers, including the use of the subcontractors' workforce to meet the LTWHP hiring goal. The Contractor shall submit updates of the Workforce Utilization Plan to reflect changes in project conditions, schedules, or subcontractors.
- I. **Targeted Worker** - A Targeted Worker is an individual who is a County resident and faces at least one or more of the following barriers to employment:
1. Has a documented annual income at or below 100 percent of the Federal Poverty Level;
 2. No high school diploma or GED;
 3. A history of involvement with the criminal justice system;
 4. Protracted unemployment (receiving unemployment benefits for at least 6 months);
 5. Is a current recipient of government cash or food assistance benefits;
 6. Is homeless or has been homeless within the last year;
 7. Is a custodial single parent;
 8. Is a former foster youth; or
 9. Is a veteran, or is the eligible spouse of a veteran of the United States armed forces, under Section 2(a) of the Jobs for Veterans Act (38 U.S.C.4215[a]).
 10. Eligible Migrant and seasonal farmworkers
 11. English Language Learners
 12. Older Individuals (55+)
 13. Disabled
 14. Individuals with Low levels of Literacy
 15. Multi-Craft Core Curriculum (MC3) program graduates.
- J. **Tier 1 Zip Codes** – Tier 1 ZIP Codes are those Zip codes listed in Form 00 09 12-A.
- K. **Tier 2 Zip Codes** – Tier 2 ZIP Codes are those Zip codes listed in Form 00 09 12-C.

1.03 LOCAL AND TARGETED WORKER HIRE PROGRAM

- A. The Contractor and its subcontractors shall meet the following minimum mandatory Local Resident and Target Worker hiring requirements:
1. At least 30 percent of total California Construction Labor Hours worked on the project must be performed by a qualified Local Resident;

2. And at least 10 percent of total California Construction Labor Hours worked on the project shall be performed by a Targeted Worker. The hours worked by a Targeted Worker who is also a Local Resident may also be applied towards the 30 percent Local Resident hiring goal.
 3. A minimum ratio of one apprentice hour for every five journeyman hours shall be enforced, per State Labor code requirement, and the Contractor will strive to obtain half of all apprentice hours on the project be performed by Local and Targeted Workers.
 4. In addition, there shall be a mandatory requirement to use a Jobs Coordinator, as that term is defined in Section 1.02, to facilitate implementation of the Targeted hiring requirements of this Policy; and the Contractor shall ensure the mandatory hiring requirements provided for Local and Targeted Workers are met in accordance with this Policy.
- B. The available pool of Local Residents whose primary place of residence is within Tier 1 ZIP Codes (listed under Form 00 09 12-A), must first be exhausted in the manner specified in Section 2.01G before employing worker(s) from Tier 2 ZIP Codes (listed under Form 00 09 12-C).
- C. All California Construction Labor Hours shall be included in the calculation for the percentage requirements set forth in Section 1.03 A.
- D. The Contractor and its subcontractors shall not discriminate against or give preference to any particular individual or group based on race, color, gender, sexual orientation, age or disability.

PART 2 – ADMINISTRATION

2.01 ADMINISTRATION & COMPLIANCE

- A. Prior to start of work on the project, the Contractor shall perform the following:
1. The Contractor shall hire a Jobs Coordinator for the project in accordance with Section 2.02.
 2. The Contractor and all subcontractors of every tier shall coordinate with the Jobs Coordinator for services to support their efforts in meeting the targeted hiring percentages as described in Section 1.01 of this Specification.
- B. The Contractor and its subcontractors shall use the Craft Employee Request Form (Form 00 09 12-A) for all requests for dispatch of qualified Local Residents and Targeted craft workers (including apprentices and journeymen) in the event that assistance in obtaining such workers is needed from a Community Service Provider, union hiring hall, or other source.
- C. Prior to commencing work, the Contractor, on behalf of itself and its subcontractors, shall submit a Workforce Utilization Plan (Form 00 09 12-B) to the County Project Manager that contains the workforce hiring plan and schedule for the hiring of qualified Local and Targeted Workers and the assignment and use of the subcontractors' workforce to meet the Local Worker Hiring requirement. The Contractor, thereafter, shall submit updates of the Workforce Utilization Plan to reflect changes in project conditions, schedule, or subcontractors.

- D. No later than the 15th calendar day of each month, the Contractor shall submit to the designated County representative a completed Local and Targeted Hire Status Report containing the relevant information for the preceding month. The Local and Targeted Hire Status Report shall contain, at a minimum, the information specified below for Contractor and its subcontractors:
1. For each California Project Craft Worker (apprentices and journeymen): (a) the total labor hours, total number of all workers (apprentices and journeymen), hours worked on the project; and (b) the wages earned on the project.
 2. Total number of Local Residents (apprentices and journeymen), hours worked (apprentices and journeymen), segregated by Tier 1 and Tier 2 Residency Preference Areas, and wages earned by each Local Resident.
 3. Total number of Targeted Worker hours worked (apprentices and journeymen by Tier 1 and Tier 2 Residency Preference Areas) and Targeted worker data and workers demographic profile.
 4. Total number of hours worked by Local Residents by subcontractor.
- E. No later than the 15th calendar day of each month, the Contractor and all its subcontractors shall submit the Local and Targeted Hire Status Report to the designated County representative (or submit the data online if the County elects to provide an online system), to demonstrate progress in meeting the Workforce Utilization Plan. Failure to submit the Local and Targeted Worker Hire Status Report to the designated County representative shall be deemed to constitute zero percent local hire participation for the month and the County may retain the Monthly Mandatory Compliance Withholding (MMCW) amount.
- F. The County may, in its sole discretion, elect to provide an online system for the Contractor and all of its subcontractors to input the data required in the Local and Targeted Worker Hire Status Report. If the County so elects, the Contractor and subcontractors shall utilize that online system in lieu of completing and submitting the Local and Targeted Worker Hire Status Report.
- G. The Contractor and its subcontractors shall first meet the Local and Targeted Worker Hire participation requirement by employing qualified workers from the Tier 1 Preference Area. If the Contractor is unable to meet their entire Local and Targeted Worker Hire need from this area, it must submit to the Project Manager a statement certifying that it has exhausted all available qualified Local and Targeted Workers from this area during a 48-hour period before pursuing workforce from the Tier 2 Preference Area.
- H. The Contractor's compliance with the approved Workforce Utilization Plan will be evaluated monthly using the Local and Targeted Hire Status Report.
- I. To enforce compliance on contracts containing mandatory hiring goals, an amount will be withheld from the monthly progress payment to the Contractor in proportion to the deficit percentage of the mandated Local and Targeted Hiring Goal percentage and the actual percentage obtained. The maximum that may be withheld during the

duration of the project is one percent of the total construction contract amount, but not to exceed \$500,000, comprised of 0.75 percent for Local Worker goal compliance, and 0.25 percent for Targeted Worker goal compliance. This amount is called the Monthly Mandatory Compliance Withholding (MMCW) amount. The percentage of the MMCW that will be withheld for a given month will be the same as the percentage of the deficit in achieving the LTWHP targets for that month.

The maximum MMCW amount is determined as follows:

Construction Contract Value X .75% ÷ Number of months in baseline construction schedule = MMCW for Local Workers

Construction Contract Value X .25% ÷ Number of months in baseline construction schedule = MMCW for Targeted Workers

- J. If the Targeted Worker Hiring mandatory requirements of the Policy have not been satisfied as required for a project, the Contractor nonetheless may be deemed to be in compliance if the Contractor demonstrates both (a) that the Contractor and each of its subcontractors have complied with all other requirements of the Policy, and (b) that the Contractor and each of its subcontractors have satisfactorily demonstrated the following:

Documented contact with the Department of Workforce Development, Aging and Community Services, America Job Centers or with an agency that supports and provides employment and training services for Targeted Workers in construction employment, and in which instance the agency did not refer a qualified Targeted Worker to the Contractors or subcontractor within 48 hours of the job request for fair consideration of the Targeted Worker.

- K. At the conclusion of the project, the County will conduct a final evaluation of the Contractor's compliance with the Workforce Utilization Plan as described in Section 2.01.C and execute a final release of funds, if applicable, as described in Section 2.01.I. The Contractor's failure to meet the Local and Targeted Worker Hiring Requirement in Section 1.01 by the conclusion of the project shall result in the County imposing liquidated damages and deducting such amount otherwise owed to the Contractor in its final payment. The County will not be required to pay interest on any amounts withheld during the term of the contract.
- L. The County and Contractor specifically agree that the MMCW amount, minus the total value of previous releases, in direct proportion to the actual Local and Targeted hire participation levels achieved by the Contractor consistent with the Workforce Utilization Plan, shall be imposed as liquidated damages, and not as a forfeiture or penalty. It is further specifically agreed that the aforesaid amount is presumed to be the amount of damages sustained due to the Contractor's inability to achieve the Local and Targeted Worker Hiring Requirement in Section 1.01.
- M. For construction contracts where the work is performed for a private County Lessee, the Lessee shall be responsible for administration of all aspects of this Section 2.01, including the calculation and collection of the Local Hire Participation Compliance

Rectification Amount. At the conclusion of the project, the Lessee shall pay over the designated County representative any such amounts collected and shall provide a full report to the designated County Representative of all monthly information required to be collected in this Section 2.01.

2.02 JOBS COORDINATOR MINIMUM QUALIFICATIONS

- A. If the Jobs Coordinator is selected from the approved list provided on Form 00 09 12-E, that Jobs Coordinator shall be deemed to meet the minimum qualifications. No additional qualification information need be provided.
- B. If the Contractor desires to utilize a Jobs Coordinator not listed on Form 00 09 12-E (*i.e.*, a Contractor employee or other non-listed firm), the Contractor must be able to demonstrate that the selected Jobs Coordinator meets the minimum qualifications listed in this Section 2.02. When requested by the County, the Contractor shall provide documentation sufficient to satisfy the County, in the County's sole discretion, that the selected Jobs Coordinator meets the minimum qualifications listed in this Section 2.02.
- C. A minimum of 3 years' experience as providing Jobs Coordinator services. Successful candidates for Jobs Coordinators must be able to demonstrate the in-depth ability, experience, and possess the necessary staff capable of providing required services.
- D. A successful Jobs Coordinator must demonstrate they possess working relationships with the Building Trades, Targeted Workers and signatory craft councils and unions operating within County of Los Angeles' jurisdiction by describing previous interactions, relationships, and partnerships with these party's/groups.
- E. A successful Jobs Coordinator must be able to demonstrate that it has experience on projects similar in scale to the current project.
- F. A successful Jobs Coordinator must demonstrate that they possess experience with Targeted Worker populations.
- G. A successful Jobs Coordinator must have experience in working with work-source centers, faith-based organizations and other Community Based Organizations (CBOs).
- H. A successful Jobs Coordinator must be familiar with incentive programs and tax credit subsidies provided by the State and Federal government to hire workers that fit the corresponding category. Jobs Coordinator to describe their experience in working with these programs

2.03 RESPONSIBILITIES OF THE JOBS COORDINATOR

The Contractor shall ensure that the selected Jobs Coordinator effectively performs the following duties:

- A. The Jobs Coordinator shall develop, create, design and market specific programs to attract Targeted Workers for construction opportunities (e.g. handouts and fliers for “walk-ins” demonstrating program entrance procedures).
- B. The Jobs Coordinator shall coordinate services for Contractor to use in the recruitment of Targeted Workers.
- C. The Jobs Coordinator shall educate and assist Contractor on incentives provided by state or federal programs for on-the-job training and employer tax credits.
- D. The Jobs Coordinator shall conduct orientations, job fairs and community outreach meetings in the local community.
- E. The Jobs Coordinator shall screen and certify the Targeted Workers status.
- F. The Jobs Coordinator shall establish a referral and retention tracking mechanism for placed Targeted workers and apprentices.
- G. The Jobs Coordinator shall network with the various work source centers, community and faith-based organizations and other non-profit entities that provide qualified Local and/or Targeted Workers.
- H. The Jobs Coordinator shall coordinate with the various building trades crafts for referral and placement of Targeted Workers.
- I. The Jobs Coordinator shall maintain a database of pre-qualified Targeted Workers for referral.
- J. The Jobs Coordinator shall be the point of contact to provide information about available job opportunities on projects.
- K. The Jobs Coordinator shall assist the subcontractors with their documentation effort and other reports as it relates to their Targeted Worker hiring requirements.
- L. The Jobs Coordinator shall work closely with County staff, the Building Trades, and subcontractors in achieving the Targeted hiring goals.

2.04 COMMUNITY SERVICE PROVIDERS

Examples of Community Service Providers that may be used by Contractor and subcontractors to identify Local Residents and Targeted Workers include:

- Los Angeles County Workforce Development, Aging, and Community Services:
<http://wdacs.lacounty.gov/>

- LA Jobs: <https://www.jobsla.org/vosnet/Default.aspx>
- Cal Jobs: <http://www.caljobs.ca.gov/vosnet/Default.aspx>
- Helmets to Hardhats: <https://www.helmetstohardhats.org>
- America's Job Center of California: <http://www.americasjobcenter.ca.gov/>

PART 3 – FORMS

Form 00 09 12-A: LTWHP Craft Employee Request Form

Form 00 09 12-B: LTWHP Workforce Utilization Plan for Barry J. Nidorf Secure Youth
Track Facility Security and Kitchen Upgrades Project

Form 00 09 12-C: FPL List of Zip Codes

Form 00 09 12-D: Local and Targeted Worker Hire Status Report

Form 00 09 12-E: Approved Jobs Coordinators List



COUNTYWIDE CWA – BARRY J NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND KITCHEN UPGRADES PROJECT

The County of Los Angeles Countywide Community Workforce Agreement applies to this project. This project shall include a *mandatory* hiring goal of at least 30% California Construction Labor Hours performed by either Tier 1 or Tier 2 Qualified Local Residents and at least 10% of California Construction Labor Hours on the project performed by those classified as a Targeted Worker. California Construction Labor Hours is defined as all craft worker hours performed on the project by California residents, excluding the hours performed off site metal fabricators, designers, project office staff, or vendors. Hours worked by a Targeted Worker who is also a Tier 1 or Tier 2 Qualified Local Resident may be applied towards the 30% goal.

C O N T R A C T O R U S E O N L Y

Please complete and fax or email this form to the applicable union to request craft workers that fulfill the hiring requirements for this project. After faxing this request, call the Local Union to verify receipt and substantiate their capacity to furnish workers as specified below. Please print Fax or Email Transmission Verification Reports and keep copies as records.

TO:	Local Union #:	CC:	County Project Labor Coordinator:
	Email/Fax:		Email/Fax:
FROM:	Contractor:		
	Issued by:		
	Email/Phone/Fax:		

U N I O N C R A F T W O R K E R R E Q U E S T:

Craft Classification	Journeyman or Apprentice	Tier 1 or Tier 2 Worker	Targeted Worker	No. of Workers Requested
	☐ JM ☐ APP	*	**	
	☐ JM ☐ APP	*	**	
	☐ JM ☐ APP	*	**	
Total Number of Workers Requested:				

In accordance with the CWA, Article 7, Referral, County and Contractor are requesting the Union:

- * Provide workers from Tier 1. If the supply of available Tier 1 workers has been exhausted, please provide workers from Tier 2, if available.
- ** Provide targeted workers, if available.

W O R K E R R E P O R T I N G I N S T R U C T I O N S:

Reporting Date/Time	
Project Location:	
Reporting To:	
On Site Phone:	
Special Instructions:	

U N I O N U S E O N L Y

Please complete the "Union Use Only" section and fax or email both pages to the requesting Contractor and Project Labor Coordinator.

Dispatch Received by & Date: _____

Date Worker(s) Dispatched:						
Name	Helmets to Hardhats	Journeyman or Apprentice	Tier 1 or Tier 2 Worker?	Zip Code	Targeted Worker?	Targeted Category ** if known
	☐ Y ☐ N	☐ JM ☐ APP	☐ Tier 1 ☐ Tier 2 ☐ No*		☐ Y ☐ N	
	☐ Y ☐ N	☐ JM ☐ APP	☐ Tier 1 ☐ Tier 2 ☐ No*		☐ Y ☐ N	
	☐ Y ☐ N	☐ JM ☐ APP	☐ Tier 1 ☐ Tier 2 ☐ No*		☐ Y ☐ N	

* No: By selecting "No" for the "Tier 1 or Tier 2 Worker" certifies, on behalf of the Union, that the Union has exhausted all reasonable efforts to locate and dispatch such Tier 1 or Tier 2 worker.

** Please indicate number of the Targeted Worker category (1 through 15, as shown on page 2). Indicate multiple categories per worker, if applicable.



COUNTYWIDE CWA – BARRY J NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND KITCHEN UPGRADES PROJECT

**QUALIFYING ZIP CODES - Below are ALL Tier 1 and Tier 2 Qualifying Zip Codes.
Tier 1 Zip Codes are shaded.**

Note: Tier 1 Zip Codes must be exhausted first before moving into Tier 2 Zip Codes.

90001	90002	90003	90004	90005	90006	90007	90008	90010	90011
90012	90014	90015	90016	90017	90018	90019	90020	90021	90022
90023	90026	90028	90029	90031	90032	90033	90034	90035	90036
90037	90038	90040	90042	90043	90044	90047	90057	90058	90059
90061	90062	90063	90089	90201	90220	90221	90222	90242	90247
90250	90255	90262	90270	90280	90301	90302	90303	90304	90401
90501	90601	90602	90640	90706	90716	90723	90731	90744	90802
90804	90805	90806	90810	90813	91001	91046	91103	91201	91203
91204	91205	91303	91331	91335	91340	91342	91343	91352	91401
91402	91405	91406	91411	91502	91601	91605	91606	91702	91706
91731	91732	91733	91744	91746	91754	91755	91766	91767	91768
91770	91776	91803	93243	93534	93535	93543	93550	93552	93553
93560	93591	X	X	X	X	X	X	X	X

**** A Targeted Worker** is an individual who is *both* a County resident and who faces **one or more** of the following barriers to employment:

1. Has a documented annual income at or below 100% of the Federal Poverty Level
2. Has no high school diploma or GED
3. Has a history of involvement with the criminal justice system
4. Is experiencing protracted unemployment (receiving unemployment benefits for at least 6 months)
5. Is a current recipient of government cash or food assistance benefits
6. Is homeless or has been homeless within the last year
7. Is a custodial single parent
8. Is a former foster youth
9. Is a veteran or is the eligible spouse of a veteran of the United States armed forces under Section 2(a) of the Jobs for Veterans Act (38 U.S.C.4215[a])
10. Is an eligible migrant and seasonal farm worker
11. Is currently an English language learner
12. Is an older individual (55+)
13. Is disabled
14. Is an individual with a low level of literacy
15. Is a Multi-Craft Core Curriculum (MC3) Program Graduate

[This form is not intended to replace a Union's Dispatch or Referral Form normally given to the employee when being dispatched to the jobsite.]

Contractor: All Contractors**Workforce Utilization Plan / Projection Hours****Project Name:** BARRY J NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND KITCHEN UPGRADES PROJECT**Date:** _____**Project Duration:** 0 Calendar Days

	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Total
PROJECTED PROJECT HOURS														
Local Hours (Tier 1)	50	0	0	0	0	0	0	0	0	0	0	0	0	50
Local Hours (Tier 2)	100	0	0	0	0	0	0	0	0	0	0	0	0	100
Total Project Hours	500	0	0	0	0	0	0	0	0	0	0	0	0	500
Total Local Hours (%)	30%													30%
Targeted Worker Hours	50	0	0	0	0	0	0	0	0	0	0	0	0	50
Targeted Worker Hours (%)	10%													10%
ACTUAL PROJECT HOURS														
Local Hours (Tier 1)	75	0	0	0	0	0	0	0	0	0	0	0	0	75
Local Hours (Tier 2)	100	0	0	0	0	0	0	0	0	0	0	0	0	100
Total Project Hours	500	0	0	0	0	0	0	0	0	0	0	0	0	500
Total Local Hours (%)	35%													35%
Targeted Worker Hours	50	0	0	0	0	0	0	0	0	0	0	0	0	50
Targeted Worker Hours (%)	10%													10%

Contractor: Prime

Workforce Utilization Plan / Projection Hours

Project Name: BARRY J NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND KITCHEN UPGRADES PROJECT

Date: _____

Project Duration: 0 Calendar Days

	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Total
PROJECTED PROJECT HOURS														
Local Hours (Tier 1)	10													10
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	30%													30%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%
ACTUAL PROJECT HOURS														
Local Hours (Tier 1)	15													15
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	35%													35%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%

Contractor: Sub 1

Workforce Utilization Plan / Projection Hours

Project Name: BARRY J NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND KITCHEN UPGRADES PROJECT

Date: _____

Project Duration: 0 Calendar Days

	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Total
PROJECTED PROJECT HOURS														
Local Hours (Tier 1)	10													10
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	30%													30%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%
ACTUAL PROJECT HOURS														
Local Hours (Tier 1)	15													15
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	35%													35%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%

Contractor: Sub 2

Workforce Utilization Plan / Projection Hours

Project Name: BARRY J NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND KITCHEN UPGRADES PROJECT

Date: _____

Project Duration: 0 Calendar Days

	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Total
PROJECTED PROJECT HOURS														
Local Hours (Tier 1)	10													10
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	30%													30%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%
ACTUAL PROJECT HOURS														
Local Hours (Tier 1)	15													15
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	35%													35%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%

Contractor: Sub 3

Workforce Utilization Plan / Projection Hours

Project Name: BARRY J NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND KITCHEN UPGRADES PROJECT

Date: _____

Project Duration: 0 Calendar Days

	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Total
PROJECTED PROJECT HOURS														
Local Hours (Tier 1)	10													10
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	30%													30%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%
ACTUAL PROJECT HOURS														
Local Hours (Tier 1)	15													15
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	35%													35%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%

Contractor: Sub 4

Workforce Utilization Plan / Projection Hours

Project Name: BARRY J NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND KITCHEN UPGRADES PROJECT

Date: _____

Project Duration: 0 Calendar Days

	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00	Jan-01	Total
PROJECTED PROJECT HOURS														
Local Hours (Tier 1)	10													10
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	30%													30%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%
ACTUAL PROJECT HOURS														
Local Hours (Tier 1)	15													15
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	35%													35%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%

**COUNTY OF LOS ANGELES
LOCAL AND TARGETED WORKER HIRE POLICY
QUALIFYING ZIP CODES**

Tier 1, 2 and Qualifying Zip Codes are defined as:

Tier 1 Zip Code: A Tier 1 Qualified Local Resident is defined as a County resident whose primary residency is: (1) within five (5) miles of the proposed project site; and (2) is within a Qualifying Zip Code. If a qualifying Zip Code is partially located within the 5-mile radius, then the entire Zip Code is considered as a Tier I Zip Code, and workers living in that entire Zip Code area may qualify as Tier I hiring.

Tier 2 Zip Code: A Tier 2 Qualified Local Resident is defined as a County resident whose primary residency is: (1) within a Qualifying Zip code; and (2) that Qualifying Zip Code is beyond five (5) miles of the proposed project site.

Qualifying Zip Code: A Qualifying Zip Code is defined as a zip code within the County of Los Angeles, where either: (1) the average percentage of households living below 200 percent of the Federal Poverty Level (FPL) for that individual's primary residency's Zip Code is greater than the County average for such households; or (2) the Zip Code is one of 11 additional Zip Codes determined by the Board on September 6, 2011 to be a Zip Code where at least 30 percent of the population is living in poverty, and with an unemployment rate of at least 150 percent of the national average.

Zip Code	Region	SD1	SD2	SD3	SD4	SD5
90001	Florence / South Central (City of LA)		X		X	
90002	Watts (City of LA)		X		X	
90003	South Central (City of LA)		X			
90004	Hancock Park (City of LA)	X	X	X		
90005	Koreatown (City of LA)		X			
90006	Pico Heights (City of LA)	X	X			
90007	South Central (City of LA)	X	X			
90008	Baldwin Hills / Crenshaw (City of LA) / Leimert Park (City of LA)		X			
90010	Wilshire Blvd (City of LA)		X			
90011	South Central (City of LA)	X	X			
90012	Civic Center (City of LA) / Chinatown (City of LA)	X				
90014	Los Angeles	X				
90015	Downtown Los Angeles (City of LA)	X	X			
90016	West Adams (City of LA)		X			
90017	Los Angeles	X				
90018	Jefferson Park (City of LA)		X			
90019	Country Club Park (City of LA) / Mid City (City of LA)		X			
90020	Hancock Park (City of LA)		X			
90021	Downtown Los Angeles (City of LA)	X				
90022	East Los Angeles	X			X	
90023	East Los Angeles (City of LA)	X			X	
90026	Echo Park / Silverlake (City of LA)	X				
90028	Hollywood (City of LA)			X		X
90029	Downtown Los Angeles (City of LA)	X		X		
90031	Montecito Heights (City of LA)	X				
90032	El Sereno (City of LA) / Monterey Hills (City of LA)	X				
90033	Boyle Heights (City of LA)	X				
90034	Palms (City of LA)		X	X		
90035	West Fairfax (City of LA)		X	X		
90036	Park La Brea (City of LA)		X	X		
90037	South Central (City of LA)		X			
90038	Hollywood (City of LA)			X		
90040	Commerce, City of	X			X	

**COUNTY OF LOS ANGELES
LOCAL AND TARGETED WORKER HIRE POLICY
QUALIFYING ZIP CODES**

Zip Code	Region	SD1	SD2	SD3	SD4	SD5
90042	Highland Park (City of LA)	X				
90043	Hyde Park (City of LA) / View Park / Windsor Hills		X			
90044	Athens		X			
90047	South Central (City of LA)		X			
90057	Westlake (City of LA)	X				
90058	Vernon	X	X		X	
90059	Watts (City of LA) / Willowbrook		X		X	
90061	South Central (City of LA)		X			
90062	South Central (City of LA)		X			
90063	City Terrace	X				
90089	Exposition Park(City of LA)		X			
90201	Bell / Bell Gardens / Cudahy				X	
90220	Compton / Rancho Dominguez		X			
90221	East Rancho Dominguez		X		X	
90222	Compton / Rosewood / Willowbrook		X		X	
90242	Downey				X	
90247	Gardena		X			
90250	Hawthorne (Holly Park) / Lawndale (Federal Bldg)		X			
90255	Huntington Park / Walnut Park		X		X	
90262	Lynwood				X	
90270	Maywood				X	
90280	South Gate		X		X	
90301	Inglewood		X			
90302	Inglewood		X			
90303	Inglewood		X			
90304	Lennox		X			
90401	Santa Monica			X		
90501	Torrance		X		X	
90601	Whittier	X			X	
90602	Whittier	X			X	
90640	Montebello	X			X	
90706	Bellflower				X	
90716	Hawaiian Gardens				X	
90723	Paramount				X	
90731	San Pedro (City of LA) / Terminal Island (City of LA)				X	
90744	Wilmington (City of LA)		X		X	
90802	Long Beach				X	
90804	Long Beach				X	
90805	North Long Beach (Long Beach)		X		X	
90806	Long Beach				X	
90810	Carson / Long Beach		X		X	
90813	Long Beach				X	
91001	Altadena					X
91046	City of Glendale					X
91103	Pasadena					X
91201	Glendale					X
91203	Glendale					X
91204	Glendale (Tropico)					X
91205	Glendale (Tropico)					X
91303	Canoga Park (City of LA)			X		
91331	Arleta (City of LA) / Pacoima (City of LA)			X		X
91335	Reseda (City of LA)			X		
91340	San Fernando			X		
91342	Lake View Terrace (City of LA) / Sylmar (City of LA)			X		X
91343	North Hills (City of LA)			X		
91352	Sun Valley (City of LA)			X		X

**COUNTY OF LOS ANGELES
LOCAL AND TARGETED WORKER HIRE POLICY
QUALIFYING ZIP CODES**

Zip Code	Region	SD1	SD2	SD3	SD4	SD5
91401	Van Nuys (City of LA)			X		
91402	Panorama City (City of LA)			X		
91405	Van Nuys (City of LA)			X		
91406	Van Nuys (City of LA)			X		
91411	Van Nuys (City of LA)			X		
91502	Burbank					X
91601	North Hollywood (City of LA)					X
91605	North Hollywood			X		X
91606	North Hollywood			X		X
91702	Angeles National Forest	X				X
91706	Baldwin Park / Irwindale	X				X
91731	El Monte	X				
91732	El Monte	X				
91733	South El Monte	X				
91744	City of Industry / La Puente / Valinda	X				
91746	Bassett / City of Industry / La Puente	X				
91754	Monterey Park	X				
91755	Monterey Park	X				
91766	Phillips Ranch / Pomona / Chino	X				
91767	Pomona	X				X
91768	Pomona	X				
91770	Rosemead	X				X
91776	San Gabriel	X				X
91803	Alhambra	X				
93243	Lebec					X
93534	Lancaster					X
93535	Hi Vista					X
93543	Littlerock / Juniper Hills					X
93550	Palmdale / Lake Los Angeles / Sierra Madre					X
93552	Palmdale					X
93553	Littlerock / Juniper Hills / Pearblossom / Llano					X
93560	North Lancaster					X
93591	Palmdale/Lake Los Angeles					X



LOCAL AND TARGETED HIRE STATUS REPORT
LOS ANGELES COUNTY

Project: SAMPLE NAME
Supervisory District: SD 4
Project Code: PW13950
Contractor(s): Multiple Contractors
Craft(s): Multiple Crafts
Construction Contract Amount: \$0.00
Mandatory Local and Targeted Hiring Goal: 30.00%

From Date: 9/1/2016
To Date: 9/30/2016
Total Forecast Hours: 0.00
Total Project Hours to Date: 0.00
Total Hours Percent Complete: 10.00%

Area	Total Number of Workers Sep 01-Sep 30	% of Total Workers Sep 01-Sep 30	Total Hours Worked Sep 01-Sep 30	% of Total Hours Worked Sep 01-Sep 30	Cumulative Total Number of Workers	Cumulative % of Total Workers	Cumulative Total Hours Worked	Cumulative % of Total Hours Worked	Cumulative Wages w/ Benefits	Cumulative Number of Foremen	Cumulative Foremen Hours	Cumulative Foreman Hours %	Cumulative Number of Journeymen	Cumulative Journeyman Hours	Cumulative Journeyman Hours %	Cumulative Number of Apprentices	Cumulative Apprentice Hours	Cumulative Apprentice Hours %
Tier 1	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Tier 2	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Other in LA County (non-local)	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Outside of LA County	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Employees Not In Specified Zip Lists	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Local and Targeted Workers																		
Local Resident (Tier 1 + Tier 2)	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Targeted Worker	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Demographic Profile																		
African American	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Asian	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Caucasian	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Hispanic	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Native American	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Not Specified	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Two Or More Races	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Other	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Male	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Female	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Veteran	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	\$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Total Employees	0		0.00		0		0.00		\$0.00	0	0.00		0	0.00		0	0.00	

SAMPLE

JOB COORDINATOR PANEL

as of December 2023

Casamar Group, LLC Joe Garcia 23335 Alamos Lane Newhall, CA 91321 TEL: 661.254-2373 Fax: 661.253.0549 jgarcia@casamargroup.com	Del Richardson & Associates, Inc. Del Richardson 510 S. La Brea Avenue Inglewood, CA 90301 TEL: 310.645.3729 ext. 229 FAX: 310.645.3355 Del.Richardson@drainc.com
Harris & Associates John W. Harris 865 S. Figueroa Street Los Angeles, CA 90017 TEL: 213.489.9833 FAX: 626.316.7103 john@jwharrislaw.com	Managed Career Solutions, Inc. Philip Starr 3333 Wilshire Blvd., Suite 405 Los Angeles, CA 90010 TEL: 213.355.5312 FAX: 213.381.5053 pstarr@mcscareergroup.com
Mindful Integration of Construction Services Theodora Oyie, MBA 5665 Wilshire Blvd. #1114 Los Angeles, CA 90036 TEL: 323. 383.9844 inclusion@mics.us	Modern Times, Inc. Joseph Hernandez 1892 E. Altadena Drive Altadena, CA 91001 TEL: 213.810.6105 FAX: 626.316.7103 joe@moderntimesinc.com
Onesimus, Inc Michael Richardson 129 E. 136 th Street Los Angeles, CA 90061 TEL: 310.701.0359 profitableanduseful@gmail.com	Pacific Resources Services Corporation Ben Ocasio 11421 Lambert Ave. El Monte, CA 91732 TEL: 626.800.4006 FAX: 626.800.4140 bocasio@pacificresourceservices.com
Padilla & Associates, Inc. Patricia Padilla 211 East City Place Drive Santa Ana, CA 92705 TEL: 714.225.0116 ppadilla@padillainc.com	PDA Consulting, Inc. Pamela Penn 8901 S. La Cienega Blvd. Suite 201 Inglewood, CA 90301 TEL: 310.910.0940 pamela.penn@pdaconsultinggroup.com
Playa Vista Job Opportunities and Business Services Mary Taylor 4112 S. Main Street Los Angeles, CA 90037 TEL: 323.432.3955 FAX: 323.432.3995 mtaylor@pvjobs.org	TransCal Services, LLC Jeffery Henderson 6109 S. Western Ave., Suite 308 Los Angeles, CA 90047 TEL: 323.305.6470 FAX: 323.305.6471 jhenderson@transcalservices.com
TSG Enterprises, Inc. dba The Solis Group Elizabeth Solis 131 N. El Molino Ave., Suite 100 Pasadena, CA 91101 TEL: 626.685.6989 FAX: 626.685.6985 elizabeths@thesolisgroup.com	Power2Workers Christiana Faulkner 5505 S. Vermont Ave. Los Angeles, CA 90037 TEL: 323.920.6674 christiana@power2workers.org



Metro

SECTION 01 00 00

PROJECT GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope of the Contract (1.02)
- B. Permanent Utility Services (1.03)
- C. Work not Included (1.04)
- D. Drawings (1.05)
- E. Time of Completion (1.06)
- F. Long Lead Time Materials and Equipment (1.07)
- G. Liquidated Damages (1.08)
- H. Examination of Site and Work (1.09)
- I. Cooperation (1.10)
- J. Restrictions to the Work (1.11)
- K. Cutting and Patching (1.12)
- L. Air Quality Management District Rules (1.13)
- M. Shop Drawings (1.14)
- N. Cleaning (1.15)
- O. Existing Utility Lines (1.16)
- P. Protective Measures (1.17)
- Q. Project Administration (1.18)
- R. Best Management Practices (BMP) Requirements (1.19)
- S. Work In Progress Under Other Contracts (1.20)

1.02 SCOPE OF THE CONTRACT

- A. Work to be done under the Contract consists of furnishing all materials, all equipment, and performing the Work required by these Specifications and the Drawings hereinafter, described and necessary, to complete the construction of the Barry J. Nidorf Secure Youth Track Facility Security and Kitchen Upgrades Project.

The Scope of Work includes, but is not limited to the following, the installation of a netting system above the west, north, and east perimeter walls. It will add an additional 12 feet to the height of the perimeter walls to deter contraband from being thrown over the facility wall. The proposed project also includes two new fan coil units and a rooftop condensing unit to cool the dry food storage room adjacent to the facility's kitchen.

1.03 PERMANENT UTILITY SERVICES

The Work shall include all operations necessary to place required utility services in operating condition, including service lines from points of connection shown on Drawings, permanent meters, connections, and inspections. The work (when so scheduled) includes installation of telephone conduit, backboards, and terminal cabinets as shown, and cooperation with the serving utility company for the installation of other telephone equipment and cables. The County will arrange and pay for telephone switchboards, instruments, and cables.

All other expenses in connection with utility service installations shall be borne by the Contractor; however, upon receipt of certified cost statements, the County will reimburse Contractor for all charges made by serving companies in connection with permanent utility service installations.

Drawing notes and/or specification provisions of trade sections concerning utilities shall take precedence over the foregoing provisions.

1.04 WORK NOT INCLUDED

All items indicated on the Drawings as "N.I.C." (not in contract).

1.05 DRAWINGS

The Work shall conform to the Drawings entitled Barry J. Nidorf Secure Youth Track Facility Security and Kitchen Upgrades Project with sheet numbers and titles as listed on Sheet No. 1 of the Drawings.

1.06 TIME OF COMPLETION

- A. The work to be performed under the contract shall be completed within 210 calendar days, beginning with the date stipulated in the written notice to proceed issued by the Director.
- B. Failure to complete the work by the identified completion date will be subject to the Liquidated Damages identified in Paragraph 1.08.
- C. Final Payment Request shall be submitted within twenty (20) days after completion of the contract work, including all punch list items.

1.07 LONG LEAD TIME MATERIALS AND EQUIPMENT

- A. The Contractor shall make every effort to demand of his Subcontractors and

suppliers, relative to long lead time items, that they order such items well in advance of the scheduled time of installation. Time extensions for late ordering of such materials will not be allowed.

1.08 LIQUIDATED DAMAGES

- A. All time limits stated in the Contract Documents are of the essence of the Contract and should the Contractor fail to complete the work required to be done on or before the time of completion as set forth in these specifications, including any authorized extension of time, it is mutually understood and agreed by and between the awarding entity and the Contractor that the use by the public of the Contract Work will be correspondingly delayed, and that by reason thereof, the awarding entity and the public will necessarily suffer great damages; that such damages from the nature of the case will be extremely difficult and impractical to fix; and that the awarding entity and the Contractor have endeavored to fix the amount of said damages in advance as follows:
 - 1. The sum of \$600 a day for each day's delay in the completion of the work beyond the time limit stipulated in Paragraph 1.06.
- B. It is further mutually understood and agreed by and between the awarding entity and the Contractor that the sum of liquidated damages set forth above will be additive to a total of \$600 a day for each and every day's delay in the event that the time limits, as hereinbefore specified, are concurrently exceeded. Any authorized extensions of time will be added to the time limits stipulated.
- C. The Extended Overhead Daily Rate is not applicable when it is determined that liquidated damages apply due to a Contractor's delay.

1.09 EXAMINATION OF SITE AND WORK

- A. Bidders must examine the location, physical conditions, and surroundings of the proposed Work and judge for themselves the extent to which these factors will influence the performance of the Contract Work.
- B. The plans for the Work show conditions as they are supposed or believed by the Department to exist, but it is not intended, or to be inferred, that the conditions as shown thereon constitute a representation, express or implied by the County or its officers, that such conditions are actually existent, nor shall the Contractor be relieved of the liability under his Contract, nor the County, or any of its officers, be liable for any loss sustained by the

Contractor as a result of any variance between conditions as shown on the plans or referred to in the Specifications and the actual conditions revealed during the progress of the Work.

- C. The County will conduct a prebid conference and job walk of the project site on February 18, 2025.

1.10 COOPERATION

In the entrance and exit of all workers and in bringing in, storing, or removing of materials and the erection and maintenance of equipment and in the manner and time of prosecuting the work, the Contractor shall cooperate with those in authority on the premises to prevent the entrance of those whose presence is forbidden or undesirable, and he shall observe all rules and regulations in force on the premises and avoid undue interference with the convenience, sanitation, and routine of County departments occupying the premises.

1.11 RESTRICTIONS TO THE WORK

- A. The Department reserves the right to determine which of the Contractor's operations are noise, dust, or dirt producing, or which disrupt utility service, or which constitute blocking of passageways, exits, entrances, etc., or which in any way constitute an interference in the proper function of the building.
- B. Contractor shall maintain clear access to all protection equipment at all times, including access to fire hydrants.
- C. Control of Tools: During the progress of the work, all hand tools, including power driven hand tools, cables, ropes, and other implements shall be transported and retained, except when in use in an approved locked toolbox. Care shall be taken that no tool is left unguarded or left where it might be taken by an unauthorized person.
- D. All work by the Contractor is subject to inspection at any time and without notice by the County.
- E. The working hours are Monday through Friday between 7:00 a.m. to 4:00 p.m. unless otherwise specified by the County.

1.12 CUTTING AND PATCHING

The Contractor shall perform all cutting, patching, and finishing operations occasioned by the Work under the Contract, whether or not such operations are

indicated on the Drawings or specifically mentioned in the various sections of the Specifications. All such operations shall be performed in the best practices of the various trades involved and to the satisfaction of the Department. All patching and finishing materials shall match existing adjacent surfaces in every respect, including design, type and quality of materials, finish, and color. Cutting, patching, and finishing shall include all such operations in existing areas required by the Work under the Contract.

1.13 AIR QUALITY MANAGEMENT DISTRICT RULES

The Contractor shall become familiar with requirements of the South Coast Air Quality Management District Rules 50, 66, 66.1, 66.2, 403, and 1113. The Contractor is responsible for conforming to and using materials which meet the requirements of the above-specified rules.

1.14 SHOP DRAWINGS

Furnish shop drawings as required in the various sections of the Specifications or as requested by the Department. Unless otherwise specified, submit six (6) copies of shop drawings to the Department for review. One set will be returned to Contractor marked "no exceptions noted" or "exceptions noted." If changes are required, six (6) copies of corrected shop drawings shall be delivered to the Department. Shop drawings shall be of sufficient size and scale to clearly show all details; shop drawings of millwork and cabinet work shall show molding full size. No materials shall be furnished or Work done on items requiring shop drawings prior to acceptance. Acceptance of shop drawings shall not relieve the Contractor from responsibility for deviations from the Contract Documents, nor from responsibility for errors or omissions of any sort in the shop drawings. Neither does such acceptance relieve the Contractor from his responsibility for the correct installation, or for the proper operation in service, of items requiring shop drawings.

1.15 CLEANING

During progress of Work and upon completion of each part of the Work as defined by the sections into which these Specifications are divided or as separated by the various trades involved in the Work, each area shall be cleaned of debris emanating from the Work. The Contractor shall remove excess materials, waste, rubbish, and debris, and his construction and installation equipment from the premises. Any dirt and stains caused by the Work under the Contract shall be removed from the surfaces of the structures and from equipment and fixtures. Final acceptance of the Work done under these Specifications will not be given until the cleaning has been inspected and approved by the Department.

1.16 EXISTING UTILITY LINES

Except as indicated on the Drawings or in the Specifications, the Contractor will not be liable for the rerouting of existing active underground lines, which may be discovered during the progress of the Work.

1.17 PROTECTIVE MEASURES

The Contractor shall provide and maintain substantial and adequate protection as may be required to protect new and existing Work and all items of equipment and furnishings for the entire duration of Work.

The Contractor shall repair or make good any and all damage or loss he may cause to the building or other County property to the full satisfaction of the Department.

1.18 PROJECT ADMINISTRATION

All materials supplied and all Work done by the Contractor shall be under the general administration of the Department and in accordance with the Drawings and Specifications.

1.19 BEST MANAGEMENT PRACTICES (BMP) REQUIREMENTS

A. The Contractor shall comply with Section 01 57 00 (for projects less than one acre), Section 01 57 00 (for projects greater than one acre), the Los Angeles County Department of Public Works Construction Site Best Management Practices (BMP's) Manual, latest edition. A copy of the BMP Manual can be obtained at the Los Angeles County Department of Public Works Cashier's Office, 900 South Fremont Avenue, Alhambra, CA 91803, (626) 458-6959.

B. Related Work: Cleaning; Section 01 74 23.

1.20 WORK IN PROGRESS UNDER OTHER CONTRACTS

It is anticipated that the work of a developer may be concurrently in progress with the work of this contract. Refer to General Conditions articles, "Other Contracts" and Cooperation with Others."

* * * *

SECTION 01 14 00

ALTERATION PROJECT PROCEDURES

1.00 GENERAL

1.01 CONTRACTOR' S USE OF THE PREMISES

- A. The Contractor will be restricted in the use of the site to that area designated by the County. If the allotted space is too restrictive, provide a written request to the County, identifying the amount of additional area required, the reason why the existing area is inadequate, and any incentives for the County to provide the additional space.
- B. Obtain and pay for the use of additional storage or work areas if required for operations.

1.02 INTERRUPTION OF EXISTING SERVICES

- A. The facility is in continuous operation.
- B. If an interruption of any existing utilities and/or equipment operations to the existing building will be required provide the County a minimum of 7 days notice for minor interruption and 14 days advance notice for major interruption, obtain County' s permission and if required by the County, interrupt service only during non-business hours unless otherwise noted in the Contract Documents. Interruptions affecting areas outside the tenant improvement space constitutes a major interruption.

1.03 PROTECTION OF EXISTING IMPROVEMENTS

- A. Take all precautions necessary to protect existing building, utilities and other site improvements from damage due to the work of this Project, and be responsible for their restoration of any damaged property to its original condition if damage is a result of the Contractor' s construction activities.
- B. Cooperate with County to sequence the work so as not to unnecessarily interfere with operation of occupied facilities. Prior to demolition or construction work, consult with County to determine a construction schedule which will permit the existing facilities to function without interruption. Thereafter, Contractor shall provide County' s Representative with a minimum of fourteen days advance notice, in writing, of anticipated portion of the Work which may, because of noise or otherwise, require advance operational planning.
- C. In planning and performing the Work, make every effort to maintain all pollutants, including noise, dirt and dust levels at the absolute minimum possible.

- D. Continuously maintain ingress and egress to and from existing building for purposes of fire and emergency entrance and escape, loading and delivery, and building maintenance, to the satisfaction of the County and authorities having jurisdiction.
- E. Protect all utilities against interruption, damage or contamination during construction; if necessary, provide temporary utilities to maintain services continuously. Such utilities shall include, but shall not be limited to, electricity, water, gas, sewerage, telephone, data, oxygen, nitrous oxide, vacuum and compressed air.
- F. Provide temporary barriers to separate occupied areas from work areas. Seal all joints to create dust-proof enclosures.
- G. Limit equipment and vehicles in ingress and egress and use of service areas to the minimum essential to operations. If there is unavoidable conflict with Contractor's equipment in such areas, upon request of County, remove such equipment immediately to facilitate emergency services, and within a reasonable time, for all other services.

1.04 DAMAGE AND RESTORATION

- A. Damage to existing or new work caused by equipment or other operations, whether accidental or made necessary by reason of Contract requirements, shall be restored or replaced as specified or directed by the County, at Contractor's sole expense.
- B. Restoration shall be equal to the original work, and finishes shall match the appearance of, as nearly as possible, like existing adjacent work. Restoration shall be subject to acceptance by the County and shall be made as necessary at Contractor's sole expense.
- C. Work not properly restored or where not capable of being restored as intended under these specifications shall be removed and replaced as directed by County, at Contractor's sole expense.

2.00 PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK

- A. New materials: As specified in product Sections; match existing products and work for patching and extending work.
- B. Type and quality of existing products: Determine by inspection and testing products where necessary, referring to existing work as a standard.

3.00 EXECUTION

3.01 EXAMINATION

- A. Verify that demolition is complete and areas are ready for installation of new work.
- B. If actual conditions differ from conditions shown on the Contract Documents, immediately report the differing conditions to the Director and wait for written instructions.
- C. Beginning of work means acceptance of existing conditions.

3.02 PREPARATION

- A. Cut, move or remove items as necessary for access to alterations and renovation work. Replace and restore at completion.
- B. Remove unsuitable material not marked for salvage. Replace materials as specified for finish work.
- C. Remove debris and abandoned items from area.
- D. Prepare surfaces and remove surface finishes to provide for proper installation of new work and finishes.
- E. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity.

3.03 INSTALLATION

- A. Coordinate work of alterations and renovation to expedite completion.
- B. Designated areas: Complete in all respects.
- C. Remove, cut and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.
- D. Install products as specified in each Section.

3.04 TRANSITIONS

- A. Where new work abuts or aligns with existing, perform a smooth and even transition. Patch work to match existing adjacent work in texture and appearance.

- B. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along with a straight line at a natural line of division and make recommendations to Director.

3.05 REPAIR OF DAMAGED SURFACES

- A. Patch or replace portions of existing surfaces which become damaged, lifted, discolored or showing other imperfections.
- B. Repair substrate prior to patching finish.

3.06 FINISHES

- A. Finish surfaces as specified in each Section.
- B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

* * *

SECTION 01 26 13

CONTRACTOR'S REQUEST FOR INFORMATION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section covers general requirements for Contractor's Requests for Information (RFI).
- B. The Contractor will prepare and submit RFIs as directed by the County Project Manager.
- C. Related Sections:
 - 1. General and Supplementary Conditions for changes in the Work.
 - 2. Section 01 31 19: Progress Meetings
 - 3. Section 01 33 00: Submittals

1.02 SUBMITTALS

- A. Submit a Request for Information to the County when:
 - 1. An unforeseen condition or constructability question occurs.
 - 2. Questions regarding information in the Contract Documents arise.
 - 3. Information not found in the Contract Documents is required.
- B. When possible, request such clarification either verbally or in writing at the next scheduled Project meeting. When the RFI is answered at the Project meeting, number the RFI and enter the response into the meeting minutes.
 - 1. When the urgency of the need or the complexity of the item makes clarification at the next scheduled Project meeting impractical, prepare and submit a formal written RFI to the County.
- C. RFIs shall be submitted within a reasonable time frame so as not to interfere with or impede the progress of the Work. The Contractor shall make every effort to keep the number of RFIs to a minimum. If the number of RFIs becomes unwieldy, the County may require the Contractor to abandon the RFI process and submit requests as either submittals, substitutions, or requests for change.

- D. When the response to an RFI effects the cost or time duration of the project, notify the County in accordance with the General Conditions at the time of the submittal. Notification shall occur prior to commencing such work, so that the change order process can be initiated.
1. At time of the time of submittal of the RFI, notify the County to the time available before the response will cause a time or cost impact to the Project.
 2. An answered RFI shall not be construed as approval to perform extra work.
- E. Form of Submittal:
1. Submit legible written RFIs on a standard CSI or AIA preprinted form or other such form as approved in advance by the County. Each request shall include the following information:
 - a. Project name, as listed on the Contract Documents, and County Specs. Number;
 - b. Date;
 - c. RFI number;
 - d. Name, address, telephone and e-mail address of the Contractor;
 - e. Number and title of affected Specification Section(s);
 - f. Drawing numbers and detail numbers as appropriate;
 - g. Indicate if the RFI will result in a time or cost impact;
 - h. Clear, concise explanation of information or clarification requested;
 - i. Blank, lined spaces for Architect's response;
 - j. Signature block for County to acknowledge review of Architect's response;
 - k. Mark each page of each RFI attachment in the lower right corner with the RFI number;
 - l. Number submitted RFIs consecutively; and
 - m. Sign and stamp all RFI forms. RFIs from subcontractor or material suppliers shall be submitted through the Contractor. Contractor shall review all such information request prior to submitting to the County.
- F. RFIs not meeting the requirements of this Section will not be answered and any consequential impact on the project shall be the sole responsibility of the Contractor. Unanswered RFIs will be returned with a stamp or notification "Not Reviewed."
- G. RFI Log: Contractor shall maintain and update the log weekly and furnish to the County when requested. The log shall contain the following minimum information:

- a. RFI number
 - b. Date submitted
 - c. Brief description of content or subject
 - d. Date answered
- H. Allow a minimum of five (5) working days for review and response. The response time will be increased if more information is required, when the RFI is submitted out of sequence, or if in the opinion of the County, more time is required to answer the RFI.

1.03 QUALITY ASSURANCE

1. Carefully review the Contract Documents before submitting a RFI to the County. Verify that the information requested is not indicated in the Contract Documents or cannot be determined from a careful review.
 1. The County may not answer RFIs for information that is readily available in the Contract Documents.
2. RFIs requesting clarification of coordination issues, shall include the Contractor's suggested solution as an attachment to the RFI.
 1. Such coordination issues include, but are not limited to, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar items.
 2. Provide scale drawings or sketches indicating the proposed solution.
 3. RFIs which do not include a suggested solution will not be answered.
3. Do not use RFIs for the following:
 1. To request approval of submittals.
 2. To request approval of substitutions.
 3. To request changes to the Contract Documents and to confirm action taken by the Contractor for requested changes/substitutions to the Contract Documents.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

(Not Applicable)

* * *

SECTION 01 29 76

PROGRESS PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Division 1 Section "Allowances" for procedural requirements governing handling and processing of allowances.
 - 2. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 3. Division 1 Section "Unit Prices" for administrative requirements governing use of unit prices.
 - 4. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.

- b. Submittals Schedule.
 - c. Contractor's Construction Schedule.
 - 2. Submit the Schedule of Values to Construction Manager at earliest possible date but no later than seven [7] days before the date scheduled for submittal of initial Applications for Payment.
 - 3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
- 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 - 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate. **[Include separate line items under required principal subcontracts for operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training in the amount of 5 percent of the Contract Sum.]**

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Construction Manager and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Progress payments shall be submitted by the 20th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

- D. Payment Application Forms: Use schedule of values as form for Applications for Payment.
- E. Payment Application Forms: Use forms provided by Owner for Applications for Payment. Sample copies are included at end of this Section.
- F. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Construction Manager will return incomplete applications without action.
 - 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 - 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- G. Transmittal: Submit signed and notarized original copies of each Application for Payment to Construction Manager by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- I. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Schedule of unit prices.
 6. Submittals Schedule (preliminary if not final).
 7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of building permits.
 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 11. Initial progress report.
 12. Report of preconstruction conference.
 13. Certificates of insurance and insurance policies.
 14. Performance and payment bonds.
 15. Data needed to acquire Owner's insurance.
 16. Initial settlement survey and damage report if required.
- K. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- L. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.

4. "Contractor's Affidavit of Payment of Debts and Claims."
5. "Contractor's Affidavit of Release of Liens."
6. "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

SAMPLE APPLICATION AND CERTIFICATE FOR PAYMENT ATTACHED.

* * *

SAMPLE

APPLICATION AND CERTIFICATE FOR PAYMENT

TO: LACDPW - PROJECT MANAGEMENT DIVISION II
PUBLIC WORKS HEADQUARTERS BLDG.
900 SOUTH FREMONT AVENUE, 5TH FLOOR
ALHAMBRA, CA 91803

Project:
Contract No:
CP No.:

Application No: #REF!
Invoice No: #REF!
Period To: #REF!

From: Contractor

Project No: #REF!
Invoice Date: #REF!
Contract Date: #REF!

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment as, shown below, in connection with the contract.

Continuation sheet is attached.

1 ORIGINAL CONTRACT SUM

\$ -

2 Net change by Change Orders

\$ -

3 CONTRACT SUM TO DATE

\$ -

4 TOTAL COMPLETED & STORED TO DATE

\$ -

(Column G on Continuation Sheet)

5 RETAINAGE

a 0.00% of Completed Work

\$ -

(Column D+E on Continuation Sheet)

b 0.00% of Stored Material

\$ -

(Column F on Continuation Sheet)

Total Retainage (Line 5a+5b or

\$ -

Total in Column I on Continuation Sheet)

6 TOTAL EARNED LESS RETAINAGE

\$ -

(Line 4 less Line 5 Total)

7 LESS PREVIOUS CERTIFICATES FROM PAYMENT

(Line 6 from prior Certificate)

8 CURRENT PAYMENT DUE

\$ -

9 BALANCE TO FINISH, INCLUDING RETAINAGE

(Line 3 less Line 6)

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Previously approved Change Orders	\$ -	\$ -
Change Orders approved this period	\$ -	\$ -
TOTALS	\$ -	\$ -
Net Change Order Total	\$ -	\$ -

To the best of my knowledge and belief, I certify that all items, units, quantities, and prices of work shown on this application for payment are corrects; that all the work has been performed and material supplied in full accordance with the terms and conditions of this Contract on this projects; that this application for payment is a true and correct statement of the contract account up to and including the last day of period covered by this application and that no part 'Current Payment Due' has been received.

CONTRACTOR:

BY: _____ Date: _____

CERTIFIED AND APPROVED AS PER TERMS OF CONTRACT

To the best of my knowledge and belief, I certify that this application for payment does not exceed ()% of the value of the work completed since the previous application for payment, if any plus ()% of the value acceptable or stored materials for incorporation into work, but not installed, if any.

I further certify that this application for payment covers full payment for work completed since the previous application for payment and that any payment for prefabricated stored materials does not exceed ()% of the value of the materials.

AMOUNT CERTIFIED..... \$ -

BY: _____ Date: _____

Inspector

BY: _____ Date: _____

Architect/Engineer

BY: _____ Date: _____

County Project Manager

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptable of payment are without prejudice to any rights of the Owner or Contractor under this Contract except as set forth in the Contract.



Document G703™ – 1992

Continuation Sheet

AIA Document G702™-1992, Application and Certificate for Payment, or G732™-2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached.
In tabulations below, amounts are in US dollars.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

[illegible]

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

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SECTION 01 31 00

COORDINATION AND MEETINGS

PART 1 – GENERAL

1.01 SECTION INCLUDES:

- A. Coordination
- B. Preconstruction Meeting
- C. Progress Meetings
- D. Preinstallation Meetings

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various Sections of the Project Manual to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later and for accommodating items to be installed by the County.
- B. Coordinate sequence of work to accommodate County occupancy as specified in Section 01 00 00.

1.03 PRECONSTRUCTION MEETING

- A. Construction Manager/County Project Manager will schedule a meeting after Notice of Award.
- B. Attendance Required: Architect, Project Coordinator, Prime Contractors, Major Subcontractors, Project Inspector and key County personnel.
- C. Agenda:
 - 1. Contract Agreement
 - a. Transmit Performance and Material Bonds to Architect
 - b. Review General/Supplementary Conditions
 - c. Deferred Approvals
 - 2. Receive documentation from Contractor
 - a. Construction Schedule
 - b. Schedule of Values

- c. List of Subcontractors with Addresses and Phone Numbers
 - d. List of Submittals and Estimated Date of Submittal
- 3. Project Administration
 - a. Application for Payment, Project Schedule, Lien Release, As-built Documents, Contract Administration
 - b. Change Orders and Proposal Requests
 - c. Submittals and Substitutions, Deferred Approvals
 - d. Site Meetings
 - e. Testing Lab
 - f. Verified Reports
- 4. Special County Conditions
 - a. Temporary Facilities
 - b. County Occupancy
 - c. Work by County
 - d. Access to Site – County Contract
- 5. Construction Process
 - a. Contractor to give Overview of Construction
 - b. Contractor to identify items to be selected by Architect/County and date selections must be made.
 - c. Contractor to review special requirements for equipment, safety, and noise.
- 6. Project Close-Out
 - a. Close-out Binder
 - b. As-Built Documents
 - c. Final Verified Reports
- D. Architect or County Project Manager to record minutes and distribute copies within three days after meeting to participants, Architect and those affected by decisions made.

1.05 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the work as needed.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

- C. Attendance Required: Project Coordinator, Prime Contractors, major Subcontractors and suppliers, Project Inspector, key County personnel and Architect as appropriate to agenda topics for each meeting.
- D. Agenda
 - 1. Review Minutes of Previous Meetings
 - 2. Review of Work Progress
 - 3. Field Observations, Problems, and Decisions
 - 4. Identification of problems which impede planned progress.
 - 5. Review of Submittals Schedule or Status of Submittals.
 - 6. Review of Off-site Fabrication and Delivery Schedules
 - 7. Maintenance of Progress Schedule
 - 8. Corrective Measures to Regain Project Schedules
 - 9. Planned Progress During Succeeding Work Period
 - 10. Coordination of Projected Progress
 - 11. Maintenance of Quality and Work Standards.
 - 12. Effect of Proposed Changes on Progress Schedule and Coordination
 - 13. Other Business Relating to Work
- E. Architect or County Project Manager to record minutes and distribute copies within three days after meeting to participants, Architect, and those affected by decisions made.

1.06 PREINSTALLATION MEETING

- A. When required in individual specification sections, convene a preinstallation meeting prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Contractor to record minutes and distribute copies within three days to participants, Architect and those affected by decisions made.

1.07 COORDINATION OF SUBMITTALS

- A. Schedule and coordinate submittals specified in Section 01 33 00.
- B. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate request for substitutions to assure compatibility of space, of operating elements, and effect on work of other sections.

1.08 COORDINATION OF SPACE

- A. Coordinate use of project space and sequence of installation of mechanical and electrical work which is indicated diagrammatically on drawings. Follow routings shown for pipes, ducts, and conduits as closely as practical, with due allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently to maximum accessibility for other installations, for maintenance and for repairs.
- B. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

1.09 COORDINATION WITH WORK BY COUNTY

- A. Coordinate any work by County.

1.10 COORDINATION OF CONTRACT CLOSE-OUT

- A. Coordinate completion and cleanup of work of separate sections in preparation for Substantial Completion.
- B. After County occupancy of premises, coordinate access to site by various sections for correction of defective work and work not in accordance with Contract Documents to minimize disruption of County's activities.
- C. Assemble and coordinate close-out submittals specified in Section 01 77 00.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

* * * * *

SECTION 01 31 19

PROGRESS MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scheduling and administration of progress meetings.

1.02 RELATED REQUIREMENTS

- A. Instructions to bidders.
- B. Project general requirements.
- C. Construction schedules.
- D. Shop drawings, product data and samples.
- E. Quality control.
- F. Temporary Facilities.

1.03 PROGRESS MEETINGS

- A. The County will schedule and administer progress meetings throughout the construction of the work.
- B. The County will make physical arrangements, prepare agenda and distribute notice for the meetings to participants in advance of meeting date.
- C. The Project Manager will preside at meetings. Meeting minutes will be recorded and copies will be distributed to participants prior to next meeting.
- D. Location of meetings: Project's field office or Project Manager's office.
- E. Attendance: Project Manager, Inspector, Contractor, job superintendent, subcontractors, suppliers and others as appropriate to agenda; Architect/Engineer and others shall attend when appropriate.
- F. Minimum Agenda:
 - 1. Approval of minutes of previous meetings.
 - 2. Review of work progress.
 - 3. Field observations, problems and decisions.

4. Identification of problems which impede planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

* * *

SECTION 01 32 00

CONSTRUCTION SCHEDULES

Critical Path Method Schedule Integration System

1. GENERAL

DESCRIPTION – The work specified in this section consists of developing and maintaining a Critical Path Method (CPM) schedule integration system for the contract. Planning, scheduling, management, and execution of work in accordance with contract documents are the sole responsibility of the Contractor.

1.1 Related General Conditions/General Requirements Articles, and Specifications Sections

a.	General Conditions Articles	12.A, 12.B, 12.C
b.	General Conditions Articles	14
c.	General Conditions Articles	15.B.e.3
d.	General Requirements Articles	1.02
e.	General Requirements Articles	1.06

1.2 Generate a CPM schedule integration system using commercially available CPM scheduling software program containing direct file interchange capability with the software program used by the Los Angeles County Department of Public Works. Prepare as directed by the County Project Manager.

1.3 For scheduling submittals produce Precedence Diagram Method (PDM) and time scaled network diagram submittals on D-Size (22-inch by 34-inch) or E-Size (34-inch by 44-inch) medium suitable for reproduction. Print schedule submittal tabular reports on A-Size (8 ½-inch by 11-inch) PDF. For scheduling submittals, the Contractor shall submit PDM schedule in a PDF document and CPM schedule in XER file format.

1.4 Contract milestone dates, County furnished goods, availability dates, and real estate availability dates, are unique zero duration activities as a “start no earlier than” or “finish no later than” milestone. Each milestone activity will constrain its dependent work. Assume Notice to Proceed (NTP) is given at day zero for calculation of constraint dates for milestones.

1.5 Float is not for exclusive use or benefit of either the County or Contractor but is an expiring resource available to both parties on a

nondiscriminatory basis. Float is used by either party, as needed to meet contract milestones and contract completion dates. Contract time extensions for contract performance will be granted only to extent that delays or disruptions to affected work paths exceed total float along those paths of current contract schedule (update schedule) in effect at time of delay or disruption. These delays or disruptions must also cause end date of work to exceed current contract date or milestone date and be beyond control and without fault or negligence of Contractor or any subcontractor at any tier. If delays or disruptions impact an already negative float path, Contractor will not receive a time extension unless and until activity with highest float is driven even further negative.

- 1.6 Use of float suppression techniques such as preferential sequencing or logic, special lead/lag logic restraints, and extended activity times or durations should be submitted with written justification to obtain the County's acceptance. Use of float time disclosed or implied by use of alternate float suppression techniques shall be shared to proportionate benefit of the County and Contractor. Use of any technique solely for purposes of suppressing float will be cause for rejection of schedule submittal.
- 1.7 Planning units – Scheduling software supports schedule Planning Units of hours, days, weeks or months. The standard time unit applied to the schedule integration system is defined as days.
- 1.8 Schedule network – Use Retained Logic CPM Precedence Diagram Method of scheduling.
- 1.9 Analyze in detail, activities included in contract schedule to determine activity time durations in units of working days. Base durations on engineering and design resources, drawing production, submittal review periods, procurement lead time and duration, manufacturing times, labor (crafts), equipment, and materials required to perform each activity on a normal workday basis. No on-site activity shall have a duration over 10 working days except non-construction activities such as submittals, submittal reviews, procurement and delivery of materials or equipment, and concrete curing.

2. PRODUCTS

SUBMITTALS – Submit one PDF and one XER file unless specified otherwise. Provide submittals specified in this section to the County for review and acceptance.

2.1 Baseline CPM Contract Schedule

Provide the County with a means to monitor and follow progress of all phases of work, with contractually specified interim milestones and completion dates, and with constraints, restraints or sequences included in the contract. Degree of schedule detail required shall include factors to the satisfaction of the County, including but not limited to the following:

- 2.1.1 Master list of submittals and all other requirement as referenced in Section 01 33 00 Submittals.
- 2.1.2 Contract interim milestones and contract completion date, substantial completion dates, constraints, restraints, sequence of work indicated.
- 2.1.3 Type of work to be performed, sequences, and labor trades involved.
- 2.1.4 Purchases, manufacture, tests, delivery, and installation activities for major materials and equipment.
- 2.1.5 Deliveries of County furnished goods and/or materials in accordance with dates or schedule windows of such times set forth in the contract or furnished by the County.
- 2.1.6 Preparation, submittal, and acceptance of shop and/or working drawings and material samples showing a 30-day minimum time specified for the County and third party reviews of normal or routine submittals, so identified in the specifications, and the same time frame shall be allowed for at least one re-submittal or submittals so identified in the contract documents.
- 2.1.7 Approvals and permits required by regulatory agencies or other third parties.
- 2.1.8 Schedules for subcontract work.
- 2.1.9 Assignment of responsibility for performing specific activities.
- 2.1.10 Access and availability to work areas.

- 2.1.11 Identification of interfaces and dependencies with preceding, concurrent and follow-on construction or contractors and utilities.
 - 2.1.12 Actual tests, submissions of test reports, and acceptance of test results.
 - 2.1.13 Start up, testing, training, and assistance required under the contract.
 - 2.1.14 Planning for phased or total takeover by the County.
 - 2.1.15 Punch-list and final clean up.
 - 2.1.16 Identification of construction restrictions as well as any activity requiring unusual shift work, such as two shifts, six day weeks, specified overtime, or work at times other than a standard work day.
- 2.2 The schedule of values shall be prepared and submitted together with the construction schedule.
 - 2.3 Failure to meet these requirements may result in a determination and recommendation that the Board of Supervisors determine that the successful bidder as non-responsible because such failure reflects the bidder's ability to manage the work.
- 3. Current CPM Contract Schedule Updates
 - 3.1 Initially, upon approval of the baseline CPM contract schedule, establish the current CPM contract schedule from the baseline CPM contract schedule. Thereafter, update the current contract schedule monthly with data date designated by the County. Use updated current contract schedule for subsequent planning, scheduling, and execution of work to be accomplished. Obtain County prior acceptance before making deviations in logic and activity durations in the current CPM contract schedule.
 - 3.2 Participate with the County in periodic meetings, at least monthly, on dates directed by the County and seven days prior to monthly status. At meeting held seven days prior to the data date, provide preliminary updated current CPM contract schedule that forecasts project status on the data date and contains actual start and actual finish dates for activities in progress or completed, remaining durations of activities already in progress, percent completed, logic changes, new or deleted activities, and new change order/modifications.

- 3.3 Submit a stand alone portion of the network (fragnet), if current progress reflects negative float of minus 10 days or more for a milestone activity, as indicated by most recent CPM contract schedule, allowed by contract as amended by approved change orders/modifications. Show activities affected, date delay or disruption occurred or how productivity was impacted, and unmitigated impacts to schedule caused delay or disruption. Submit similar fragnet showing Contractor's plan to mitigate delay or disruption and subsequent impacts to schedule at the County's request. Provide written narrative describing circumstances that caused delay or disruption and methodology used to determine extent of delay or disruption. Submission of such fragnets does not constitute permission to proceed with plan. Execute some or all of the following remedial actions, and submit a recovery schedule that may include:
 - 3.3.1 Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of work.
 - 3.3.2 Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or combination of the foregoing to eliminate the backlog of work.
 - 3.3.3 Reschedule the work in conformance with the specifications requirements.
4. Before implementing any of the above actions, notify and obtain acceptance from the County. If such actions are accepted, incorporate current CPM contract schedule revisions before next update.
5. Addition of equipment or construction forces, increasing working hours or other methods, manner, or procedure to return to contractually required completion date will not be considered justification for a change order/modification, nor be treated as acceleration where the need for a recovery schedule has been caused by the Contractor and/or its subcontractors or suppliers at any tier.
6. When the Contractor experiences change order/modifications or delays and a time extension is requested, submit to the County a written time impact analysis illustrating the influence of each change or delay on current contract schedule completion date utilizing current CPM contract schedule. Include in each time impact analysis a fragnet demonstrating how the Contractor proposes to incorporate the change order/modification or delay into the current CPM contract schedule. The fragnet shall contain a sequence of new and/or activity revisions that are proposed to be added

to the current CPM contract schedule in effect at the time change or delay is encountered to demonstrate influence of delay and method of incorporating the delay and its impact into the schedule as they are encountered.

- 6.1 Each time impact analysis shall demonstrate estimated time impact based on events of delay, date of change order/modifications, proceed order, or unilateral change order/modification given to the Contractor, status of construction at that point in time, and event time computation of activities affected by change or delay. Event times used in analysis shall be those included in latest version of the current CPM contract schedule, in effect at time change or delay was encountered.
- 6.2 Submit each time impact analysis within ten days after a delay occurs. If the Contractor does not submit a time impact analysis for a specific change order/modification or delay within specified period of time, the Contractor will be deemed to have irrevocably waived rights to additional time and cost.
- 6.3 Because float time within current CPM contract schedule is jointly owned, it is acknowledged and agreed by the Contractor that the County caused delays on the project may be offset by County caused time savings (including, but not limited to: critical path submittals returned in less time than allowed for the contract, acceptance of substitution requests which result in a savings of time along the critical path for the Contractor, etc.). In such an event, the Contractor will not be entitled to receive an extension of time or delay damages until the County caused time savings are exceeded and contract completion data also exceeded.
- 6.4 The County will accept or reject each time impact analysis. Upon acceptance, a copy of a time impact analysis signed by the County will be returned to the Contractor for incorporation into the schedule.
- 6.5 Upon mutual agreement by both parties, incorporate fragnets illustrating the influence of change orders/modifications and delays into the current CPM contract schedule during first update after agreement is reached.
- 6.6 In the event the Contractor does not agree with the decision of the County regarding impact of a change or delay, the County's determination shall govern.

7. The Contractor shall resolve out-of-sequence progress, if any, to provide the actual construction sequence to calculate the current critical path(s) and identify any deviations of interim milestones and/or project completion.
8. As-built schedule – Submit as-built schedule covering work performed under the Contract within 30 days after final completion. As-built schedule – Certified by a planner/scheduler and Contractor's project manager as being the manner in which Contract was executed. Submittal and acceptance of the schedule will be a condition precedent to reduction/release of retainage at the end of the contract.
9. Schedule reviews – The County will review and respond to scheduling submittals within 14 days after submittal, unless a different review period is specified in this section. Submit a revised schedule within seven days after receipt of the County's response if the County requires changes or additional information.
10. Early completion schedule – If the schedule duration proposed by the Contractor is less than the completion date in the NTP, the proposed schedule will not nullify the Contractor's right to the NTP duration. The Contractor agrees that in the event a proposed early completion schedule (or any subsequent update) which is found to be acceptable by the County, indicating a duration which is less than time allowed by Contract for completion of work or of interim milestone, Contract completion time shall only be shortened by a change order/modification to equal Contractor's proposed baseline CPM contract schedule duration.

If the schedule duration proposed by the Contractor is less than the completion date in the NTP, the proposed schedule will not nullify the Contractor's right to the NTP duration.

11. Three week rolling bar chart schedule – Once a week, on a day mutually agreed to by the County and the Contractor, a meeting will be held to assess the progress achieved by the Contractor during previous work week. Submit a project schedule listing activities completed and in progress for the previous week and the activities scheduled for the succeeding two weeks based on the current CPM contract schedule. The three week rolling bar chart schedule shall be provided from the current CPM contract schedule and include all activities scheduled including: activity ID, description, early start and early finish, total float, original duration, remaining duration, percent complete, performance of the activity, and pertinent remarks as to activity status. The schedule shall be submitted to the County before the weekly meeting for review. Submit copies of schedule on 11-inch by 17-inch PDF.

12. Monthly Updated Current Contract Schedule
 - a. One computer generated backup copy of monthly updated current CPM contract schedule file.
 - b. Written narrative for updated current CPM contract schedule.
13. Fragnets
 - a. One computer generated backup copy of fragnet files.
 - b. Written narrative of fragnet assumptions.
14. Contract Time Scaled Network Diagrams – Submit computer generated time-scaled network diagram entitled “Current Time Scaled Network Diagram” with submittal of items referenced below.
 - a. Submit with initial early work schedule submittal.
 - b. Submit every month with updated current CPM contract schedule.
15. Written Narrative Reports – Include a stand alone narrative of sufficient detail to explain basis of Contractor’s submittal with each schedule submittal.
 - 15.1 CPM Contract Schedule Submittals – Explain determination of activity durations and describe Contractor’s approach for meeting required interim and final completion milestone dates, as specified in the Contract. Include as a minimum basis and assumptions used in preparing the submittal, including crew sizes, equipment requirements, and anticipated delivery dates; restraints; critical path activities; production rates; activities requiring overtime or additional shifts; activities that contain time contingencies for impacts to be expected from normal rainfall; holidays and other non-work days; potential problem areas; permits; coordination required with the County; utilities and other parties; and long lead delivery items requiring more than 30 days from order to delivery. Identify work items that may be expedited by use of overtime or additional shifts. Identify and explain sequencing and other constraints such as manpower, material, and equipment. Include listing of holidays and special non-work days.
 - 15.2 Current CPM Contract Schedule Submittals – State in narrative, work actually completed and reflect progress along critical path in terms of days ahead of or behind allowable dates. Specific requirements of narrative are as follows:

- 15.2.1 If updated current CPM contract schedule indicates an actual or potential delay to contract completion date or interim milestone dates as specified under the contract documents or modified by change order/modification, identify causes of delays, disruptions and interruptions and provide explanation of work affected and proposed corrective action to meet milestone dates involved or to mitigate potential delays or disruptions. Document and log in a matrix format activities with non-mitigated negative float until the negative float is mitigated. Identify deviations from previous month's critical path. The matrix will include applicable activity number, description, planned start and finish dates, current start and finish dates, and float quantity.
- 15.2.2 Identify by activity number and description, activities in progress and which activities are scheduled to complete during the next period.
- 15.2.3 Identify by activity number and description, activities to be started during the month following the report period. Show Contractor's forecast early and late start, and finish dates.
- 15.2.4 Discuss added change order/modification work items.

3. EXECUTION

3.1 Baseline CPM Contract Schedule

- 3.1.1 Provide Contractor's detailed activities and sequencing for work included in the contract. Assign unique activity identification for each detailed activity.
- 3.1.2 Indicate Contractor's best estimate for original durations, early dates, late dates, logic ties, constraint dates, and total float. Schedule activities in the sequence which Contractor intends to perform work.
- 3.1.3 Include following activity sequence for major material and equipment procurement:
 - 3.1.3.1 Submittal preparation; review for acceptance; and fabricate/deliver – Divide procurement items that may contain multiple submittals occurring at different time intervals into separate sequences that can be tracked

on individual basis. Include a maximum original duration of 20 working days for re-review. Resubmittal activities shall contain submittal preparation activities for other material and equipment procurement (non-major) to schedule.

3.1.4 Baseline CPM contract schedule activity requirement are as follows:

- 3.1.4.1 Activity descriptions – Briefly convey scope and location of work indicated.
- 3.1.4.2 Activities – Discrete items of work accomplished under contract that provide measurable and recognizable parts of work.
- 3.1.4.3 Include as contract deliverables, submittal and approval of permit applications and variances, samples of materials, shop drawings, working drawings, inspection and test plans, safety and security plans, and site traffic control plans. Include activities of the County that may affect progress as well as those of affected utility companies and other similarly involved third parties. Include activities in the baseline CPM contract schedule as stipulated in general requirements.
- 3.1.4.4 Work activities – Show duration in work days.
- 3.1.4.5 Work activities – Durations of 10 working days or less except for non-construction activities such as procurement of materials, or fabrication of equipment. Should a work activity require more than 10 working days, subdivide work activity to define appropriate work items.
- 3.1.4.6 Critical path is defined as the sequence(s) of activities with the least amount of float.
- 3.1.4.7 Failure to include any element of work required for performance of the contract in baseline CPM contract schedule will not excuse Contractor from completing work required to achieve milestone completion, notwithstanding acceptance of baseline CPM contract schedule submittals.

Activities that are susceptible to weather delays caused by rain shall contain time contingencies for those potential delays. The time contingencies shall be described in the appropriate activity log windows of scheduling software. In scheduling the work, Contractor shall plan for normal rainfall (including its subsequent effects on days following extremely heavy rain).

3.2 Baseline CPM Contract Schedule Changes

When commencing new work associated with a change order/modification, incorporate work into the current baseline CPM contract schedule submittal as new activities after discussion with the County concerning how changes will be placed into the revised baseline CPM contract schedule. After an official change order/modification has been issued for work, add it to the schedule.

3.3 Fragnets

3.3.1 Submit revised current CPM contract schedule within 14 days of request. If Contractor falls behind in prosecution of work, as indicated by negative critical path, or submittal of current CPM contract schedule no longer appears to represent actual prosecution of work.

3.3.2 Properly connect to and constrain by, previously existing predecessor and successor activities, as applicable, activities of revised portion(s) of schedule. Band impacted activities in separate networks (fragnets); indicating specific delay or impact issues and submit to the County for review. Combine approved fragnets into current CPM contract schedule.

3.3.3 Time extensions will be granted only to the extent that equitable time adjustments for activity or activities affected exceed total or remaining float along critical path of activities at time of actual delay, or at time a change order/modification was issued. Float or slack time is not for the exclusive use or benefit of the Contractor but is an expiring resource available to all parties as needed to meet contract milestones and contract completion date. Time extensions will not be granted nor delay damages paid until delay occurs:

3.3.3.1 Which is beyond the control and without the fault or negligence of the Contractor and its subcontractors or suppliers, at any tier; and

3.3.3.2 Which extends actual performance of work beyond applicable current Contract completion date and most

recent date predicted for completion of project on approved schedule update, current as of time of the delay or as of time of issuance of a change order/modification.

3.4 Submittal of Schedule

- 3.4.1 Contractor shall submit the construction schedule within ten (10) calendar days, per Section 00 01 00, Paragraph 1.14e, after receipt of the Notice to Proceed (NTP) on hard copies and CD that is compatible with P6. The Contractor shall provide to the County for review four (4) copies of the construction schedule indicating the sequence of operations, description of the work, calendar definition and duration showing entire job performed within the specified contract time.
- 3.4.2 If the schedule duration proposed by the Contractor is less than the completion date in the NTP, the proposed schedule will not nullify the Contractor's right to the NTP duration.
- 3.4.3 The County shall review the Contractor's construction schedule. The Contractor shall incorporate all the revisions requested by the County and submit the final schedule within seven (7) calendar days of its receipt from the County.
- 3.4.4 The schedule of values shall be prepared and submitted together with the construction schedule.
- 3.4.5 Failure to meet these requirements may result in a determination and recommendation that the Board of Supervisors determine that the successful bidder as non-responsible because such failure reflects the bidder's ability to manage the work.
- 3.4.6 The schedule shall be revised at no additional cost to the County and resubmitted for review when:
 - 3.4.6.1 Changes to contract affect contract completion time.
 - 3.4.6.2 "Slippage" occurs because of procurement delays, rain, strikes and other delays.
 - 3.4.6.3 Any activities are modified from previous submittal.
 - 3.4.6.4 Delay on initial non-critical items is of such magnitude as to change the critical path.

3.5 Responsibility for Completion

The Contractor shall furnish sufficient forces, offices, facilities and equipment, and shall work such hours including night shift and overtime operations, as necessary to ensue the prosecution of the work in accordance with the current monthly construction schedule update. If, in the opinion of the County, the Contractor falls behind in meeting the construction schedule as presented in the current monthly schedule update, the Contractor shall take such steps as may be necessary to improve its progress, and the County may require it to increase the hours of work, the number of shifts, overtime operations and/or the amount of construction plant and equipment without additional cost to the County.

END OF SECTION

SECTION 01 32 33

PHOTOGRAPHIC DOCUMENTATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.
- B. Related Sections include the following:
 - 1. Division 1 Section, Submittal Procedures, for submitting photographic documentation.
 - 2. Division 1 Section, Closeout Procedures, for submitting digital media as Project Record Documents at project closeout.

PART 2 – PRODUCTS

2.01 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in uncompressed TIFF format, produced by a digital camera with minimum sensor size of 4.0 megapixels, and at an image resolution of not less than 1024 by 768 pixels.

PART 3 – EXECUTION

3.01 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the work. Photographs with blurry or out-of-focus areas will not be accepted.

1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
1. Date and Time: Include date and time in file name for each image.
 2. Field Office Images: Maintain one set of images on CD-ROM in the field office at project site, available at all times for reference. Identify images same as for those submitted to Architect and Construction Manager.
- C. Preconstruction Photographs: Before commencement of demolition, or commencement of construction, take digital photographs of project site and surrounding properties, including existing items to remain during construction, from different vantage points.
- D. Periodic Construction Photographs: Take digital photographs weekly, with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- E. Architect or Construction Manager Directed Construction Photographs: From time to time, Architect or Construction Manager may instruct photographer about number and frequency of photographs and subject, general directions or vantage points for photographs. Select actual vantage points and take photographs to show the status of construction and progress since last photographs were taken.

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Submittal Procedures
- B. Construction Progress Schedules
- C. Shop Drawings
- D. Product Data
- E. Samples
- F. Manufacturers' Instructions
- G. Manufacturers' Certificates
- H. Coordinated Drawings
- I. Request for Information
- J. Contractor's Photographs

1.02 SUBMITTALS LIST AND SCHEDULE

- A. Submittal: Within 30 days of submission of List of Submittals, whichever is later, after award of contract, and before submitting items for review, submit two copies of submittals list and schedule.
- B. The Contractor will submit and document all submittals as directed by the County Project Manager.
- C. Schedule: Compile complete schedule of submittals anticipated to be made during progress of work.
 - 1. Include list of each type item for which Contractor's drawings, shop drawings, coordination drawings, product data, samples, certificates of compliance, manufacturer's certificates, warranties, and other types of submittals are required. Include number of Contractor's drawings, shop drawings, and coordination drawings anticipated within each submittal.
 - 2. Sequentially number each submittal. Use original submittal number with sequentially numbered suffix for resubmittals.
 - 3. Allow at least 10 working days, average, for Architect's review of submittals following receipt of submittal, including return to Contractor.

4. Indicate date of submittal by Contractor to Architect and date of receipt of reviewed submittals by Contractor from Architect.
 5. Coordinate schedule with subcontractors and materials suppliers.
 6. On acceptance by Architect, adhere to schedule except when specifically otherwise permitted. Accurately maintain submittal log for duration of contract.
- D. Revisions: Revisions to original submittal list and schedule will only be accepted by the County Project Manager when revisions are required by circumstances not reasonably anticipated by Contractor during preparation of original schedule.

1.03 SUBMITTAL PROCEDURES

- A. Transmit each submittal directly to the County Project Manager on the transmittal.
1. Bind submittals in PDF with label covers.
 2. Include job number as it appears on Contract Documents.
 3. Include state agency application or approval number.
 4. When requested by the County, all submittals shall be submitted by pdf. File.
- B. Sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.
- C. Identify Project, Architect, Contractor, Subcontractor or supplier, manufacturer; pertinent Drawing Sheet and detail number(s) and specification Section number, as appropriate.
1. Provide name and telephone number of individual who may be contacted for further information.
- D. Apply Contractor's stamp with Contractor's original signature or initials affixed thereto, certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents. Stamped signatures or initials are acceptable.

- E. Schedule submittals to expedite the project. Coordinate submission of related items.
 - 1. Make all submittals in accordance with the progress schedule and far enough in advance of scheduled dates of installation to provide required time for reviews for securing necessary approvals for possible revision and submittal and for placing orders and securing delivery.
- F. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of the completed work.
 - 1. Requests for deviations from Contract Documents shall be submitted for consideration before submittal of affected items. Submit in accordance with substitution requirements of Section 01 65 00 Transport, Handling and Storage. Only deviations which have been previously accepted in writing shall be included in submittals.
- G. Provide space for Contractor and Architect review stamps.
- H. Revise and resubmit submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- I. Determine and verify all field dimensions and conditions, materials, catalog numbers and similar data.
- J. Coordinate as required with all trades and all public agencies involved.
- K. Unless otherwise specifically authorized by Architect, make all submittals in groups containing all associated items. Architect may reject partial submittals as not comply with the provisions of this Section.
- L. Resubmittals:
 - 1. Subject to same terms and conditions as original submittal.
 - 2. The County Project Manager will accept not more than one resubmittal.
 - a. Should additional resubmittals be required, Contractor shall reimburse County for Architect's account for time spent in processing additional resubmittals at rate of

2.5 times rate of Direct Personnel Expense (DPE). Direct Personnel Expense is defined as direct salaries of Architect's personnel engaged or Project and portion of costs of mandatory, and customary contributions and benefits related thereto, including employment taxes and other statutory employee benefits, insurance sick leave, holidays, vacations, pensions, and similar contributions and benefits.

1.04 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit as required in Section 01 32 00.

1.05 SHOP DRAWINGS

- A. Submit a schedule of the shop drawings, listing their required submission and review dates to the County Project Manager for approval. The submission time shall be in accordance with the requirements set forth in Section 1.02, Submittals List and Schedule, Paragraph A. The schedule shall allow sufficient time for checking by the Architect. In addition, the shop drawing submission and review dates shall be incorporated into the progress schedule required in the General Conditions.
 - 1. "Elapsed time due to 'Revise and Resubmit' or 'Not Approved' action, indicated, on submittal review (due to inaccurate data or incomplete definition), shall not adversely affect equipment delivery and/or installation schedules".
 - 2. "Allotted time for review/approval process shall be a minimum of ten (10) working days from the date individual submittals are received by the Architect.
- B. Submit newly prepared information, drawn to accurate scale. Highlight, encircle or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as to the basis of Shop Drawings. Standard information prepared without specific reference to the Project will not be approved as Shop Drawings.
- C. Shop Drawings shall include fabrications and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:
 - 1. Dimensions
 - 2. Identification of products and materials included.

3. Compliance with specified standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.
- D. Sheet Size: Except for templates, patterns and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 inch x 11 inch, but not larger than 30 inch x 42 inch in pdf file format.
- E. The Contractor shall review, stamp with his approval as herein required, and submit with reasonable promptness and in orderly sequences, in accordance with the submittal schedule. All shop drawings required by the Contract Documents or subsequently by the Architect as covered by modifications shall be properly identified. At the time of submission the Contractor shall inform the Architect in writing of any deviation in the shop drawings.
- F. Stamp: Each page of shop drawings shall bear the Contractor's stamp, which shall signify the Contractor's representation that he has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained in the shop drawings, all in accordance with the requirements of Section 01 33 00 Submittals. Each stamp shall be accompanied by a wet signature or initial of an employee of the Contractor who may be contacted for information. Stamped signatures or initials are not acceptable.
- G. Submittals not certified by being stamped and signed will be returned without action as well as those, in the Architect's opinion, that have not been adequately reviewed or coordinated by the Contractor.
- H. Method of Review: Submit shop drawings, electronically as a pdf file using as directed by the County Project Manager. Comments or corrections will be noted on the shop drawings and returned to the Contractor, who shall identify all changes made since the previous submittal and resubmit in the same manner. After it is reviewed by the Architect, the shop drawings will be stamped and returned to the Contractor who shall make distribution of copies as required.
- I. The Architect will review and approve shop drawings with reasonable promptness so as not to cause any delay, but only for conformance with the design concept of the project and with the information given in the Contract Documents. The Architect's approval of a separate item shall not indicate approval of an assembly in which the item functions.

1. Contractor shall allow additional time if processing must be delayed to permit coordination with subsequent submittals.
- J. Submittal of shop drawings to the Architect shall be made by the Contractor with a dated transmittal form or letter, and not by subcontractors or suppliers.
- K. The Architect's approval of shop drawings shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Architect in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation, nor shall the Architect's approval relieve the Contractor from responsibility for errors or omissions in the shop drawings.
 1. Notations by the Architect which increase contract or time of completion shall be brought to County Project Manager's attention and authorization by the County shall be obtained before proceeding with work.
- L. No portion of work requiring shop drawings shall be commenced until the shop drawings have been approved by the Architect.
- M. SHOP DRAWING PROCESSING
 1. Requirements for Submittal of Shop Drawings
 - a. Shop drawings shall be submitted directly to the Architect and copy of transmittal to the County Project Manager.
 2. Each shop drawing submitted for review shall have the following information:
 - a. Project Name
 - b. Specs. No.
 - c. Contract No.
 - d. Technical Specifications Section No.
 3. Each item of the submittal must be referenced to the proper item of the specification or drawings.
 4. A signed statement from the General Contractor stating that the submittal has been reviewed by him and that it conforms with the drawings and specifications.

5. Provide a copy of each transmittal to the County Project Manager and Inspector.
6. Types of Approvals
 - a. "No Exception Taken" (Approved). This stamp will be used by the Architect for accepted shop drawings and will qualify the submittal for shop drawing number.
 - b. "Exception Noted" (Approved as Noted). This stamp will be used by the Architect when minor correction will make the submittal acceptable. These corrections will be shown in red on each of the submittals or on a correction list. This approval will qualify the submittal for a shop drawing number.
 - c. "Resubmit" (Rejected). Submittals which do not conform to the drawings and specifications will be returned without stamping or issuance of a shop drawing number. The rejection transmittal will state why the submittal was not acceptable and request that it be resubmitted.

N. Assignment of Shop Drawings Numbers

Each accepted submittal shall be stamped by the Architect and assigned a shop drawing number using either of the following systems. The shop drawing number will be shown on each sheet that is stamped by Architect.

1. A simple numerical sequence may be used whereby each submittal is assigned a number in order of approval (SD-1, SD 2...).
2. A numerical sequence by classification may be used such as SD-S-1 for a Structural Submittal; SD-AC-1 for an Air Conditioning Submittal; SD-C-1 for a Civil Submittal, SD-L-1 for a Landscape Submittal; SD-A-1 for an Architectural Submittal; and SD-X-1 for Miscellaneous Submittals.
3. Material submittals and paint color chips should be assigned a shop drawing number for identification purposes.

O. Transmittal of Submittals

The General Contractor shall submit to the Architect a set of shop drawings which comply with this Exhibit. Upon receipt of the submittal, the Architect will review or have his consultants review the submittal for compliance with the drawings and specifications.

P. Processing

1. Procedure

- a. Shop drawings will be stamped or returned as per Section M of this Exhibit. Accepted and numbered shop drawings shall be returned to the General Contractor. The Architect will provide a pdf copy of approved shop drawings to the County Project Manager, Building Inspector, and Contractor.
- b. The County Project Manager is to check shop drawings for any deviation from the drawings or specifications prior to releasing them to the Contractor. If there are discrepancies in the shop drawings, they should be sent back to the Architect for correction.

1.06 PRODUCT DATA

- A. Submit pdf copy of product data using as directed by the County Project Manager.
- B. Product data shall identify applicable products, models, options and other available data specific to the project requirements.
- C. After review and approval by the Architect, copies will be distributed to the County Project Manager, Building Inspector, and General Contractor. The approved product data sheets shall be retained at the site by the General Contractor to be used for reference.

1.07 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the product with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- B. Unless precisely specified, submit samples of finishes from the full range of manufacturers' standard colors, textures and patterns for Architect selection, or in custom colors selected.

- C. Include identification on each sample with full Project information, as required for Shop Drawings, Item, 1.04 above.
- D. Submit a minimum of three (3) samples or as specified in individual sections of the specifications, two of which will be retained by the Architect.
- E. Reviewed samples which may be used in the work are indicated in individual specification sections.
- F. Approval or rejection of samples will be made by the Architect in writing.

1.08 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting and finishing in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

1.09 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification sections, submit manufacturers' certificate to Architect for review in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

1.10 COORDINATED DRAWINGS

- A. Submit drawings which indicate routing, locations, sizes, types and numbers of components in concealed spaces where potential conflict may occur between structures, mechanical, electrical, fire sprinklers, communications and ceiling suspension systems.

- B. Indicate locations of all ceiling penetrations and surface-mounted items. Provide cross sections at all areas to indicate proper support of ceilings and non-interference with work of other sections of the specifications. Cross sections shall indicate coordination required and proposed solutions for routing of elements where potential conflict exists. A reproduction of Architect's reflected ceiling plan is not acceptable.
- C. Drawings shall be based on field measurements, shop drawings and product data.
- D. Conflicts shall be brought to the County Project Manager's attention immediately.
- E. Submit to the Architect, in writing, requests for clarification or interpretations that will affect the intent of the Contract Documents.
- F. The coordinated drawings shall indicate each class of work in the affected area. The drawing or written submittal shall include Contractor's recommendations for the solution of any potential conflicts as well as recommendations tendered by any work of any section of the specifications which may be affected thereby.
- G. Submit the coordinated drawings in a scale of not less than 1/8" – 1' – 0" with necessary sections and profiles at an appropriate, clearly readable enlarged scale. Submit the coordinated drawings as one reproducible and two blue-line prints as a pdf file using as directed by the County Project Manager.
- H. The Architect will review the submittals, make appropriate notations and comments to ensure the solution meets the intent of the Contract Documents and then return to Contractor for implementation.
- I. The Contractor shall be responsible for the proper coordination of the work of all sections of the specifications in the execution of coordinated drawing. Any installation of materials, components or equipment under one section of the specifications without full and complete agreement, knowledge and consent by fabricators of adjacent or otherwise related or affected work will not be approved.
- J. It shall be incumbent upon the Contractor that all fabricators of work involved in the execution of coordinated drawings be informed, consulted and advised in sufficient advance time to arrive at solutions where no extension of contract time or extra cost to the

County will be approved due to Contractor's negligence in the expeditious, timely submittal of coordinated drawings.

1.11 REQUEST FOR INFORMATION

- A. Submit Request for Information (RFI) or interpretation in writing to the County.
- B. Response will be in writing, by the County, either in the construction field meeting notes or on the RFI itself, within 5 working days of receipt of RFI.
 - 1. No change in cost interpretations or clarifications will be accepted as such.
 - 2. Change in cost interpretation or clarifications will institute a Change Order procedure.

1.12 CONSTRUCTION PHOTOGRAPHS

- A. Submit with payment request monthly. See Section 01 32 33.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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SECTION 01 33 23

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Submittals
 - 1. Shop drawings.
 - 2. Product or catalog data.
 - 3. Samples.
- B. The Contractor will prepare and submit shop drawings as directed by the County Project Manager.
- C. Related work specified elsewhere.
 - 1. Operating and maintenance manuals.
 - 2. Spare parts or hardware lists.
 - 3. Tests and certificates.

1.02 DEFINITIONS

- A. Shop Drawings
 - 1. Original drawings prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate some portion of the work; showing fabrication, layout, setting or erection details.
 - 2. Identify details by reference to sheet and detail numbers shown on Contract Drawings.
- B. Product or Catalog Data
 - 1. Manufacturers standard drawings modified to delete nonapplicable data or include applicable data.
 - 2. Manufacturers catalog sheets, brochures, diagrams, schedules, charts, illustrations or other descriptive data. Mark each copy to identify pertinent dimensions, materials, products or models.

C. Samples

1. Physical examples to illustrate materials, equipment or workmanship.
2. Office samples to show functional characteristics of product or material. Submit with full range of colors available.
3. Field samples and mock-up; erect at site in location acceptable to Project Manager.

1.03 CONTRACTOR'S RESPONSIBILITIES

A. Prior to Submittal

1. Review and approve Shop Drawings, Product Data and Samples prior to submission to the Department.
2. Coordinate each submittal with work of the project and Contract Documents so as to cause no delays in the work.
3. By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the work and of the Contract Documents.
4. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Department's acceptance unless the Contractor has specifically informed the Department in writing of such deviation at the time of submission and the Department has given written acceptance to the specific deviation.
5. Contractor's responsibility for errors and omissions in submittals or deviations from Contract Documents is not relieved by the Department's review of submittals.
6. The Contractor shall direct specific attention, in writing or on submitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Department on previous submittals.

B. After Submittal

1. Begin no work which requires submittals until return of such submittals with the Department's stamp and signature indicating review.
2. Distribute copies of submittals to subcontractors, suppliers or manufacturers as their interests appear.

1.04 IDENTIFICATION OF DATA

A. All submittals for review shall have the following identification data, as applicable, contained thereon or permanently adhered to.

1. Project Name and Location
2. Specifications Number
3. Subcontractor's, Vendor's, and/or Manufacturer's Name, Address and Phone Number
4. Product Identification
5. Shop Drawing Title, Contractor's Drawing Number, and Date of Drawing and Revisions
6. Applicable Contract Drawings and Specifications Section Numbers
7. Contractor's Approval, Signature and Date

B. Submittal Format

Submittal No.	_____
Project Name	_____

Specifications No.	_____
Product	_____
Section No.	_____
Supplier	_____

We have reviewed the submitted, and have verified that it meets the criteria required in accordance with the plans and specifications.

Contractor's Name _____

Signature _____

Title _____

C. Catalog Data

1. Each separate catalog, brochure or single page data sheet submitted shall have the identification required and the Contractor's approval.
2. Catalogs or brochures containing multiple items for review need identification only on the cover. Identify page numbers and catalog items.
3. In the event that one or more of the multiple items are not accepted in any submittal, additional copies required will not be required until all items are accepted.
4. Provide a space approximately 4" x 4" for the Department to affix its status stamp.

1.05 COLOR AND FINISH SELECTION

A. Contractor Submittals

1. Submit as soon as practical, subsequent to award of contract, names of manufacturers and pertinent products or materials proposed for use in which a color selection is required.
2. Submit standard color charts or samples as requested by the District. All items for color selection must be submitted prior to issuance of any approvals.
3. Contractor is responsible for submitting products that comply with technical specifications.

1.06 SUBMISSION REQUIREMENTS

- A. Submit all Shop Drawings, Product or Catalog Data and Samples to the District by transmittal containing identification of project, specifications number and identification of items being submitted.

B. Product Data

1. Original Submittal – PDF file format all Shop Drawings and/or Product Data for review in ample time to coordinate necessary features of construction with all fabrication and installation requirements.
2. Resubmittal – When required, copies will be returned to Contractor. After revision submit new copies as stipulated for original submittal. Indicate all changes.

C. Samples

1. Original Submittal – Furnish three (3) samples, unless otherwise specified, of each item for which samples are required for review. Obtain review prior to delivery of material to project site. Such samples shall be representative of actual material proposed for use in project and of sufficient size to demonstrate design, color, texture, and finish.
2. Resubmittal – All rejected samples will be returned upon request. All resubmittals shall consist of three (3) samples.

1.07 REVIEW AND PROCESSING

A. General

1. The Department will review and accept or take other appropriate action upon Contractor's submittals for conformance with the design concept of the work and with the information given in the Contract Documents. Acceptance of a specific item shall not indicate acceptance of an assembly of which the item is component.
2. Submittals not approved by the Contractor will be returned to Contractor. Submittals will not be reviewed or accepted by the Department or Architect without Contractor's prior approval.

B. Review

1. Product Data – After review, a PDF file format bearing the Department's review stamp and signature will be returned to Contractor.

2. Samples – After review one (1) sample will be returned and the remainder will be retained by the Department until completion of the work.

END OF SECTION

SECTION 01 35 46

INDOOR AIR QUALITY PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Example Indoor Air Quality Management Plan

SUBMITTALS [Note to AE: Identify relevant LEED point requirements for the Project. Include requirements for the following:]

- A. Indoor Air Quality Management Plan: Describe in detail measures to be taken to promote adequate indoor air quality; use SMACNA IAQ Guideline for Occupied Buildings Under Construction.
 - 1. Submit IAQ Plan at pre-construction meeting. See Exhibit 01 35 46–1, Example Indoor Air Quality Management Plan.
 - 2. Identify construction activities likely to produce odor or dust.
 - 3. Identify areas of project potentially affected, especially occupied areas.
 - 4. Evaluate potential problems by severity and describe methods of control.
 - 5. Describe construction ventilation to be provided, including type and duration of ventilation, use of permanent HVAC systems, types of filters and schedule for replacement of filters.
 - 6. Describe cleaning and dust control procedures.
 - 7. Describe commissioning procedure.
- B. Identify interior finishes that generate odors, moisture, or vapors or are susceptible to absorption of odors and vapors, and indicate air handling zone, sequence of application, and curing times.
- C. Provide a LEED Letter Template, signed by the General Contractor declaring that a Construction IAQ Management Plan has been developed and implemented, and including the MERV value of each air filter used during construction and at the end of construction.
- D. Provide 18 photographs – six photographs taken on three different occasions during construction – along with identification of the SMACNA approach featured by each photograph, in order to show consistent adherence to the LEED credit requirements.

INDOOR AIR QUALITY PROCEDURES

1. As an alternative to providing photographs, declare which of the five Design Approaches of SMACNA IAQ Guideline for Occupied Buildings under Construction which were used during building construction. Include adequate description of the design approaches employed.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 IMPLEMENTATION

- A. An Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building as follows:
 1. Controls, sequences, permanent equipment/systems shall meet the Design Intent / Basis of Design in accordance with the Project's schedule without imposing hardship to the Commissioning requirements and schedule.
 2. Meet the recommended Design Approaches of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guideline for Occupied Buildings under Construction, Chapter 3.
 3. Protect stored on-site or installed absorptive materials from moisture damage.
 4. HVAC equipment and supply air ductwork shall not be used for ventilation during construction without meeting the following criteria as specified in the IAQ.
 - a. Meet all requirements of *Section 01 76 00 - Protecting Installed Construction*.
 - b. Coordinate with the Ventilation Contractor to avoid the use of return air ducting.
 - 1) Seal return air inlets or otherwise positively isolate return air system to prevent recirculation of air; provide alternate return air pathways.
 - c. If the Permanent Design does not permit temporary isolation of Return Ducting then filtration media with a Minimum Efficiency Reporting Value (MERV) of 11 shall be used at each return air grill.
 - 1) Within Design parameters, operate HVAC system on 100 percent outside air.
 - d. Ensure that all air filters are correctly installed prior to starting use. Replace all filtration media at a minimum of weekly or sooner as necessary to maintain cleanliness. Replace all filtration immediately prior to occupancy. Provide filtration media having a Minimum Efficiency Reporting Value as scheduled maintaining LEED compliance.

INDOOR AIR QUALITY PROCEDURES

- B. Prior to permanent use of return air ductwork without intake filters, clean up and remove dust debris generated by construction activities using a HEPA vacuum cleaning system.
- C. Do not perform dusty or dirty work after starting use of return air ducts without intake filters.
- D. Prevent the absorption of moisture by:
 - 1. Sequencing the delivery of such materials so that they are not present in the building until wet work is completed and dry.
 - 2. Delivery and storage of such materials in fully sealed moisture-impermeable packaging.
 - 3. Provide sufficient TEMPORARY ventilation for drying. Permanent equipment may be allowed to be used once all Contractor-submitted care provisions have been approved by Owner.
- E. Begin construction ventilation only when building envelope is sealed. When working in a portion of an occupied building, prevent movement of air from construction area to occupied area.

* * *

SECTION 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Tests.
- B. Inspections.
- C. County will employ and pay for the services of an Independent Testing Laboratory or Soils Engineer to perform specified testing and/or inspections.
- D. Related requirements specified elsewhere:
 - 1. Refer to the various trade sections for specific test and inspection requirements.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

- A. Los Angeles County Building Code.
- B. Uniform Building Code Standards, as applicable.
- C. California Code of Regulations.
 - 1. Title 17 and 24.

1.03 QUALITY ASSURANCE

- A. General Test Requirements. Materials to be furnished under the Contract are subject to testing and inspection for compliance with requirements of Drawings and Specifications.
- B. Testing Laboratory or Agency shall be the licensed Testing Laboratory or Agency meeting the requirements of ASTM E-329, designated by the County and referred to hereafter as the Testing Laboratory. Perform all testing under supervision and control of a California registered professional engineer employed by the Testing Laboratory.
- C. Soils or Foundation Engineer will be the registered professional Geotechnical Engineer employed and paid by the County.
- D. Disqualified Material. Any material shipped or delivered to the site by the

Contractor from the source of supply prior to having satisfactorily passed the required testing and inspection, or prior to the receipt of a notice from the County or Architect that such testing and inspection will not be required, shall not be incorporated in the Work.

1.04 QUALITY CONTROL

A. Earthwork.

1. Approval of fill material.
2. Compaction tests.
3. Inspection of subgrades and excavations.

B. Concrete.

1. Materials.
 - a. Portland cement tests.
 - b. Concrete aggregates.
 - c. Reinforcing bars.
2. Concrete quality.
 - a. Concrete mix designs.
 - b. Strength tests of concrete.
3. Concrete inspection.
 - a. Job site inspection.
 - b. Batch plant or weighmaster inspection.

C. Masonry.

1. Materials.
 - a. Tests of brick or block masonry units.
 - b. Tests of mortar and grout materials.

- c. Reinforcing steel bars.
 - 2. Mortar and grout quality.
 - a. Strength tests for mortar and grout
 - 3. Masonry inspection.
 - a. Job site inspection.
- D. Structural steel and metal deck tests and inspections.
 - 1. Materials.
 - a. Material identification and certification.
 - b. Testing of unidentified material.
 - 2. Inspection of structural steel, light gage steel deck and welding.
 - a. Welding inspection (shop and field).

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials to be tested and/or inspected as specified in respective sections.

PART 3 - EXECUTION

3.01 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with laboratory personnel, provide access to Work.
 - 1. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the Work of the Contract.
- B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- C. Furnish copies of products test reports as required.
- D. Furnish incidental labor and facilities:
 - 1. To provide access to Work to be tested.

2. To obtain and handle samples at the Project site or at the source of the product to be tested.
 3. To facilitate inspections and tests.
 4. For storage and curing of test samples.
- E. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.
1. When tests or inspections cannot be performed after such notice, reimburse County for laboratory personnel and travel expenses incurred due to Contractor's negligence.
- F. Make arrangements with laboratory and pay for additional samples and tests required for Contractor's convenience.

3.02 FIELD QUALITY CONTROL

A. Tests.

1. County will select an independent testing laboratory to conduct tests. Selection of material required to be tested shall be by the laboratory or County's representative and not by Contractor.
2. Contractor shall notify County in sufficient time in advance of manufacture of material to be supplied, which must by terms of the contract be tested, in order that the County may arrange for testing.
3. County will select and pay testing laboratory costs for all tests and inspection, except as provided elsewhere in this section.

B. Test reports.

1. One copy of all test reports shall be forwarded to the County by the testing agency. Such reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Sample taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of (Title 24) and with the approved specifications. Test reports shall show the specified design strength. They shall also state definitely whether or

not the material or materials tested comply with requirements.

C. Verification of test reports.

1. Each testing laboratory shall submit to the County a verified report in duplicate covering all of the tests which were required to be by that laboratory during the progress of the project. Such report shall be furnished each time that work on the project is suspended, covering the tests up to that time, and at the completion of the project, covering all tests.

D. Inspection.

1. The County shall at all times have access for the purpose of the inspection to all parts of the work and to the shops wherein the work is in preparation, and the Contractor shall at all times maintain proper facilities and provide safe access for such inspection.
2. The County shall have the right to reject materials and workmanship which are defective, or to require their correction. Rejected workmanship shall be satisfactorily corrected and rejected materials shall be removed from the premises without charge to the County. If the Contractor does not correct such rejected work within a reasonable time, fixed by written notice, the County may correct same and charge the expense to the Contractor.
3. Should it be considered necessary or advisable by the County at any time before final acceptance of the entire work to make an examination of work already completed by removing or tearing out the same, the Contractor shall on request promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any respect due to fault of the Contractor or his subcontractor, he shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor.
4. Reimbursement of Inspection Costs. Contractor shall reimburse the County all or any part, of the actual excessive inspection costs incurred by the County due to any or all of the following.
 - a. Contractor's failure to complete the Work within the Contract

Time and any previously authorized extensions thereof.

- b. Claims between separate contractors.
- c. Covering of any of the Work before the required inspections or tests are performed.
- d. Extra inspections required for Contractor's correction of defective Work.

E. Inspector.

- 1. An Inspector employed by the County will be assigned to the Work.
- 2. The work of construction in all stages of progress shall be subject to the personal continuous observation of the Inspector. He shall have free access to any or all parts of the work at any time. The Contractor shall furnish the Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this Contract.

* * *

SECTION 01 50 00

TEMPORARY FACILITIES

1 - GENERAL

1.01 DESCRIPTION

- 1.02 Office.
- 1.03 Storage structure.
- 1.04 Telecommunications.
- 1.05 Hardware and Software Requirements.
- 1.06 Toilets.
- 1.07 Protection from Weather.
- 1.08 Utilities.
- 1.09 Construction signboards.
- 1.10 Temporary chain link fencing.
- 1.11 Temporary Walkways and Driveways
- 1.12 Storage of materials.
- 1.13 Parking.
- 1.14 Staging areas.

1.02 OFFICE

Contractor shall provide a separate office facility for County's use, of at least 150 square feet. Facility shall have a lockable exterior door, screened windows, heating and air conditioning, a six foot wide desk with drawers, plan tables, plan rack, bookcase, shelf, a minimum three drawer file cabinet and at least three chairs. This facility shall be provided in addition to Contractor's office.

1.03 STORAGE STRUCTURE

Contractor shall provide and maintain on the premises, where directed, watertight storage structure for all materials which might be damaged by weather, including storage facilities for concrete test samples or other material samples required for work.

1.04 TELECOMMUNICATIONS

1. Telephone

Contractor shall provide, at his own expense, two (2) non-pay telephones limited to local calls. One line for use of Contractor and a separate private line for use by Department and their authorized representatives respectively. Telephones shall be provided with bells located outside of field office. Local calls are considered to be those within 213, 310, 323, 562, 626, 714, 818, 909, and 949 area codes.

2. Facsimile (FAX)

Contractor shall provide, at his own expense, a standard business FAX machine at job site for County use in the same area codes as specified above.

3. Digital Subscriber Line (DSL)

Contractor shall provide, at his own expense, one (1) DSL line for use by Contractor and the County and their authorized representatives respectively.

4. Virtual Private Network Card (VPN)

Contractor shall provide, at his own expense, one (1) VPN Card for access into the County network to be returned to the County at acceptance of the project.

1.05 HARDWARE AND SOFTWARE REQUIREMENTS

- A. The Contractor shall provide two computers for the project. One computer shall be for the Public Works Project Team's use, and the remaining computer shall be for the Contractor's use. Both computers shall be maintained by the Contractor until the project is substantially complete, at which point the computer for the Public Works Project Team's use will become Public Works' property.

The Contractor shall provide the following minimum hardware and software requirements for both computers:

- Windows XP Professional, Novell Netware 5.x
- 19" viewable widescreen monitor with contrast ratio of 800.1 and speakers (Dell 1908FP+AS501).
- Intel Pentium D, Duo Core 2, or better
- Video Card with 128 MB memory
- 2 GB of RAM memory
- CD-Rom drive

B. Security Requirements

For the above noted computers, the Contractor shall provide the following minimum security requirements:

- Installation of anti-virus software
- Upgrade virus definitions as they become available
- Upgrade Microsoft patches (critical and security) and services packs as they become available
- Installation of firewall (hardware or personal) for broadband Internet access (DSL, cable modem, etc.)
- Maintain confidentiality of log-on ID, password, and SecureID passcode (for VPN)

1.06 TOILETS

Contractor shall install and maintain in a sanitary condition, suitable chemical toilets for use of workmen. Toilets shall be in a location approved by the Department. There shall be a minimum of one (1) toilet for each multiple of twenty (20) Contractor's employees, or fractional part thereof, working at the job site. The temporary restroom facilities shall be serviced a minimum of three (3) times a week.

1.07 PROTECTION FROM WEATHER

The existing building structure and interior finish and furnishings shall be protected from rain, dew, wind, and all other elements of the weather during periods when roof areas are unprotected by roofing or when breaches are present in exterior walls. Such areas shall be covered with weathertight tarpaulins or roofing materials firmly secured or by other approved methods. Refer to General Conditions. When, in the opinion of the Department, breaches in roof or wall areas afford access to unauthorized persons, the Contractor shall, at no additional expense to the County, construct at such breaches, substantial barricades of type and material as approved by the Department.

1.08 UTILITIES

The Contractor shall arrange for and provide all utility services necessary to the work, including electrical current for power and light, and water supplies; or at Contractor's option, he may use free of charge, available County utility services as may exist on the site. Motors connected to County electrical circuits shall not exceed 1/3 horsepower. Contractor shall provide, maintain and remove upon completion of work, all temporary connecting lines to sources of supplies, and temporary meters and accessories as needed.

The Contractor shall bear all expenses involved in the provisions of providing and connecting all temporary utility services. The County will assume payment for utility service charge at the time the various permanent meters are set. Refer to Project General Requirements section for permanent utility services.

1.09 CONSTRUCTION SIGNBOARDS

Refer to article entitled "Advertising" of the General Conditions. Prior to any ground breaking operation or in the case ground breaking is not required, within ten (10) days after award of contract, the Contractor shall furnish and erect two (2) identification signboards 4'-0 x 8'-0 in size, constructed of 3/4" exterior grade plywood within a frame, supported on posts, and adequately braced to resist wind stresses. The sign background shall be painted with two (2) coats of exterior type paint over a suitable primer and lettered with block letters professionally applied. The signboard shall set forth, in sequence, the following information with the layout as directed by the Department.

BARRY J. NIDORF SECURE YOUTH TRACK FACILITY SECURITY AND
KITCHEN UPGRADES PROJECT
County of Los Angeles
Board of Supervisors

Lindsey P. Horvath	3rd District
Hilda L. Solis	1st District
Holly J. Mitchell	2nd District
Janice Hahn	4th District
Kathryn Barger	5th District

Fesia Davenport, Chief Executive Officer, Chief Executive Office
Mark Pestrella, Director, Department of Public Works
Guillermo Viera Rosa, Chief Probation Officer, Department of Probation

JTC Architects, Inc.
Name of Contractor

In addition, individual signs of Contractors, subcontractors and materialmen may be displayed as approved.

Signs shall be promptly removed by the Contractor or by the owner, if individually owned, upon completion of the work. The size, construction, subject matter and location of all signs shall be subject to the approval of the Department.

1.10 TEMPORARY CHAIN LINK FENCING

1. The Contractor shall provide and maintain a 6 ft. high chain link fence around the construction area(s) consisting of 11 gauge (minimum) x 2" mesh chain link fabric attached to substantial steel pipes spaced at 10 feet on center maximum. Provide top and bottom tension wires and corner post bracing. Provide chain link gates with welded steel pipe frames and all hardware required for proper operation. Fencing shall not have any loose or easy to remove tie wires, hog rings, etc.

2. Provide and maintain the County specified chain link fence enclosures around each jobsite with vehicle and man gates as specified by the County.
3. Obtain and pay for all required permits and inspections. Construct in accordance with applicable codes and regulations of public agencies having jurisdiction.

1.11 TEMPORARY WALKWAYS AND DRIVEWAYS

- A. All new temporary walkways shall be properly joined or tied in with existing walkways. All permanent walkways shall consist of concrete.
- B. Areas where temporary walkways or driveways have been installed shall be returned to their condition prior to construction.

1.12 STORAGE OF MATERIALS

Storage of materials shall be only within areas designated by the Department.

1.13 PARKING

The Contractor and subcontractor employee parking is restricted to parking onsite or as approved by the County.

1.14 STAGING AREAS

Contractor shall coordinate with County for location, extent and type of construction staging areas.

* * *

SECTION 01 57 00

STORM WATER POLLUTION PREVENTION

PART 1 - GENERAL

1.01 Water Pollution Control.

1.02 Best Management Practices (BMPs). Apply BMPs for project that disturbs less than 1 acre of soil.

1.03 Terms and Definitions.

- 1. Active Areas of Construction** - areas subject to land surface disturbance activities related to the Project including, but not limited to, the Project site, staging areas, immediate access areas, and storage areas. Previously active areas will be considered active areas until temporary or final soil stabilization BMPs are implemented.
- 2. Accumulated Precipitation Procedure (APP)** – the methods and procedures for management and discharge of accumulated precipitation on the Project site.
- 3. Best Management Practices (BMPs)** - shall be defined as specified in the permits listed in 1.05.
- 4. BMP Manager** - an individual who meets the requirements of Los Angeles Regional Water Quality Control Board MS4 Permit Order No. R4-2012-0175-DWQ, Section VI. D. 8. L ii (2).
- 5. BMP Manual** - the edition of the Los Angeles County Department of Public Works Construction Site Best Management Practices (BMPs) Manual in effect as of the date of advertisement of the Contract.
- 6. Exposed Soil** - native soil left exposed as the result of uncovering, removal of vegetation or pavement, grading, excavation, or any other construction activity. Soil protected with temporary soil stabilization BMPs will not be considered exposed soil.
- 7. Inactive Disturbed Soil Areas (DSA)** – areas that have been disturbed and have not or will not be disturbed for at least 14 Days.
- 8. Non-Storm Water Discharges** - discharges that do not originate from precipitation events.
- 9. Run-On** - storm water discharges that flow onto the Project site.

10. Run-On Control BMPs - BMPs used to divert or direct run-on either around or through the Project site.

1.04 Abbreviations.

<u>Abbreviation</u>	<u>Word or Words</u>
APP	Accumulated Precipitation Procedure
BMP	Best Management Practice
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board

1.05 General. This Project lies within the boundaries of the County of Los Angeles and shall conform to the following requirements:

- a) Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, and the Incorporated Cities therein, except the City of Long Beach (Order No. R4-2012-0175. NPDES Permit No. CAS004001). Within the City of Long Beach (Order No. 99-060, NPDES Permit No. CAS004003).
- b) Within the unincorporated areas of the County of Los Angeles, Los Angeles County Code, Chapter 12.80.

1.06 Best Management Practices (BMPs).

- a) **General.** The Contractor shall effectuate a year-round program for implementing, inspecting, and maintaining BMPs for wind erosion control, tracking control, erosion and sediment control, non-storm water control, and waste management and materials pollution control.

Best Management Practices conforming to the "Minimum Requirements" specified in Table 1.06 shall be implemented throughout the duration of the Project. The Contractor shall be responsible for the implementation, maintenance, and inspection of BMPs throughout any temporary suspension of the Work or designated construction moratorium.

The National Weather Service weather forecast shall be monitored by the Contractor on a daily basis. Whenever a rain event is predicted, the contractor shall implement all required BMPs according to the BMP Manual and these Special Provisions.

- i. **BMP Manual.** Water pollution control work shall conform to the requirements in the BMP Manual. BMP Manual may be accessed at Public Works' Contracts Opportunities, <https://dpw.lacounty.gov/contracts/opportunities.aspx>, under **County Sites links (scroll to the bottom of the page)**.

The Contractor shall have a minimum of one readily accessible copy of the BMP Manual on the Project site at all times.

- b) BMP Manager.** The Contractor shall designate a BMP Manager who meets the requirements of Los Angeles Regional Water Quality Control Board (RWQCB) MS4 Permit Order No. R4-2012-0175-DWQ, Section VI, D. 8.I.ii (2).

MS4 Permit Order No. R4-2012-0175-DWQ, Section VI, D. 8.I.ii (2):

"Each Permittee shall ensure that its inspectors are knowledgeable in inspection procedures consistent with the State Water Board sponsored program QSD or a Qualified SWPPP Practitioner (QSP) or that a designated person on staff who has been trained in the key objectives of the QSD/QSP programs supervises inspection operations. Each Permittee may provide internal training to staff or require staff to obtain QSD/QSP certification. Each inspector must be knowledgeable of the local BMP technical standards and ESCP requirements."

The BMP Manager shall have the responsibility and authority to fully implement, maintain and inspect the required BMP's in accordance with the Contract Documents and as directed by the County Project Manager. The BMP Manager shall be fully knowledgeable of the requirements in the BMP Manual.

The designated BMP Manager's name and qualifications shall be submitted in accordance with MS4 Permit Order No. R4-2012-0175-DWQ, Section VI, D. 8.I.ii (2), prior to issuance of the Construction Contract, Part 2 NTP.

- c) Minimum Requirements.** The Contractor shall implement an effective combination of erosion and sediment controls and maintain the appropriate Construction Site BMPs shown in Table 1.06. The BMPs shown in this table meet or exceed the Waste Discharge Requirements referenced in 1.05.

Table 1.06 Construction Site BMPs		
ID	BMP Name	Minimum Requirement
Temporary Soil Stabilization		
SS-1	Scheduling	X
SS-2	Preservation of Existing Vegetation	X
SS-3	Hydraulic Mulch	
SS-4	Hydro seeding	
SS-5	Soil Binders	
SS-6	Straw Mulch	
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats	X
SS-8	Wood Mulching	
SS-9	Earth Dikes/Drainage Swales & Ditches	
SS-10	Outlet Protection/Velocity Dissipation Devices	
SS-11	Slope Drains	
SS-12	Streambank Stabilization	
Temporary Sediment Control		
SC-1	Silt Fence	X

SC-2	Sediment/Desilting Basin	
SC-3	Sediment Trap	
SC-4	Check Dam	
SC-5	Fiber Rolls	X
SC-6	Gravel Bag Berm	X
SC-7	Street Sweeping and Vacuuming	X
SC-8	Sandbag Barrier	X
SC-10	Storm Drain Protection	X

Wind Erosion Control		
WE-1	Wind Erosion Control	X
Tracking Control		
TC-1	Stabilized Construction Entrance/Exit	X
TC-2	Stabilized Construction Roadway	
TC-3	Entrance/Outlet Tire Wash	
Non-Storm Water Management		
NS-1	Water Conservation Practices	X
NS-2	Dewatering Operations	X
NS-3	Paving and Grinding Operations	X
NS-4	Temporary Stream Crossing	
NS-5	Clear Water Diversion	
NS-6	Illicit Connection/Illegal Discharge Detection and Reporting	X
NS-7	Potable Water/Irrigation	X
NS-8	Vehicle Equipment Cleaning	X
NS-9	Vehicle Equipment Fueling	X
NS-10	Vehicle Equipment Maintenance	X
NS-11	Pile Driving Operations	
NS-12	Concrete Curing	
NS-13	Material and Equipment Use Over Water	
NS-14	Concrete Finishing	
NS-15	Structure Demolition Over or Adjacent to Water	
NS-16	Temporary Batch Plant	
Waste Management and Material Pollution Control		
WM-1	Material Delivery	X
WM-2	Material Use	X
WM-3	Stockpile Management	X
WM-4	Spill Prevention and Control	X
WM-5	Solid Waste Management	X
WM-6	Hazardous Waste Management	X
WM-7	Contaminated Soil Management	
WM-8	Concrete Waste Management	X
WM-9	Sanitary/Septic Waste Management	X
WM-10	Liquid Waste Management	X

Additional BMPs may be required as a result of actual field conditions, Contractor activities, or construction operations.

Year-Round Implementation Requirements. Implementation shall conform to the requirements in the BMP Manual and the following:

Temporary Soil Stabilization

- ii. Active Areas of Construction shall be stabilized and temporary sediment controls implemented prior to a rain event.

Temporary Sediment Control

- iii. Sediment shall not be discharged offsite or to the storm drain system or receiving waters.
- iv. Stockpiles shall be removed from roadways at the end of each work day and shall be covered and bermed with perimeter sediment controls prior to every rain event and when not in use.

Wind Erosion Control

- v. Wind erosion control BMPs shall be implemented in conformance with the requirements of the jurisdictional air quality regulatory agency.

Tracking Control

- vi. Each entrance to, and exit from, the Project site shall be stabilized. Traffic entering/exiting the Project site shall be directed so as to only use such stabilized entrances/exits. Tracking of mud and/or sediment onto paved surfaces shall be removed by the end of each Day.

Non-Storm Water Management

- vii. Accumulated precipitation shall be discharged in accordance with the Accumulated Precipitation Procedure, Section 7.2 of the BMP Manual.
- viii. BMP Manual may be accessed at Public Works' Contracts Opportunities, **County Sites links**, <https://dpw.lacounty.gov/contracts/opportunities.aspx>
- ix. Non-storm water BMPs shall be implemented to prevent un-authorized discharges.
- x. Non-storm water discharges shall be in compliance with Section III of the Waste Discharge Requirements referenced in 1.05.

Waste Management and Material Pollution Control

- xii. Material and waste stockpiles shall be covered prior to all rain events.
 - xiii. Stockpiles of temporary asphalt concrete ("cold mix") shall be covered at all times.
 - xiii. The Contractor shall have a minimum of 3 spill response cleanup on the Project site at all times.
 - xiv. Spills and leaks shall be cleaned up within one hour after spillage and disposed of off the Project site.
 - xv. Concrete waste shall be contained in a concrete washout bin. At grade and below grade washouts are prohibited. There shall be no discharge of concrete washout or waste into the underlying soil or onto the surrounding areas. Concrete waste shall be considered as including, but not be limited to, slurry, cement, wash waters, additives, or grout.
- 1.07 **Accumulated Precipitation Procedure (APP).** The Contractor shall prepare an accumulated precipitation procedure (APP) for review and approval by the County Project Manager before any discharge from the Project site and as required by the County Project Manager. The APP shall describe the location of proposed discharges, the BMPs to be implemented (e.g., NS-2), and the actual equipment to be used. The APP shall be prepared and submitted in accordance with BMP NS-2 and Section 7 of the BMP Manual, <https://dpw.lacounty.gov/contracts/opportunities.aspx>
- 1.08 **BMP Inspections.** The Project site shall be inspected by the BMP Manager and documented on the LACDPW BMP checklist (contained in the BMP Manual) as follows:
- a) Within 24 hours prior to a rain event.
 - b) Within 48 hours after a rain event (0.01 inch or more of accumulated precipitation).
 - c) At 24-hour intervals during extended rain events.
 - d) Once every week.
- 1.09 **Non-Storm Water Discharge Reporting.** If the Contractor identifies any non-storm water discharge(s) as identified in Section III of the Waste Discharge Requirements referenced in 1.05, or if the Project receives a written notice or order from any regulatory agency, the Contractor shall so inform the County Project Manager within 24 hours. The Contractor shall submit a written report to the County Project Manager within 5 Days of the discharge event, notice or order. The report shall include the following information:
- a) The date, time, location, nature of the operation and type of discharge, including the cause or nature of the notice or order.
 - b) The BMPs implemented before the discharge event, or prior to receiving the notice or order.

- c) The date of deployment and type of water pollution control practices deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent recurrence.
- d) The Contractor shall conduct applicable water quality monitoring per the MS4 Permit Order No. R4-2012-0175-DWQ, Section VI, D. 8.I.ii (2) Section III A.4 and Table 8 of the Waste Discharge Requirements referenced in 1.05.

1.10 **Progressive Enforcement.** The Agency, as a permittee, is subject to enforcement action by the State Water Resources Control Board (SWRCB), Environmental Protection Agency, private citizens and citizen groups. The Contractor shall notify the County Manager immediately following receipt of a request from any jurisdictional regulatory agency, to enter, inspect, sample, monitor or otherwise access the Project site or the Contractor's records pertaining to water pollution control.

The Agency will assess the Contractor a penalty of \$1,000 for each Day that the Contractor fails to fully-comply with the specified requirements. The penalty will be deducted from Contract progress payments due the Contractor.

The Contractor shall be responsible for the costs and liabilities imposed by law as a result of its failure to fully-comply. Costs and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the Agency or the Contractor, including those levied under the Federal Clean Water Act and the State Porter Cologne Water Quality Act. In addition the Agency will deduct, from any monies due the Contractor, the total amount of any legal fees, staff costs, and consultant fees.

Payment. Payment for the implementation of BMPs, including the BMP Manager, construction, deployment, inspection, maintenance, removal, and the furnishing of all necessary labor, equipment, materials, and all other related costs shall be considered as included in the lump sum Bid price for "IMPLEMENTATION OF BMPs."

Payment will be prorated on a monthly basis over the duration of the Contract.

SECTION 01 57 19

TEMPORARY AND ENVIRONMENTAL CONTROLS

SECTION 1 - GENERAL

1.1 SUMMARY

This section establishes general control requirements for protection of land and water resources; control of noise, dust, and debris, and other environmental pollution; regulation traffic, and control of other activities of the Contractor and the Contractor's subcontractors in performance of the work of the contract.

1.2 DEFINITIONS

- A. Environmental pollution and damage means the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to human life; affect other species of importance to humanity; or degrade the utility of the environment for aesthetic, cultural, or historical purposes.
- B. Sediment means soil and other debris that has been eroded and transported by storm or well production runoff water.
- C. Inert solids/inert waste means non-liquid solid waste including, but not limited to, soil and concrete, that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established pursuant to Division 7 of the California Water Code and does not contain significant quantities of decomposable solid waste.
- D. Inert fill means a permitted facility that accepts inert waste such as asphalt and concrete exclusively.
- E. Construction and demolition waste includes solid wastes such as building materials, packaging, rubbish, debris, and rubble resulting from construction, remodeling, repair, and demolition operations.

1. Rubbish includes both combustible and noncombustible wastes such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans, and bones.
 2. Debris includes both combustible and noncombustible wastes such as leaves and tree trimmings that result from construction or maintenance and repair work.
- F. Class III landfill means a landfill that accepts nonhazardous waste such as household, commercial, and industrial waste, including construction, remodeling, repair, and demolition operations.
- G. Chemical waste includes petroleum products, bituminous materials, salts, alkalis, herbicides, pesticides, organic chemicals, and inorganic wastes.
- H. Sanitary Wastes:
1. Garbage includes refuse and scraps resulting from preparation, cooking, distribution, or consumption of food.
 2. Sewage means domestic sanitary sewage.

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01 33 00.
- B. Environmental Protection Program: Prior to commencement of the work of this contract. Compile and submit to the County the written environmental protection program proposed by the Contractor for compliance with requirements of this section, as defined under paragraph 1.4 below. Meet with the County to review the proposed environmental protection program, make changes in the plan, and secure the County's approval of the written environmental protection program, prior to commencement of the work.

1.4 QUALITY CONTROL

- A. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this section. Comply with all pertinent Federal, State, and local regulations pertaining to water, air, solid waste, and noise pollution. Require the Contractor's subcontractors to comply with the provisions of this section.

B. Environmental Protection Program:

1. After award of the contract, and prior to commencement of the work, schedule and conduct a meeting with the County representatives to discuss solid waste management and environmental protection, recycling, and rebate programs required in connection with the work.
2. Not more than 21 calendar days after the meeting, prepare and submit a written and/or graphic Solid Waste Management and Environmental Protection Plan including, but not necessarily limited to:
 - a. List of Federal, state and local laws, regulations, and permits concerning environmental protection, pollution control, noise abatement, and noise control that are applicable to the Contractor's proposed operations;
 - b. Procedures to be implemented to provide the required environmental protection and to comply with applicable laws and regulations;
 - c. Location or locations of solid waste disposal areas proposed to be used by the Contractor, with statement as to current permits or licenses issued to those disposal areas;
 - d. Contractor's proposed procedures for recycling and re-use of materials;
 - e. Contractor's proposed participation in rebate programs.
 - f. Revise and submit the Solid Waste Management and Environmental Protection Plan as required by the County.
 - g. Approval of the Contractor's Waste Management and Environmental Protection Plan will not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protective measures.
3. With each application for progress payment, submit a summary of solid waste generated by the construction and demolition operations.

- a. Submit on form copied from the example at the end of this section on a different form acceptable to the County;
 - b. Include copies of all manifests, weight tickets, receipts, and invoices specifically identifying the work and waste materials from recycling centers, class III landfills, and inert fills.
- C. Prepare and maintain a 3-ring binder with rebate information and product identification as required for the County to qualify for rebate programs; submit the binder with final closeout submittals.

SECTION 2 - PRODUCTS

2.1 MATERIALS

Except for materials proposed by the Contractor for compliance with the requirements of this Section, and approved in advance by the County, no materials are needed.

SECTION 3 - EXECUTION

3.1 PROTECTION OF LAND RESOURCES

- A. It is intended that land resources within boundaries of the project, but outside the limits of permanent work performed under this contract, shall be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project.
- B. Insofar as possible, confine activities of the Contractor to pertinent areas defined on the drawings or elsewhere in the Contract Documents. Maintain natural drainage patterns. Conduct construction activities in such a manner that ponding or stagnant water conducive to mosquito breeding habitat will not occur at any time.
- C. Land Resources: Do not remove, cut, deface, injure, or destroy trees or other vegetation outside the work area limits. Do not remove, cut, deface, injure, or destroy trees or other vegetation inside the work area limits except as permitted by the County and where land resources are damaged by the Contractor, promptly replace or repair to the approval of the County and at the Contractor's expense.

- D. Tree Trimming: In accordance with recognized standards for such work, trim and seal tree limbs overhanging the line of the work and in danger of being damaged by the Contractor's operations. Remove other tree limbs as directed by the County so the tree will present a balanced appearance. Roots: Do not cut any roots unnecessarily during excavating or trenching operations, expose roots 75 mm (3 inches) in diameter or larger, encountered in the course of excavation, and do not sever but wrap them in burlap as a protective measure while exposed, and at the edge of the excavation or trench, neatly trim all roots 25 mm (1 inch) in diameter or larger that are severed in the course of excavation and paint them with a heavy coat of tree seal approved by the County.
- E. When and as directed by the County obliterate all signs of temporary construction such as work areas, structures, foundation of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction; Level all temporary roads, parking areas, and other areas which have become compacted or shaped; At unpaved areas where vehicles are operated, provide a suitable surface treatment or wet down periodically to prevent dust from becoming a nuisance, keep haul roads clear of objects which create unsafe conditions, and promptly remove contaminants and construction materials dropped from construction vehicles.
- F. Do not drop mud and debris from construction vehicles onto public streets; sweep turning areas and pavement entrances as needed.

3.2 NOISE CONTROL: Do not permit noise levels exceeding the following:

- A. Trenchers, pavers, graders, and trucks: 90 dBA at 50 feet as measured under the noisiest operating conditions;
- B. All other equipment: 85 dBA at 50 feet.
- C. Use whisperized type generators as approved by the County.
- D. Jack Hammers: Equip with exhaust mufflers and steel muffling sleeves; Use whisperized type air compressors as approved by the County.
- E. Operations: Keep noise equipment as far as possible from noise-sensitive site boundaries, do not leave machines idling, use electric power in lieu of internal combustion engine power when practicable; Maintain equipment in a manner to reduce noise from excessive vibration, faulty mufflers, and similar

sources, provide mufflers on all engines, and schedule operations to minimize their duration at any given location.

- F. Monitoring: As needed, provide portable sound metering devices meeting requirements of ANSI S1.4 for Type 2 sound level meters. Promptly locate and correct noncomplying noise levels.
- G. Contractor shall take all practical measures to minimize, or eliminate if possible, air borne and structure borne noise generated from construction activities. Contractor shall comply with the ground vibration limits as specified by ANSI S3.29-1983.
- H. The use of explosives and riveting will be prohibited.

3.3 RECYCLING REQUIREMENTS

Implement a recycling program which includes separate collection of waste materials. Refer to technical specifications for recycling of building materials via an on-site crushing operation.

3.4 ARCHAEOLOGICAL FINDINGS DURING CONSTRUCTION

There are no known archaeological remains at the project site. Should skeletons, artifacts, or other archaeological remains be uncovered: Suspend operations of this contract at the site of discovery, continue operations in other areas, and notify the County immediately of the finding. Should the discovery site require archaeological studies resulting in delays and/or additional work, the Contractor will be compensated by an adjustment under pertinent provisions of the contract.

3.5 BURNING RUBBISH AND DEBRIS

Do not permit open burning of rubbish, debris, and/or other combustibles on the site.

3.6 DUST CONTROL/AIR QUALITY

- A. Contractor shall prevent air borne debris and dust generated during construction activities from traveling outside the area of work in accordance with SCAQMD Rule 403. All loose materials being hauled onto or out of the site in open truck beds or trailers shall be covered in accordance with State of California Vehicle code Section 23114. Wheels of all vehicles shall be cleaned prior to leaving the Project site.

- B. County and City of Los Angeles streets shall be kept free of construction dirt and debris at all times by use of street sweeping equipment. The degree of cleanliness to be maintained will be determined by the County.
- C. Contractor shall water down all construction activities, such as excavation that create dust.
- D. The Contractor shall provide temporary dust proof enclosures to ensure that particulate matter does not migrate outside of enclosed work areas to adjacent occupied hospital areas. The Contractor's means and methods shall dictate the exact method used to comply with this requirement.
- E. Maintain and operate construction equipment so as to minimize exhaust emissions. During construction, the site shall be watered and all equipment cleaned once a day to reduce particulate and dust emissions.
- F. The Contractor shall not allow any construction equipment with an internal combustion engine to idle more than five (5) minutes in accordance with California Vehicle Code § 2485 (diesel).

3.7 COMPLIANCE

- A. The County will notify the Contractor in writing of any observed noncompliance with the provisions of this section, and will describe actions to be taken. Such notice, when delivered to the Contractor or his authorized representative at the job site, will be deemed sufficient for the purpose. Immediately upon receipt of such notice, initiate the required action or actions.
- B. Noncompliance: If the Contractor fails or refuses to comply promptly, the County may issue an order stopping all or part of the work of this contract until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it was determined that the Contractor was in compliance.

3.8 TRAFFIC REGULATION

- A. Traffic Maintenance: Determine the routing of construction vehicles before starting work, based on restrictions indicated on the drawings and the safeguards and procedures necessary to carry out the work. In addition be responsible for controlling construction traffic within and adjacent to the site,

provide all entrances, lifts and safeguards required necessary to the progress of the work, and effectively control such traffic to provide minimum hazard to the work and all persons, route all construction equipment, trucks, and similar vehicles via existing public streets to and from the site as approved by the governing authorities and the Construction Access Plan.

- B. Obtain and pay for permits and inspections necessitated by the use of public streets, sidewalks, curbs, and paving. Post guarantees and bonds that may be required, and repair and make good any damages thereto, acceptable to the authorities having jurisdiction, construct and maintain temporary walks and bridges for pedestrians. Keep streets adjacent to the site open to vehicular and traffic.
 - C. Maintain constant access for police, fire, and ambulance service.
 - D. Provide and maintain for proper control of traffic and safety of all concerned. All necessary barricades, suitable and sufficient lights, reflectors, and danger signals, warning and closure signs, directional and detour signs, and whatever additional measures necessary.
 - E. Indicate on a 24-hour basis all restricted and dangerous conditions existing on or adjacent to the site, illuminate barricades, danger signals, warning signs and obstructions and night and keep warning lights burning from one hour before sunset and until one hour after sunrise.
- 3.9 Parking: Do not permit parking on site to interfere with activities related to the performance of the work. The Contractor is responsible for providing offsite parking for all Contractor construction personnel at no additional cost to the County, if the County provided Contractor parking area does not provide enough parking spaces for construction personnel.

END OF SECTION

SECTION 01 60 00

PRODUCT HANDLING

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Work Included: Products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.
- B. Related Work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Additional procedures also may be prescribed in other Sections of these Specifications.

1.2 QUALITY ASSURANCE

- A. Include within the Contractor's written quality assurance program such procedures as are required to assure full protection of work and materials.

1.3 MANUFACTURER'S RECOMMENDATIONS

- A. Except as otherwise approved by the Architect, determine and comply with manufacturer's recommendations on product handling, storage, and protection.

1.4 PACKAGING

- A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
- B. Maintain packaged materials with seals unbroken and labels intact until time of use.
- C. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the County.

- D. The Architect may reject as non-complying such material and products that do not bear identification satisfactory to the Architect as to manufacturer, grade, quality, and other pertinent information.

1.5 PROTECTION

- A. Protect unfinished surfaces, including jambs and soffits or openings used as passageways, through which equipment and material are handled.
- B. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.
- C. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the County.

1.6 REPAIRS AND REPLACEMENTS

- A. In the event of damage, promptly make replacements and repairs to the approval of the Architect and at no additional cost to the County.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Architect to justify an extension in the Contract Time of Completion.

END OF SECTION

SECTION 01 66 00

TRANSPORT, HANDLING & STORAGE

PART 1 GENERAL

1.01 DESCRIPTION (PREPARATION FOR SHIPMENT)

A. Shop prime:

1. Structural steel surfaces not to be encased in concrete shall be shop primed with specified primer. Refer to Section 05 15 20 Structural Steel for primer.
2. After factory tests and acceptance, machined and/or polished surface to remain unpainted shall be coated with minimum 2 mil thickness of rust preventive compounds, or as recommended by manufacturer.

B. Protection:

1. Protect steel surfaces to ensure that their cleanliness during shipment, storage and erection.
2. Protect structural steel against damage from all sources whether mechanical, chemical or environmental.

1.02 TRANSPORTATION AND HANDLING

- A. Verification of intent to ship, arrival date and cartage company must be made known to County by Contractor.
- B. Immediately on delivery, a complete and thorough inspection of the structural steel by County and Contractor shall be made. Any damages incurred in shipping or handling shall be replaced promptly by Contractor at no cost to the County.

1.03 STORAGE AND PROTECTION

- A. Storage and protection shall be the responsibility of the Contractor.
- B. Provide complete weather protection for stored structural steel. Storage must be in Los Angeles County, and all material must be insured.

- C. Inspection of stored structural steel to assure it will be free from damage or deterioration shall be provided at no additional cost.
- D. All storage, handling and rehandling costs, insurance and responsibility for protection and proper installation of such material is the obligation of the Contractor. No payment, pursuant to this provision for material shall in any way relieve the Contractor of its responsibility to obtain or provide, at its expense, any such material or release the Contractor from any of its obligations under this Contract.
- E. Department may enter upon the premises where the material is stored for inspection, checking, or any other purpose he deems necessary.
- F. The Contractor will be reimbursed for any Los Angeles County taxes levied against such material while so stored, upon presentation of the receipted tax bill for same.
- G. Contractor must furnish with his Request for Payment acceptable evidence showing such material has been paid for in full, together with a verified statement that same is/are free from liens and encumbrances and will be utilized in the work covered by this Contract and a material list sufficient for physical inventory at the storage location.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING **FOR** **LOS ANGELES COUNTY PROJECTS**

PART 1 GOAL

Consistent with the County's efforts to comply with the California Integrated Waste Management Act of 1989 (Public Resources code, Section 40000 et seq.), one goal of this project is to reduce, reuse, and/or recycle the construction and demolition debris generated by the project in accordance with Los Angeles County Code, Chapter 20.87, Construction and Demolition Debris Recycling and Reuse.

PART 2 GENERAL DEBRIS RECYCLING REQUIREMENTS

- 2.1 Prior to the commencement of construction, the Contractor shall submit to the Los Angeles County Public Works, Environmental Programs Division (EPD), a Construction and Demolition Recycling and Reuse Plan (RRP) via EPIC-LA.
- 2.2 Contractor shall submit a RRP for any work done for or on behalf of the County that generates C&D debris.

PART 3 DEBRIS RECYCLING REQUIREMENTS FOR ANY WORK DONE FOR OR ON BEHALF OF THE COUNTY

- 3.1 The RRP submitted in accordance with Paragraph 2.2 of this Section must demonstrate that the Contractor will reduce, reuse, and/or recycle the C&D debris generated by the project. The RRP must demonstrate that the project will deliver debris to an approved facility for recycling or reuse of at least 70% of the mixed and inert debris and 100% of soil and land clearing debris generated by the project. A list of approved facilities is available on the CND website under reference materials (dpw.lacounty.gov/epd/CD/cd_attachments/Recycling_Facilities.pdf).

The RRP must also identify proper recycling or disposal of 100% of universal waste generated by alteration or renovation projects.

- 3.2 As part of the Contractor's request for final payment, the Contractor shall submit a Final Compliance Report to EPD for review and approval.

The Final Compliance Report shall include information and documentation as set forth in the Section D of the C&D Recycling and Reuse Guidelines.

- 3.3 As part of the approval of the final payment, EPD will review the Final Compliance Report to determine if the Contractor documented the quantity of debris generated, reused, and recycled, and achieved a recycling/reuse rate at least 70% by weight and of mixed and inert debris and 100% of soil debris generated and disposed during the project duration.
- 3.4 If EPD determines that the applicant has not provided sufficient documentation to show that all of the project C&D Debris and universal waste included in the RRP, were properly recycled, reused and/or disposed, within one year of the completion of the project plus any additional time provided by Public Works for the correction of any deficiencies, or if the documentation indicates that the project C&D debris and universal waste were not properly recycled, reused and/or disposed, EPD will calculate the applicable penalty in accordance with the penalty schedule below:

Tons of C&D Not Recycled and Not Reported	Penalty Amount	
For up to the first ton	\$ 100	fixed amount; plus, as applicable, amounts below
From above the first ton up to 15 tons	\$ 60	per ton (or fraction thereof); plus, as applicable, amounts below
From above 15 tons up to 45 tons	\$ 45	per ton (or fraction thereof); plus, as applicable, amounts below
From above 45 tons	\$ 30	per ton (or fraction thereof)

PART 4 COST

Cost of compliance with the C&D Ordinance shall be considered as included in the Contractor's lump sum base bid.

SECTION 01 74 23

FINAL CLEANING

1.00 GENERAL

1.01 DESCRIPTION

A. Principal work in this Section:

1. Keep premises, adjacent private properties and public properties free from accumulations of waste, debris and rubbish caused by construction operations.
2. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces.

1.02 SAFETY REQUIREMENTS

A. Standards: Maintain Project in accord with State and local safety and insurance standards.

B. Hazard control:

1. Store volatile wastes in covered metal containers, and remove from premises daily.
2. Prevent accumulation of wastes which create hazardous conditions.
3. Provide adequate ventilation during use of volatile or noxious substances.

C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on Project site.
2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains. Store in containers with tight-fitting lids and remove to legal dump site.
3. Special reference is made to the Los Angeles County Department of Public Works Storm Water Pollution Control Requirements for Construction Sites which require implementation of the NPDES standards. The cost of implementing the NPDES standards and adhering to the Storm Water Pollution Control Requirements must be included in the lump sum bid for the Project.

2.00 PRODUCTS (Not applicable)

3.00 EXECUTION

3.01 DURING CONSTRUCTION

- A. Remove or paint over, as appropriate to the substrate, graffiti on the site or surrounding fence daily.
- B. Wet down materials and rubbish to lay dust and prevent it from blowing.
- C. Provide on-site covered containers for collection of waste materials, debris and rubbish. Provide a collection can at each location used as an eating area. Pick-up all garbage daily.
- D. Remove waste materials, debris and rubbish from site and legally dispose of at legal public or private dumping areas off County's property.
- E. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- F. Comply with the County of Los Angeles Department of Health design /construction and maintenance risk assessment: Policies and Procedures Infection Control Policy Guidelines Procedure No.918.01.

3.02 FINAL CLEANING

- A. In preparation for Substantial Completion or Occupancy conduct final inspection of all work.
- B. Repair, patch and touch-up marred surfaces to specified finish to match adjacent surfaces.
- C. Contaminated earth:
 - 1. Final clean-up operation includes the removal and disposal of earth contaminated or unsuitable for support of plant life in planting areas, and filling of resulting excavations with suitable soil.
 - 2. Contaminated areas include those used for disposal of waste concrete, mortar, plaster, masonry, and similar materials, areas in which washing out of concrete and plaster mixers or washing of tools and like cleaning operations have been performed, and areas that have been oiled, paved, or chemically treated.
 - 3. Do not dispose of waste oil, solvents, paints, solutions, or like penetrating material by depositing or burying on County's property. All

material shall be disposed in accordance with all regulatory requirements.

- D. Broom clean paved surfaces; rake clean other surfaces of grounds.
- E. Keep Project clean until Final Acceptance by the County.

END OF SECTION

SECTION 01 77 00

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Sections of the Specifications, apply to this section.

1.02 SUMMARY

This section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:

- A. Inspection procedures.
- B. Project record document submittal.
- C. Operation and maintenance manual submittal.
- D. Submittal of warranties.
- E. Final cleaning.

- 1. Closeout requirements for specific construction activities are included in the appropriate sections.

1.03 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request:

- 1. In the application for payment that coincides with, or first follows, the date substantial completion is claimed, show one hundred (100) percent completion for the portion of the Work claimed as substantially complete.
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the contract sum.
 - b. If one hundred (100) percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

2. Prepare and deliver to the County a completion list enumerating all items of work not complete, the work required to complete the items of work, the reason that each item is not complete, the action taken by the Contractor to complete all other work in light of the item at work remaining, and the date that the item of work will be completed.
 3. Advise the County of pending insurance changeover requirements.
 4. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
 5. Obtain and submit releases enabling the County unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 6. Submit record drawings, operation and maintenance manuals, project photographs, damage or settlement surveys, property surveys, and similar final record information.
 7. Deliver tools, spare parts, extra stock, and similar items.
 8. Make final changeover of permanent locks and transmit keys to the County. Advise the County's personnel of changeover in security provisions.
 9. Complete startup testing of systems and instruction of the County's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mock-ups, construction tools, and similar elements.
 10. Complete final cleanup requirements, including touch-up painting.
 11. Touch up and otherwise repair and restore marred, exposed finishes.
- B. Inspection Procedures: On receipt of a request for inspection, the County and the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The architect will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
1. The County and the Architect will repeat inspection when requested and assured that the Work is substantially complete. If, after making such reinspection, the County determines that the work is not substantially complete, the Contractor shall be responsible for the cost

that the County and the Architect incurred in the performance of additional inspections for the purpose of determining Substantial Completion.

2. Results of the completed inspection will form the basis of requirements for final acceptance.

1.04 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
2. Submit an updated final statement, accounting for final additional changes to the contract sum.
3. Submit a certified copy of the architect's final inspection list of items to be completed or corrected, endorsed, and dated by the architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the architect.
4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the County took possession of and assumed responsibility for corresponding elements of the Work.
5. Submit consent of surety to final payment.
6. Submit a final liquidated damages settlement statement.
7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure: The County will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed.

1. Upon completion of reinspection, the County will prepare a certificate of final acceptance. If the Work is incomplete, the architect will advise the

Contractor of Work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance.

2. If necessary, reinspection will be repeated, and the Contractor shall be responsible for the costs of the County and the Architect incurred in the performance of the reinspection or reinspections.

1.05 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the architect's reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
 1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
 2. Mark new information that is important to the County, but was not shown on Contract Drawings or Shop Drawings.
 3. Note related Change-Order numbers where applicable.
- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda. Include with the Project Manual one (1) copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.
 1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
 2. Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.
 3. Note related Record Drawing information and product data.

- D. Record Product Data: Maintain one (1) copy of each product data submittal. Note related Change Orders and markup of Record Drawings and Specifications.
1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations.
 2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
 3. Upon completion of markup, submit complete set of record product data to the architect for the County's records.
- E. Record Sample Submitted: Immediately prior to Substantial Completion, the Contractor shall meet with the architect and the County's personnel at the Project site to determine which samples are to be transmitted to the County for record purposes. Comply with the County's instructions regarding delivery to the County's sample storage area.
- F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the architect for the County's records.
- G. Maintenance Manuals: Organize operation and maintenance data as described in Section 01 78 23, Operations and Maintenance manuals.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the County's personnel to provide instruction in proper operation and maintenance.

Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:

1. Maintenance manuals.
2. Record documents.
3. Spare parts and materials.
4. Tools.
5. Lubricants.
6. Identification systems.
7. Control sequences.
8. Hazards.
9. Cleaning.
10. Warranties and bonds.
11. Maintenance agreements and similar continuing commitments.

B. As part of instructions for operating equipment, demonstrate the following procedures:

1. Startup.
2. Shutdown.
3. Emergency operations.
4. Noise and vibration adjustments.
5. Safety procedures.
6. Economy and efficiency adjustments.
7. Effective energy utilization.

C. See additional requirements for training in the specification sections.

3.2 FINAL CLEANING

A. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1, Section 01 74 23, "Final Cleaning."

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.

- a. Remove labels that are not permanent labels.

- b. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.
 - c. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substance. Clean light fixtures and lamps.
 - d. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean and remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface.
- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the County's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.

* * *

SECTION 01 78 23

OPERATIONS AND MAINTENANCE

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. To aid the continued instruction of operating and maintenance personnel, and to provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data described in this Section and in other Sections of Division 1.

1.02 SUBMITTALS

- A. Submit three (3) copies of a preliminary draft of the proposed Manual or Manuals to the Agency for review and comments.
- B. Unless otherwise directed in other Sections, or in writing by the Agency, submit five (5) copies of the final Manual along with (1) copy of Manual on CD latest version of Word to Engineer prior to indoctrination of operation and maintenance personnel.

PART 2 - PRODUCTS

2.01 INSTRUCTION MANUALS

- A. Where Instruction Manuals are required to be submitted under other Sections of these Specifications, prepare in accordance with the provisions of this Section.
- B. Format:
 - 1. Size: 8-1/2" x 11"
 - 2. Paper: White bond, at least 20-lb. Weight
 - 3. Test: Neatly written or printed
 - 4. Drawings: 11" in height preferable; bind in with text; foldout acceptable; larger drawings acceptable but to fit within the Manual and provide a drawing pocket inside rear cover or bind in with test.
 - 5. Sheets: Separate each portion of the Manual with neatly prepared flysheets briefly describing content of the ensuing portion; flysheets may be in color.

6. Measurements: Provide measurements in U.S. standard units such as feet and inches, lbs, and cfm; where items may be expected to be measured within ten years in accordance with metric formula, provide additional measurements in the "International Systems of Units" (SI).
- C. Provide front and back covers for each Manual, using durable material approved by Engineer and clearly identified on or through the cover with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS

- name and address of Work
- name of Contractor
- general subject of this Manual
- space for approval signature of Architect and approval date

- D. Contents: Include at least the following:

1. Neatly typewritten index near the front of the Manual, giving immediate information as to location within the Manual of emergency information regarding the installation.
2. Complete instructions rearing operation and maintenance of equipment.
3. Complete nomenclature of part of equipment.
4. Complete nomenclature and part number of replaceable part, name and address of nearest vendor, and all other data pertinent to procurement procedures.
5. Copy of guarantees and warranties issued.
6. Manufacturers' bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or others that are not relevant to this installation.
7. Such other data as required in pertinent Section of these Specifications.

PART 3 - EXECUTION

3.01 PREPARATION OF MANUAL

A. General

1. Prepare data in the form of an instructional Manual.
2. When multiple binders are used, correlate data into related, consistent groupings.

B. Include a directory for each product. Provide names, addresses and telephone numbers of Contractor, sub-contractor, suppliers, installers and authorized service and parts suppliers. Format as follows:

1. General Contractor: _____
Address: _____
Telephone No.: _____
Person to Contact: _____
2. Subcontractor:
Address: _____
Telephone No.: _____
Person to Contact: _____
3. Installer: _____
Address: _____
Telephone No.: _____
Person to Contact: _____
4. Manufacturer: _____
Address: _____
Telephone No.: _____
Person to Contact: _____
5. Local Service Representative: _____
Address: _____
Telephone No.: _____
Person to Contact: _____

C. Identify each product by product name and other identifying symbols as set forth in Contract Documents.

1. Product Data: Include only those sheets pertinent to specific product. Clearly identify pertinent data; line out inapplicable test.

Operations and Maintenance

2. Drawings: Supplement product data with drawings as necessary. Coordinate drawings with information in Project records Documents to ensure correct illustration of completed installation.
3. Written test, as required to supplement product data for particular installation.
4. Submittal format and content: Provide each of the following items, as applicable, for each required items or system. Requirements will vary, depending on the equipment. Refer also to specific Specification Section requirements.
5. System description: Provide a detailed narrative description of each system, describing function, components, capacities, controls and other data specified and including the following:
 - a. Number of
 - b. Sizes
 - c. Type of operation
 - d. Detailed operating instructions, including start up and shutdown of each system, with indications for position of controls, as applicable.
6. Wiring diagrams: Complete wiring diagrams for internally wired components including controls.
7. Operating sequence: Describe in detail.
8. Manufacturers' data: Provide catalog data sheets, specifications, nameplate data and parts list.
9. Preventative maintenance: Provide manufacturers' detailed maintenance recommendations.
10. Troubleshooting: Provide manufacturers' sequence for troubleshooting procedures foe operational problems.
11. Extra parts: Provide a listing of extra stock parts furnished as part of the Contract.
12. Warranties: Provide specific manufacturer's warranty. List each component and control covered, with day and date warranty begins, date of expiration, name, address and telephone number of person to contact regarding problems during warranty period.

Operations and Maintenance

13. Provide operating and maintenance data on work required by the Scope of Work.

3.03 INSTRUCTION OF COUNTY'S PERSONNEL

- A. Prior to final inspection and acceptance, instruct County's designated and maintenance personnel in operation, adjustment and maintenance of products equipment and systems.
- B. Operation and Maintenance Manual shall constitute the basis of instruction.

* * *

SECTION 01 78 36

GUARANTEES AND WARRANTIES

PART 1 GENERAL

1.01 REQUIREMENTS

A. Section Includes: Requirements for the compilation and submittal of guarantees, warranties, and other documents specified.

1. Compile specified guarantees and warranties.
2. Compile specified service and maintenance contracts.
3. Co-execute submittals when so specified.
4. Review submittals to verify compliance with Contract Documents.
5. Submit to County's Representative for review with transmittal to the County.

B. Related Sections:

1. Section 01 33 00 Submittals.

1.02 SUBMITTAL REQUIREMENTS

A. General: Make submittals in accordance with the relevant requirements of Section 01 33 00.

B. Requirements:

1. Assemble warranties, bonds, and service and maintenance contracts, executed by each of the respective manufacturers, supplies and subcontractors.
2. Submit two original, signed copies, each.
3. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
 - a. Product or work item.
 - b. Firm, with name of principal, address and telephone number.
 - c. Scope.

- d. Date of beginning of warranty, bond, or service and maintenance contract.
- e. Duration of guarantee, warranty, or services and maintenance contract.
- f. Provide information for County personnel:
 - (1) Proper procedure in case of failure.
 - (2) Instances which might affect the validity of guarantee or warranty.
- g. Contractor, name of responsible principal, address, and telephone number.

1.03 FORM OF SUBMITTALS

- A. Prepare and submit all physical packets in PDF file format as duplicates.
- B. Format:
 - 1. Size 8 1/2-inches by 11-inches, punch sheets for standard 3-ring binder.
 - 2. Fold larger sheets to fit into binders.
 - 3. Cover: Identify each packet with typed or printed title (GUARANTEES AND WARRANTIES).
 - List:
 - a. Title or project.
 - b. Name of Contractor.
- C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.04 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into services during progress of construction:
 - 1. Submit documents within 10 days after inspection and acceptance.
- B. Otherwise make submittals within 10 days after Date of Substantial Completion, prior to final request for payment.

- C. For items of work, where acceptance is delayed materially beyond Date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of guarantee/warranty period.

1.05 SUBMITTALS REQUIRED

- A. Submit guarantees, warranties, and service and maintenance contracts as specified in pertinent Sections of Specification.

* * * *

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Project Record Documents required include:
 - 1. Marked-up copies of Contract Drawings.
 - 2. Marked-up copies of Shop Drawings.
 - 3. Newly prepared Drawings.
 - 4. Marked-up copies of Specifications, addenda and Change Orders.
 - 5. Marked-up Product Data submittals.
 - 6. Record Samples.
 - 7. Field records for variable and concealed conditions.
 - 8. Record information on Work that is recorded only schematically.
- B. Maintenance of Documents and Samples: Store record documents and Samples in the field office apart from Contract Documents used for construction. Do not permit Project Record Documents to be used for construction purposes. Maintain record documents in good order, and in a clean, dry, legible condition. Make documents and Samples available at all times for inspection by the Architect.

1.2 RECORDING

- A. Record drawings shall include dimensions from not less than two permanent and salient building points.

- B. Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project.
- C. The Architect will periodically review record documents to assure compliance with this requirement.

1.3 PROCEDURES

- A. Promptly following Contract Award, General Contractor shall secure from the County one complete set of Specifications and prints of the Contract Drawings and mark them as "Project Record Documents."
- B. Timing of Entries: Make entries within 24 hours after receipt of information.
- C. Contractor shall be responsible for maintaining and recording changes on "Project Record Document" set.
- D. Do not use "Project Record Documents" set for any purpose except entry of new data and for review by the Architect and County Inspector. Maintain separate job sets for subcontractors and workers daily use.
- E. Maintain "Project Record Documents" set at job site where designated by the Architect.
- F. Use all means necessary to protect "Project Record Documents" set from deterioration, loss or damage until completion of work.
- G. Making Entries On "Project Record Documents" Drawings: Using an erasable color pencil, other than blue, not ink or indelible pencil, clearly describe change by note and by graphic line as required. Date entries. Call attention to entry by a "cloud" around area or areas affected. In even of overlapping changes, different colors may be used for each change.
 - 1. Changes due to approved change orders may be indicated by referencing change order number and scope of change in lieu of revising "Project Record Documents".

2. Location and depth below finish grade or above ceilings and attic spaces of utilities shall be fully dimensioned and indicated on "Project Record Documents". Dimensions shall be taken to building lines of permanent landmarks.
- H. The Architect's approval of current status of "Project Record Documents" will be a prerequisite to the Architect's approval of requests for progress payments and request for final payment.
1. Progress Approvals: Prior to submitting each request for progress payments, secure the County Inspector's approval of status of "Project Record Documents."
 2. Prior to submitting request for final payment and final inspection, General Contractor shall submit "Project Record Documents" set to the County Inspector, with transmittal letter, in duplicate, for approval and further processing.
 3. The General Contractor shall certify that the "Project Record Documents" are complete and accurately reflect all changes or modifications to the original Construction Documents.

SECTION 01 91 00

COMMISSIONING

PART 1 - GENERAL

1.1 SUMMARY

- A. Work includes the completion of formal commissioning procedures on selected mechanical and electrical equipment and systems, as listed under Commissioning Scope below, for the purpose of meeting LEED® Energy & Atmosphere Prerequisite 1 and Credit 3.
- B. Commissioning is defined as the process of verifying that the design, installation, functional performance, and maintenance requirements of selected building systems meet or exceed the specified design criteria and therefore satisfies the Owner's Project Requirements.
- C. Commissioning during construction, acceptance, and warranty phases is intended to achieve following objectives:
 - 1. Verify and document equipment is installed and started per manufacturer's recommendations and to industry accepted minimum standards.
 - 2. Verify and document equipment and systems receive complete operational checkout by installing contractors.
 - 3. Verify and document equipment and system performance.
 - 4. Verify completeness of operations and maintenance materials.
 - 5. Ensure owner's operating personnel are trained on operation and maintenance of building equipment.
- D. The commissioning process includes work and services throughout the project schedule, and is not just the functional performance testing during the Construction Phase.
- E. Contractor shall be responsible for participation in the commissioning process as outlined below, and in subsequent sectional references and attachments throughout the project documents.
- F. Commissioning process does not take away from or reduce responsibility of the system designers or installing contractors to provide finished and fully functioning product.
- G. Commissioning procedures will be designed and coordinated under the direction of the Commissioning Authority (CA).

1.2 RELATED SECTIONS

- A. Division 22 Section Commissioning of Plumbing for commissioning process activities for plumbing systems, assemblies, equipment, and components.
- B. Division 23 Section Commissioning of HVAC for commissioning process activities for HVAC&R systems, assemblies, equipment, and components.
- C. Division 26 Section Commissioning of Electrical Systems for commissioning process activities for electrical systems, assemblies, equipment, and components.

1.3 COMMISSIONING FOR A LEED® RATING

- A. The Owner of this project has determined that the project shall be designed, constructed and commissioned in accordance with the United States Green Building Council's LEED® Rating System. The LEED® Rating System Includes the following, with respect to the commissioning process:
 - 1. Fundamental Building Commissioning (EA Prerequisite 1)
 - a. Hire a Commissioning Agent
 - b. Review Owner's Project Requirements (OPR) and Basis of Design (BoD) documentation.
 - c. Include commissioning requirements in the Construction Documents
 - d. Develop and use a Commissioning Plan
 - e. Verify the Installation, Functional Performance, Operational Training and Maintenance Documentation for each commissioned system/equipment
 - f. Complete a Final Commissioning Report

1.4 COORDINATION

- A. Commissioning Team.
 - 1. Commissioning Authority (CA)
 - 2. Owner's Technical Staff (Owner or OTS)
 - 3. General Contractor (C, CxC)
 - 4. Construction Manager
 - 5. Subcontractors (Subs)
 - 6. Manufacturer's Representatives/Vendors
 - 7. Architect/Design Professionals (A/E)
 - 8. Mechanical Contractor (MC) / Electrical Contractor (EC)
 - 9. Test and Balance (TAB) Contractor
 - 10. Controls Contractor (CC)
 - 11. Installing subcontractors

B. Management.

1. Commissioning Authority (CA):
 - a. Under contract with the Architect (A) or Owner.
 - b. Manages commissioning process with assistance of Commissioning Team: Contractor, Subcontractors and Design Professionals (A/E).

C. Scheduling: CA to work with OTS, C and Sub's to schedule commissioning activities.

1. Contractor (C) to integrate commissioning activities into master construction schedule.
2. Involved parties to address scheduling issues in timely manner to expedite commissioning process.

1.5 COMMISSIONING PROCESS

A. Following activities describe commissioning tasks coordinated by CA and C during construction in order of occurrence.

1. Scoping Meeting: Members of design and construction team involved in commissioning process meet and agree on scope of work, tasks, schedules, deliverables, and responsibilities for implementation of Commissioning Plan.
2. Commissioning Plan: Provides guidance in execution of commissioning process.
 - a. Project Manual (specification) takes precedence over Commissioning Plan.
3. Submittals: Equipment documentation submitted to CA during normal submittals, including detailed startup procedures.
4. Startup/Pre-Functional Checklists: CA works with C and Sub's to develop startup plans and documentation formats, including providing Sub's, MC and EC with pre-functional checklists to be completed by Sub's and C during startup process.
5. Functional Performance Testing: CA develops specific equipment and system functional performance test procedures.
 - a. Contractor and Sub's review procedures and provide feedback.
 - b. C and Sub's execute procedures under direction of, and documented by, CA.
6. Deficiencies and Resolution: CA documents items of non-compliance in materials, installation or operation.
 - a. Items are corrected at C or Sub's expense and equipment or systems are retested.
7. Operations and Maintenance (O&M) Documentation: CA reviews O&M documentation for completeness.

8. Training: CA reviews and coordinates training provided by C and Sub's and verifies it is completed.
9. Seasonal Testing: Deferred or seasonal testing is conducted, as required.

1.6 COMMISSIONING RESPONSIBILITIES

A. Services for Owner's Technical Staff (OTS) and Design Team are not a part of this contract.

1. Responsibilities are listed here to clarify commissioning process. See also, responsibility table included at end of this section.

B. Commissioning Authority (CA):

1. Primary Role: Develop and coordinate execution of testing plan to verify and document systems are functioning in accordance with design intent and Construction Documents.
2. May assist with problem-solving deficiencies, but ultimately that responsibility resides with Contractor (C), Sub-contractors (Sub's), and Architect (A).
3. Not responsible for design concept, design criteria, code compliance, general construction scheduling, cost estimating, or construction management.
4. Construction and Acceptance Phase:
 - a. Coordinate and direct commissioning activities.
 - b. Work with C (CxC) and Sub's to ensure commissioning activities are scheduled.
 - c. Maintain up-to-date Commissioning Plan.
 - d. Help plan and conduct commissioning scoping meeting and controls integration meetings.
 - e. Request and review additional information required to perform commissioning tasks, including O&M materials, contractor startup and checkout procedures, and sequences of operation.
 - f. Review Contractor submittals applicable to commissioned systems, concurrent with Architect and Owner reviews.
 - g. Develop startup and checkout plans with Subs.
 - h. Write and distribute pre-functional checklists, tests and startup forms.
 - i. Perform site visits to observe component and system installations.
 - j. Attend construction job-site meetings to monitor construction and commissioning progress.
 - k. Review completed pre-functional checklist and startup reports.
 - l. Assist with coordination of startup requirements with TAB requirements.

- m. Write functional performance test procedures for equipment and systems.
 - n. Coordinate, witness, and document functional performance tests completed by sub's.
 - 1) Coordinate retesting as necessary until satisfactory performance is verified.
 - o. Maintain master deficiency and resolution record, and provide OTS with written progress reports and test results with recommended actions.
 - p. Review training proposed by sub's for Owner's operating personnel.
 - q. Review O&M manuals.
 - r. Prepare Final Commissioning Report.
- 5. Warranty Period:
 - a. Coordinate and supervise seasonal or deferred testing and deficiency corrections.
 - b. Assist in review of Record documentation.
 - c. Assist in end of warranty review/walk-through inspection.
- C. Design Team (A/E):
 - 1. Construction and Acceptance Phase:
 - a. Attend commissioning scoping meeting, controls integration meeting and additional meetings, as necessary.
 - b. Provide design intent and sequence of operation documentation as required by CA.
 - c. Assist in resolution of system deficiencies identified during commissioning.
 - d. Review and approve operations and maintenance manuals (O&M).
 - e. Optional: Witness equipment startup and performance testing.
 - 2. Warranty Period:
 - a. Assist in resolution of system deficiencies identified during warranty period commissioning.
- D. Owner's Technical Staff (OTS):
 - 1. Construction and Acceptance Phase:
 - a. Plan/Attend
 - b. Arrange for facility operating and maintenance personnel to participate in commissioning activities and training sessions.
 - c. Provide final acceptance for commissioning work.
 - 2. Warranty Period:

- a. Ensure seasonal or deferred testing and deficiency issues are addressed.

E. Contractor (C, Contractor or Sub):

1. Construction and Acceptance Phase:

- a. Contractor to assign a commissioning coordinator (CxC) to facilitate coordination of commissioning work by CA.
- b. Attend commissioning scoping meeting, controls integration meeting and additional meetings, as necessary.
- c. Furnish copies of construction documents, addenda, change orders and approved submittals and design drawings related to commissioned equipment to CA.
- d. Ensure Sub's execute their commissioning responsibilities according to Project Manual and Commissioning Plan.
- e. Coordinate training of owner personnel.
- f. Work with Sub's to prepare O&M manuals, according to Project Manual, including updating original sequences of operation to Record (as-built) conditions.
- g. Develop startup and checkout plan for commissioned equipment based on manufacturer's recommendations and pre-functional checklists from CA.
 - 1) Submit to CA for review and approval prior to startup.

2. Warranty Period:

- a. Ensure Sub's execute required seasonal or deferred functional performance testing.
- b. Ensure Sub's correct deficiencies and make necessary adjustments to O&M manuals and Record Drawings for issues identified during warranty period.

F. Mechanical Contractor, Electrical Contractor, Controls Contractor and TAB Contractor:

1. Construction and Acceptance Phases:

- a. Attend commissioning scoping meeting, controls integration meeting and additional meetings, as necessary.
- b. Provide additional requested documentation, prior to normal O&M manual submittals, to CA for development of startup and functional testing procedures.
- c. Assist in clarification of operation and control of commissioned equipment where Project Manual, control drawings or equipment documentation is not sufficient for writing detailed testing procedures.

- d. Help develop startup and checkout plan for commissioned equipment based on manufacturer's recommendations and pre-functional checklists from CA.
- e. During startup and checkout process, execute pre-functional checklists for commissioned equipment.
 - 1) Perform and document completed startup and system operational checkout procedures.
- f. Resolve punch list items before functional testing.
 - 1) Air and water TAB to be completed with discrepancies and problems resolved before functional testing.
- g. Perform functional performance testing, under direction of CA, for commissioned equipment.
- h. Resolve equipment or system deficiencies and retest as required to verify modified performance.
- i. Prepare O&M manuals according to Project Manual, including updating original sequences of operation to record conditions.
- j. Provide training of Owner's operating personnel.
- k. Coordinate with equipment manufacturers to determine requirements to maintain validity of warranties.

2. Warranty Period

- a. Execute seasonal or deferred functional performance testing.
- b. Correct deficiencies and make necessary adjustments to O&M manuals and Record Drawings for issues identified during warranty period.

G. Controls Contractor (CC). Commissioning responsibilities of CC during construction and acceptance phases, in addition to those listed in Paragraph (F), are:

- 1. Sequences of Operation Submittals. Temperature controls submittals to include complete and detailed sequences of operation for each piece of equipment, regardless of completeness and clarity of sequences in Project Manual, and include:
 - a. Narrative description of system, describing its purpose, components and function.
 - b. Interactions and interlocks with other systems.
 - c. Delineation of control interactions between packaged controls and building automation system, including listing of monitored points, controlled points, and adjustable points.
 - d. Written sequences of control for packaged controlled equipment.
 - e. Sequences of control for modes of operation (Start-up, Warm-up, Cool-down, Normal occupied, Unoccupied, Emergency Shutdown, etc.).

- f. Capacity control sequences and equipment staging.
- g. Temperature and pressure control sequences (setbacks, resets, etc.).
- h. Sequences for control strategies (economizer control, optimum start/stop, optimization, demand limiting, etc.).
- i. Effects of power or equipment failure with standby component functions.
- j. Sequences for alarms and emergency shutdowns.
- k. Seasonal operational requirements.

2. Control Drawings Submittal

- a. Control drawings to have key to abbreviations.
- b. Control drawings to provide graphic schematic depictions of systems and each component.
 - 1) Schematics to include system and component layout of equipment that control system monitors, enables or controls, even if equipment is primarily controlled by packaged or integral controls.
- c. Provide full points list with following included for each point:
 - 1) Controlled system
 - 2) Point abbreviation
 - 3) Point description
 - 4) Point type (digital/analog, input/output)
 - 5) Display unit
 - 6) Control point or setpoint (Yes / No)
 - 7) Monitoring point (Yes / No)
 - 8) Intermediate point (Yes / No)
 - 9) Calculated point (Yes / No)

- 3. Record Drawing version of control drawings and sequences of operation to be included in final controls O&M manual submittal.
- 4. Written plan indicating step-by-step manner and procedures that will be followed to test, checkout and adjust control system prior to functional performance testing.
- 5. Signed and dated certification to CA and Owner upon completion of control system checkout.

H. Equipment Suppliers

- 1. Provide requested submittal data, including detailed startup procedures and specific responsibilities of Owner to keep warranties in effect.

2. Provide information requested by CA regarding equipment sequence of operation and testing procedures.
3. Assist in equipment testing per agreements with Sub's.

1.7 COMMISSIONING SCOPE:

<u>System</u>	<u>Equipment</u>
HVAC System:	Roof top units Make up air units Exhaust fans HVAC control system Any additional HVAC systems required for LEED certification
Electrical System:	Sweep or scheduled lighting controls Lighting occupancy sensors Any Additional Electrical Systems required for LEED Certification
Plumbing System:	Domestic Hot Water System Any Additional Plumbing Systems required for LEED Certification

PART 2 PRODUCTS

2.1 TEST EQUIPMENT

- A. Standard testing equipment required to perform startup and initial checkout and required functional performance testing to be provided by Division Contractor for equipment being tested.
- B. Testing equipment to be of sufficient quality and accuracy to test or measure system performance as required by Project Manual.
- C. Datalogging equipment or software required to test equipment to be provided by CC but shall not become property of Owner.

PART 3 EXECUTION

3.1 MEETINGS

- A. Scoping Meeting:

1. CA will schedule, plan and conduct Commissioning Scoping Meeting and Controls Integration Meetings with entire commissioning team in attendance.
 2. CA to distribute meeting minutes to those in attendance.
- B. Miscellaneous Meetings. Other meetings to be planned and conducted by CA as construction progresses
1. Meetings to cover coordination, deficiency resolution and planning issues

3.2 REPORTING

- A. Regular Reports: CA to provide regular reports to Owner with increasing frequency as construction and commissioning progresses.
- B. Progress Reports: CA to regularly communicate with commissioning team, apprising them of commissioning progress and scheduling changes through memos, progress reports, etc.
- C. Commissioning Report: CA compiles final Report that summarizes tasks, findings, and documentation of commissioning process.
1. Report addresses actual performance of building systems in reference to design intent and contract documents.
 2. Report includes:
 - a. Completed pre-functional inspection checklists,
 - b. Functional performance testing records
 - c. Diagnostic monitoring results
 - d. Identified deficiencies
 - e. Recommendations
 - f. Summary of commissioning activities

3.3 SUBMITTALS

- A. CA reviews submittals related to commissioned equipment
1. Reviews intended primarily to aid in development of functional performance test procedures.
- B. CA may submit written requests for additional information from contractors to facilitate the commissioning process.
- C. CA may request additional design and operations narratives from design team and Controls Contractor.

3.4 START-UP, PREFUNCTIONAL INSPECTION CHECKLISTS

- A. Following procedures apply to equipment commissioned, according to Article 1.6, Commissioning Scope.
- B. General: Pre-functional Inspection Checklists are developed and completed for major equipment and systems being commissioned.
 - 1. Checklist documents equipment nameplate and characteristics data and confirms as-built status of equipment or system.
 - 2. Checklists ensure systems are complete and operational, so functional performance testing can be scheduled.
- C. Start-up Plan. CA assists responsible contractors and Sub in developing detailed start-up plans for equipment.
 - 1. Primary role of CA in this process is to ensure there is written documentation and that each manufacturer-recommended procedures be completed.
 - 2. CA creates pre-functional checklists, based primarily on manufacturer's startup and checkout procedures.
 - a. Each start-up item will have date and initial line for completion by contractor during start-up.
 - 3. Start-up plans and documentation to be provided to Owner and A/E team for review.
- D. Completion of Pre-functional Inspection Checklists and Startup:
 - 1. Subs and equipment suppliers schedule startup and checkout with Owner, C, CxC and CA.
 - 2. CA may observe start-up procedures for major pieces of primary equipment.
 - a. Multiple Units: Sampling strategy may be used according to commissioning plan.
 - 3. Lower-level equipment components (e.g., VAV boxes, reheat coils) CA may observe sampling of start-up procedures.
 - a. Sampling procedures are identified in commissioning plan.
 - 4. Subs and Vendors execute startup and provide CxC with signed and dated copy of completed start-up and pre-functional inspection checklists for routing to CA.
 - 5. Only individuals who have completed or witnessed line item task are to make initials or checks on forms.

- E. Deficiencies, Non-Conformance and Approval in Checklists and Startup.
1. Subs to clearly list any items of start-up and pre-functional procedures not successfully completed at bottom of form or on an attached sheet.
 - a. Procedures form and any outstanding deficiencies are provided to CA within two days of test completion.
 2. CA reviews and verifies pre-functional inspection checklists and start-up reports and recommends approval to Owner.
 3. CA assists Subs and Vendors to correct and retest deficiencies or uncompleted items, involving other members of Commissioning Team as necessary.

3.5 FUNCTIONAL PERFORMANCE TESTING

- A. Following procedures apply to all equipment commissioned, according to Article 1.7, Commissioning Scope and to all commissioning functional performance testing.
- B. Objectives and Scope:
1. Demonstrate each system is operating according to documented design intent and Construction Documents.
 2. Functional performance testing comprises tests to verify components, equipment, systems, and interfaces between systems operate correctly and includes operating modes, interlocks, control sequences, and responses to emergency conditions.
 3. Verification procedures are directed, witnessed, and documented by CA.
- C. Development of Test Procedures:
1. CA develops specific test procedures and forms to verify and document proper operation of each piece of equipment and system.
 2. CA provides test procedures to Contractors and Sub's who review the tests for feasibility, safety, equipment and warranty protection prior to execution.
 3. CA may submit tests to Owner for review.
 4. Test procedure forms, developed by CA, to include the following information:
 - a. System and equipment or component name(s).
 - b. Equipment location and ID number.
 - c. Date.
 - d. Project name.
 - e. Participating parties.
 - f. Instructions for setting up test, including special cautions, alarm limits, etc.
 - g. Specific step-by-step procedures to execute test.

- h. Acceptance criteria of proper performance with date passed and initials boxes.
- i. Section for comments or notes.

D. Execution of Functional Performance Tests:

1. Test Methods: Functional performance testing and verification may be achieved by direct manipulation of system inputs (i.e. heating or cooling sensors), manipulation of system inputs with building automation system (i.e. software override of sensor inputs), trend logs of system inputs and outputs using building automation system, or short-term monitoring of system inputs and outputs using stand alone data loggers.
 - a. Combination of methods may be required to test complete sequence of operations.
 - b. CA determines which method, or combination, is most appropriate.
2. Setup: Each test procedure is performed under conditions that simulate normal operating conditions as closely as possible.
 - a. Sub executing test provides necessary system modifications to produce specified conditions (flows, pressures, temperatures, etc) necessary to execute test and, at completion of test, returns affected building equipment and systems to their pre-test conditions.
3. Sampling: Multiple identical pieces of non-life-safety or non-critical equipment may be functionally tested using sampling strategy developed by CA and approved by Owner. A 10% sampling rate is typical
4. Test values: If after three attempts at testing of specified sample percentage, failures are still present, remaining units are tested at Contractors' expense.

E. Coordination and Scheduling: Subs provide sufficient notice to CA regarding completion schedule for pre-functional checklists and startup of equipment and systems.

1. CA schedules functional tests through Owner, Contractor and affected Sub's and following sequential priorities followed:
 - a. Equipment is not "temporarily" started (for heating or cooling), until pre-start checklist items and manufacturer's pre-start procedures are completed and moisture, dust and other environmental and building integrity issues have been addressed.
 - b. Functional performance testing does not begin until pre-functional, start-up and TAB is completed for given system.

- c. Controls system and equipment it controls are not functionally tested until points have been calibrated and pre-functional checklists are completed.

F. Problem Solving:

- 1. CA may recommend solutions to deficiencies identified during functional testing. Contractor, Subs and A/E team to resolve, correct and retest deficiencies.

3.6 DOCUMENTATION, NON-CONFORMANCE AND APPROVAL OF TESTS

A. Documentation:

- 1. CA witnesses and documents results of functional performance tests using forms developed for that purpose.
 - a. Prior to testing, forms are provided to Contractor, Sub's and Owner for review and approval.

B. Non-Conformance:

- 1. CA records results of functional test on procedure or test form.
 - a. Deficiencies identified during verification testing are documented on standard form and reported to Owner, Contractors and sub's.
 - b. Deficiency Report: Includes details of components or systems found to be non-compliant with parameters of test plans.
 - c. Report details adjustments or alterations required to correct system operation, and identifies responsible party.
- 2. Corrections of minor deficiencies identified may be made during tests at discretion of CA and deficiency and resolution documented on procedure form.
- 3. Make every effort to expedite testing process and minimize unnecessary delays, while not compromising integrity of procedures.
- 4. Identified deficiency resolution:
 - a. No dispute on deficiency and responsibility to correct it:
 - 1) CA documents deficiency and adjustments or alterations required to correct it.
 - 2) Sub corrects deficiency and notifies CA that equipment is ready to be retested.
 - 3) CA reschedules test and test is repeated.

- b. Dispute about deficiency or who is responsible:
 - 1) Deficiency is documented on non-compliance form and copy given to Owner and Contractor.
 - 2) Resolutions are made at lowest management level possible and additional parties are brought into discussions as needed.
 - a) Final interpretive authority is with A/E team.
 - b) Final acceptance authority is with Owner.
 - 3) CA documents resolution process.
 - 4) Once interpretation and resolution have been decided, appropriate party corrects deficiency and notifies CA that equipment is ready to be retested.
 - a) CA reschedules test and test is repeated until satisfactory performance is achieved.

C. Cost of Retesting:

- 1. Sub's:
 - a. Responsible for costs to retest pre-functional or functional test, if they are responsible for deficiency.
 - b. If not responsible for deficiency, cost recovery for retesting costs to be negotiated with C.
- 2. Time for CA and Owner to direct any retesting because pre-functional checklist or start-up test item, reported to have been successfully completed, but determined during functional testing to be faulty, will be back charged to C.

D. Approval:

- 1. CA makes formal approval of functional performance test after review.
- 2. CA recommends acceptance of each test to Owner.
- 3. Owner gives final approval on each test.

3.7 DEFERRED TESTING

- A. Unforeseen Deferred Tests: Functional testing that cannot be completed due to building structure, required occupancy condition, or other deficiency may be delayed upon approval of Owner.
 - 1. Tests are conducted in same manner as seasonal tests as soon as possible.

- B. Seasonal Testing: Seasonal variation in operations or control strategies may require additional testing during opposite season to verify performance of HVAC system and controls.
 - 1. During warranty period: Seasonal testing and other deferred testing is completed as required to fully test sequences of operation.
 - a. CA coordinates these activities.
 - 2. Tests are executed and documented, with deficiencies corrected by appropriate Subs.
 - 3. Final adjustments to O&M manuals and Record Drawings due to testing are also completed.

3.8 COMMISSIONING PLAN

- A. Commissioning Authority has prepared the Commissioning Plan:
 - 1. Attend meetings called by the Commissioning Authority for purposes of completing the commissioning plan.
 - 2. Required attendance and participation of relevant subcontractors, installers, suppliers, and manufacturer representatives.
- B. General Contractor is responsible for compliance with the Commissioning Plan
- C. Commissioning Plan: The commissioning schedule, procedures, and coordination requirements for all parties in the commissioning process.
- D. Commissioning Schedule:
 - 1. Submit anticipated dates of startup of each item of equipment and system to Commissioning Authority within 60 days after award of Contract.
 - a. Re-submit anticipated startup dates monthly, but not less than 4 weeks prior to startup.
 - b. Prefunctional Checklists and Functional Tests are to be preformed in sequence from components, to subsystem, to systems.
 - c. Provide sufficient notice to Commissioning Authority for delivery of relevant Checklists and Functional Test procedures, to avoid delay.

3.9 STARTUP PLANS AND REPORTS

- A. Startup Plans: For each item of equipment and system for which the manufacturer provides a startup plan, submit the plan not less than 8 weeks prior to startup.
- B. Startup Reports: For each item of equipment and system for which the manufacturer provides a startup checklist (or startup plan for field checkout

sheet), document compliance by submitting the completed startup checklist prior to startup, signed and dated by responsible entry.

- C. Submit directly to the Commissioning Authority.

3.10 PREFUNCTIONAL CHECKLISTS

- A. A Prefunctional Checklist is required to be filled out for each item of equipment or other assembly specified to be commissioned:

1. No sampling of identical or near-identical items is allowed
2. These checklists do not replace manufacturer's recommended startup checklists, regardless of apparent redundancy.
3. Prefunctional Checklist form will not be completed until after award of the contract; the following types of information will be gathered via the completed Checklist forms:
 - a. Certification by installing contractor that the unit is properly installed, started up, and operating and ready for Functional Testing.
 - b. Confirmation of receipt of each shop drawing and commissioning submittal specified, itemized by unit.
 - c. Manufactured, model number, and relevant capacity information; list information; "as specified," "as submitted," and "as installed."
 - d. Serial number of installed unit.
 - e. List of inspections to be conducted to document proper installation prior to startup and Functional Testing; these will be primarily static inspections and procedures; for equipment and systems may include normal manufacturer's startup checklist items and minor testing.
 - f. Sensor and actuator calibration information.

- B. General Contractor is ultimately responsible for filling out Prefunctional Checklists, after completion of installation and before startup; witnessing by the commissioning Authority is not required unless otherwise specified:

1. Each line item without deficiency is to be witnessed, initialed, and dated by the actual witness; checklists are not completed until all line items are initialed and dated completed without deficiencies.
2. Checklists with incomplete items may be submitted for approval provided the General Contractor attests that incomplete items do not preclude the performance of safe and reliable Functional Testing; re-submission of the Checklist is required upon completion of remaining items.
3. Individual Checklists may contain line items that are the responsibility of more than one installer; General Contractor shall assign responsibility to appropriate installers or subcontractors, with identification recorded on the form.
4. If any Checklist line item is not relevant, record reasons on the form.

5. General Contractor may independently perform startup inspections and/or tests, at his option; see Section 017500 for additional general startup requirements.
 6. Regardless of these reporting requirements, General Contractor is responsible for correct startup and operation.
 7. Submit completed Checklists to Commissioning Authority within two days of completion.
- C. Commissioning Authority is responsible for furnishing the Prefunctional Checklist to General Contractor:
1. Initial Drafts: General Contractor is responsible for initial draft of Prefunctional Checklists where so indicated in the Contract Documents.
 2. Provide all additional information request by Commissioning Authority to aid in preparation of checklists, such as shop drawing submittal, manufacturers' startup checklists, and O&M data.
 3. Commissioning authority may add any relevant items deemed necessary regardless of whether they are explicitly mentioned in the Contract Documents or not.
 4. When asked to review the proposed Checklist, do so in a timely manner.
- D. Commissioning Authority Witnessing: Required for:
1. Each piece of primary equipment, unless sampling of multiple similar units is allowed by the commissioning plan.
 2. A sampling of non-primary equipment, as allowed by the commissioning plan.
- E. Deficiencies: Correct deficiencies and re-inspected or re-test, as applicable, at no extra cost to Owner:
1. If difficulty in correction would delay progress, report deficiency to the Commissioning Authority immediately.

3.11 FUNCTIONAL TESTS

- A. A Functional Test is required for each item of equipment, system, or other assembly specified to be commissioned, unless sampling of multiple identical or near-identical units is allowed by the final test procedures.
- B. General Contractor is ultimately responsible for execution of required Functional Tests, after completion of Prefunctional Checklist and before closeout.

- C. Commissioning Authority is responsible for witnessing and reporting results of Functional Tests, including preparation and completion of forms for that purpose.
- D. General Contractor is responsible for correction of deficiencies and re-testing at no extra cost to Owner; if a deficiency is not corrected and re-tested immediately, the Commissioning Authority will document the deficiency and the General Contractor's stated intentions regarding correction:
 - 1. Deficiencies are any condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents or does not perform properly.
 - 2. When the deficiency has been corrected, the General Contractor completes the form certifying that the item is ready to be re-tested and returns the form to the Commissioning Authority; the Commissioning Authority will reschedule the test and the General Contractor re-test.
 - 3. Identical or Near-Identical Items: If 10 percent, or three, whichever is greater, of identical or near-identical items fail to perform due to material or manufacturing defect, all items will be considered defective; provide a proposal for correction within 2 weeks after notification of defect, including provision for testing sample installations prior to replacement of all items.
 - 4. General contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing.
 - 5. General Contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing if the test failed due to failure to execute the relevant Prefunctional Checklist correctly; if the test failed for reasons that would not have been identified in the Prefunctional Checklist correctly; if the test failed for reasons that would not have been identified in the Prefunctional Checklist process, General Contractor shall bear the cost of the second and subsequent re-test.
- E. Functional Test Procedures:
 - 1. Some test procedures are included in the Contract Documents; where Functional Test procedures are not included in the Contract Documents, test procedures will be determined by the Commissioning Authority with input by and coordination with General Contractor.
 - 2. Examples of Functional Testing:
 - a. Test the dynamic function and operation of equipment and systems (rather than just components) using manual (Direct observation) or monitoring methods under full operation (e.g., the chiller pump is tested interactively with the chiller functions to see if the pump ramps up and down to maintain the differential pressure setpoint).

- b. Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc.
 - c. Systems are run through all the HVAC control system's sequences of operation and components are verified to be responding as the sequence's state.
 - d. Traditional air or water test and balancing (TAB) is not Functional Testing; spot checking of TAB by demonstration to the Commissioning Authority is Functional Testing.
- F. Deferred Functional Tests: Some test may need to be performed later, after substantial completion, due to partial occupancy, equipment, seasonal requirements, design or other site conditions; performance of these test remains the General Contractor's responsibility regardless of timing.

3.12 TEST PROCEDURE - GENERAL

- A. Provide skilled technicians to execute starting of equipment and to execute the functional Tests. Ensure that they are available and present during the agreed upon schedules and for sufficient duration to complete the necessary test, adjustments and problem-solving.
- B. Provide all necessary materials and system modifications required to produce the flows, pressures, temperatures, and condition as necessary to execute the test according to the specified conditions. At completion of the test, return all affected equipment and systems to their pre-test condition.
- C. Sampling: Where Functional Testing of fewer than the total number of multiple identical or near-identical items is explicitly permitted, perform sampling as follows:
 - 1. Identical Units: Defined as units with same application and sequence of operation; only minor size of capacity difference.
 - 2. Sampling is not allowed for:
 - a. Major equipment.
 - b. Life-safety-critical equipment.
 - c. Prefunctional Checklist execution.
 - 3. XX= the percent of the group of identical equipment to be included in each sample; defined for specific type of equipment.
 - 4. YY= the percent of the sample that if failed will require another sample to be tested; defined for specific type of equipment.
 - 5. Randomly test at least XX percent of each group of identical equipment, but not less than three units. This constitutes the "First Sample".
 - 6. If YY percent of the units in the first sample fail, test another XX percent of the remaining identical units.

7. If YY percent of the units in the second sample fail, test all remaining identical units.
 8. If frequent failures occur, resulting in more troubleshooting than testing, the Commissioning Authority may stop the testing and require General Contractor to perform and document a checkout of the remaining units prior to continuing testing.
- D. Manual Testing: Use hand- held instruments, immediate control system readouts, or direct observation to verify performance (contrasted to analyzing monitored data taken over time to make the “observation”).
 - E. Simulating Conditions: Artificially create the necessary condition for the purpose of testing the response of a system; for example apply hot air to a space sensor using a hair dryer to see the response in a VAV box.
 - F. Simulating Signals: Disconnect the sensor and use a signal generator to send an amperage, resistance or pressure to the transducer and control system to simulate the sensor value.
 - G. Over-Writing Values: Change the sensor value known to the control system in the control system to see the response of the system; for example, change the outside air temperature value from 50 degrees F to 75 degrees F to verify economizer operation.
 - H. Indirect Indicators: Remote indicators of a response of condition, such as a reading from a control system screen reporting a damper to be 100 percent closed, are considered indirect indicators.
 - I. Monitoring: Record parameters (flow, current, status, pressure, etc.) of equipment operating using dataloggers of the trending capabilities of the relevant control systems; where monitoring of specific points is called for in functional Test Procedures:
 1. All points that are monitored by the relevant control system shall be trended by General Contractor; at the Commissioning Authority’s request, General Contractor shall trend up to 20 percent more points than specified at no extra charge.
 2. Other points will be monitored by the Commissioning Authority using dataloggers.
 3. At the option of the commissioning authority, some control system monitoring may be replaced with datalogger monitoring.
 4. Provide hard copies of monitored data in columnar format with time down left column and at least 5 columns of point values on same page.
 5. Graphical output is desirable and is required for all output if the system can product it.
 6. Monitoring may be used to augment manual testing.

3.13 OPERATION AND MAINTENANCE MANUALS

- A. See Section 01780 for additional requirements.
- B. Add design intent documentation furnished by Architect to manuals prior to submission to Owner.
- C. Submit manuals related to items that were commissioned to Commissioning authority for review; make changes recommended by Commissioning Authority.
- D. Commissioning Authority will add commissioning records to manuals after submission to Owner.

3.14 SUMMARY TABLE OF RESPONSIBILITIES

Activity		Commissioning Authority (CA)	Contractor (C) (Cx) and Subcontractors, including Manufacturer Reps/Vendors	Owner (OTS) Owner's Technical Staff	Design Professionals (A/E) Architect/Engineers	Sub-Contractor (Sub's)
1.	Commissioning Plan	Writes and manages the commissioning plan. Review and comment	Reviews plan for understanding and scope issues.	Reviews and accepts.	May review and comment.	Reviews and comments.
2.	Construction Submittals of commissioned equipment and assemblies	Reviews for information to inform functional testing	Reviews for compliance with specification and submits to A, OTS and CA for review.	Reviews CA and A comments, and reviews selected submittals.	Reviews CA comments, incorporates with their own comments and submits to (C).	Provides submittal material to (C).
3.	Controls Integration Meetings	Fully participates.	Works with A/E and Sub's with support from CA.	May participate	May participate in meeting that deal with design issues upon Owner Request via executed SSA.	Work with C and support from CA.
4.	Prefunctional Checklists, Tests and Startup forms	Develops based on information provided by A/E	Reviews for scope issues.	May review with CA.	None.	Reviews for scope issues.
5.	Construction Startup and Checkout Plan	Reviews and approves.	Develops by combining prefunctional checklists, tests and startup forms and manufacturer data.	May review with CA.	None.	Per scope of contract.
6.	Prefunctional Checklists Execution.	Spot checks selected items. Reviews completed forms.	Assists DBC with format and checkout. Reviews completed forms.	Spot checks selected items. Reviews completed forms.	None.	Works with C to execute the checklists.

Activity		Commissioning Authority (CA)	Contractor (C) (Cx) and Subcontractors, including Manufacturer Reps/Vendors	Owner (OTS) Owner's Technical Staff	Design Professionals (A/E) Architect/Engineers	Sub-Contractor (Sub's)
7.	Startup	Witnesses major equipment or systems. Reviews completed forms.	Coordinates tasks and schedules with Subcontractors.	Observes selected systems.	May witness selected systems upon Owner request via executed SSA.	Works with C to coordinates tasks and schedules with Subcontractors.
8.	Construction Observation	Some observation of critical systems and issues.	Observes to ensure Sub-contractors are executing accepted installation and startup plans.	Periodic walk-through. Reports findings to CA and C.	Per scope of contract.	Works with C to observe and ensure Subcontractors are executing accepted installation and startup plans.
9.	Management and Keeper of Issues Log	Manages, develops and keeps updated	Uses log to address issues.	Reviews and provides input to CA.	None (but may add all open issues to their punch list near end of construction).	Uses log to address issues.
10.	Commissioning Meetings	Plans, conducts and takes and distributes minutes for regular commissioning meetings.	Attends commissioning meetings.	Attends commissioning meetings.	May attend selected commissioning meetings upon Owner request via executed SSA.	Attends selected commissioning meetings
11.	Functional Performance Test Procedure Development	Writes procedures for all tests, except regulated tests such as fire alarm, fire suppression, elevators and electrical tests.	Reviews for safety, warranty and scope.	May review.	None.	Reviews for safety, warranty and scope.
12.	Test Plan (process, schedule and sequencing)	Develops plan with input from C and Sub's.	Reviews and accepts.	May review.	None.	Reviews and accepts.
13.	Functional Performance Test Execution	Oversees and witnesses all tests and documents testing.	Helps execute testing.	May participate in selected tests.	May review design issues upon Owner request via executed SSA.	Executes testing with help of C.
14.	Test and Balance (TAB) of Air and Water Systems	Reviews and comments to C, A/E .	Assists TAB contractor in documenting per project contract, and will help resolve issues, if any. Approves final results.	May review.	May help resolve issues, if any, upon Owner request via executed SSA..	Executes and documents per project contract, and will help resolve issues, if any. Approves final results.

Activity		Commissioning Authority (CA)	Contractor (C) (Cx) and Subcontractors, including Manufacturer Reps/Vendors	Owner (OTS) Owner's Technical Staff	Design Professionals (A/E) Architect/Engineers	Sub-Contractor (Sub's)
15.	O&M Manuals	Reviews for clarity, usability and completeness. Comments to Owner.	Works with Sub's to develop O&M Manual and submits to A.	Reviews and comments. Resolves issues on comments from reviewer. Provides final direction to C.	Submittal review per CO scope.	Works with C to develop O&M Manual and submits to A.
16.	Systems Manual	Receives some data from C, develops other required data and compiles into manual.	Provides specified data and information and submits to CA.	Provides Owner objectives / design intent. Assists in initial outline and reviews / comments on final.	Submittal review per CO scope.	Works with C to provide specified data and information.
17.	Training	Coordinates with Owner regarding functional testing as hands-on training for OTS	Assists in training agenda. Works with Sub's to implement training agendas.	Receives training.	None	Works with C to develop and fill in training agendas. Executes training.
18.	Scheduling	Reviews the Contractor's schedule for commissioning activities. Provides input. Notifies Owner of concerns.	Works with Sub's to control the schedule.	May review.	None	Works with C to control the schedule.
19.	As-Built / Redlines	May check to see that C / DBC are keeping redlines updated.	Develops and submits to A per their scope.	Reviews and accept redlines.	Submittal review per CO scope.	Develops and submits to C per their scope.
20.	Commissioning Report	Compiles and submits to Owner.	None.	Accepts Report.	Submittal review per CO scope.	None.
21.	Seasonal and Deferred Testing	Same as for functional testing.	Same as for functional testing. Schedules testing with OTS.	Same as for functional testing. Works with C to schedule.	None	Works with C to help perform functional testing.

* * *

SECTION 02 08 00

HAZARDOUS MATERIALS, ASBESTOS AND LEAD ABATEMENT

1.00 GENERAL

1.01 DESCRIPTION

- A. Based on the results of the survey, lead-based paint and asbestos fibers are contained in the building materials. The County makes no representation or warranty that the conditions indicated by the survey report either are representative of those conditions existing throughout the area, or that unforeseen developments may not occur, or that materials other than, or in proportions different from those indicated may not exist. The Contractor shall be responsible for verifying abatement quantities prior to submittal of bid. The Contractor is advised that the location of all asbestos containing materials may not be clearly known and that the Contractor shall proceed with caution in all phases of work.

1.02 CONTRACTOR'S RESPONSIBILITY

- A. Work included - Base Bid: Contractor shall furnish all labor, materials, and equipment required for proper removal and disposal of lead-based paint and asbestos containing materials from the existing utility building and kennel building to be demolished as part of the project.
- B. The Contractor shall be responsible for hiring a certified abatement subcontractor to perform the lead-based paint and asbestos abatement in a manner that complies with all applicable local, state, and federal laws and regulations.
- C. The Contractor shall submit a complete work plan, including methodology, specifications and schedule for abatement work, complying with all applicable laws and regulations. Submit the name and license number of a State of California certified abatement subcontractor for the County's approval prior to performance of the abatement work. Certification must be by the State Contractor License Board and currently registered by the State of California Division of Occupancy Safety and Health.
- D. The Contractor shall obtain and pay for the required notifications and permits for removal and disposal of the lead-based paint and asbestos containing materials.

- E. The Contractor at his expense shall provide all tests and inspections required by applicable regulations, codes, standards, contract documents and any other tests and inspections that he deems necessary for his own use.
- F. The Contractor, prior to any demolition work, must abate all lead-based paint and asbestos containing materials and provide air monitoring to verify that the air is clean and acceptable as required by applicable laws and regulations.
- G. Remove and dispose all lead-based paint and asbestos containing materials in accordance with jurisdictional and regulatory agency requirements. Abated materials for disposal shall be segregated from normal construction debris and transported off-site to an approved landfill.

1.03 COUNTY'S RESPONSIBILITIES - HAZARDOUS MATERIALS ABATEMENT MONITORING SERVICES

The County will hire an Environmental Consultant to provide abatement monitoring services that are customarily rendered when providing professional services of this nature, and shall include, but not be limited to the following:

- A. Review the Contractor/subcontractor submitted abatement detailed work plan, methodology, and other pertinent documents to verify compliance with applicable guidelines, laws, and regulations, including the proper licenses, certificates and all other applicable documents required to perform and complete the project.
- B. Visually observe the progress of the work, including but not necessarily limited to the following:
 - 1. Verify contained work areas, isolated work areas, and decontaminated enclosure system design and installation.
 - 2. Verify that the proper abatement methods and procedures are being followed.
 - 3. Take air tests, core samples and bulk samples to complete the work.
 - 4. Conduct periodic review of isolation and containment barriers to determine the level of compliance with the requirements.
 - 5. Observe abatement process to assure that methods for removal and disposal are in accordance with applicable laws and regulations. Verify that abated materials for disposal are segregated from normal

construction debris and transported off-site to an approved landfill.

6 Provide ongoing progress and final close-out reports.

Note: The use of an Environmental Consultant by the County to monitor the abatement work will not relieve the Contractor of his responsibilities to conduct tests and inspections required by applicable laws and regulations, codes, and standards for the protection and safety of his employees.

SECTION 02 26 23
ASBESTOS ABATEMENT

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ASBESTOS ABATEMENT & REMOVAL SPECIFICATIONS

PART 1 GENERAL

1.1 APPLICABILITY OF SPECIFICATIONS

- 1.1.1 These specifications cover the removal and disposal of Asbestos Containing Materials (ACM) and Asbestos Containing Construction Materials (ACCM) at any site, building or structure specified by the Los Angeles County Department (LAC) (i.e., fireproofing, drywall, drywall tape joint compounds, floor tile/mastic, pipe insulation [glove bag removal] roofing, stucco, cement, asphalt and miscellaneous asbestos containing construction materials) which is known, or likely, to contain greater than 0.1 percent asbestos.
- 1.1.2 These specifications for asbestos abatement are intended to define the asbestos related project. Site Specific General Requirements, Site Specific Work Area Plans and Site Specific Scopes of Work that may be developed as the work schedule is clarified are integral to and shall constitute a part of these specifications.
- 1.1.3 The County or contracted designee (Contractor) should carefully inspect each work area to determine if he/she can in fact both remove all materials under consideration. If he/she can or cannot, he/she needs to include this information in writing during the construction meeting along with any other areas he/she determines to be inaccessible. In some cases, a sign may be required to warn of hidden asbestos material. The Contractor should be prepared to place signs as determined to be necessary by the LAC's retained Certified Asbestos Consultant (CAC).
- 1.1.4 If removal and replacement of materials is necessary, replacement materials should first be identified before removal.
- 1.1.5 Henceforth, these Asbestos Abatement Specifications are referred to as the Specifications.

1.2 DESCRIPTION OF WORK

- 1.2.1 The work specified herein is abatement of asbestos containing material(s) to be performed by competent persons who are properly trained, knowledgeable and qualified in the techniques of asbestos abatement, handling and disposal of asbestos and/or asbestos- contaminated materials and the subsequent cleaning of asbestos contaminated areas. Work shall be performed by Contractors who comply with all applicable federal, state and local regulations, are capable of, and willing to perform the work pursuant to these specifications.

- 122 All work shall be performed under the strict work practices and procedures outlined herein, as applicable. The retained CIH/CAC's decision(s) will be final in all matters relating to the interpretation of these specifications and all applicable regulations. The Contractor shall abide by all directions and decisions of the retained CIH/CAC or CSST relative to asbestos fiber control.
- 123 The Contractor shall furnish all labor, materials, services, insurance, equipment, and decontamination facilities to carry out the complete removal and disposal of all ACM identified in these specifications. The Contractor shall make all his own estimation of removed material to determine quantities.
- 124 Work shall be performed in accordance with all applicable regulations, codes, ordinances and standards of governing authorities having jurisdiction and the requirements specified herein.
- 125 Contractor shall furnish all labor, material, supervision, construction tools and equipment necessary to perform the following work:
- 125.1 Removal of all identified asbestos within the limit lines described by County's Representative. Contractor shall verify quantities and locations.
 - 125.2 Provide and maintain environmental and occupational safety protective measures, equipment and procedures at the work site.
 - 125.3 Clean the work site to completely remove all visually apparent asbestos and to reduce the airborne concentrations as described in Section 5.3-5.5.
 - 125.4 If in the course of removing ACM from the site, the Contractor discovers any other ACM, other than those described in plans, reports, or specifications, the Contractor shall notify the County via written Change Order. Only upon receiving the County's approval, the Contractor will remove and dispose of such item(s) at the contract unit price identified by the Contractor in his bid.
 - 125.5 With respect to available utilities, the Contractor shall coordinate access and use of all utilities as needed for the duration of the project with the County. The Contractor will be required to provide utilities.
 - 125.6 The Contractor shall obtain all necessary permits from the City of Los Angeles, South Coast Air Quality Management District (SCAQMD) and other authorities having jurisdiction.
 - 125.7 Package, transport and disposal of all asbestos to an approved disposal site.
 - 125.8 Cooperate with County's Representative with regard to air monitoring and observation of procedures.

1.3 Definitions

- 1.3.1 Aggressive method - removal or disturbance of building material by sanding, abrading, grinding or other method that breaks, crumbles, or disintegrates intact ACM.
- 1.3.2 Amended water - water to which surfactant (wetting agent) has been added to increase the ability of the liquid to penetrate ACM.
- 1.3.3 Asbestos Manager (AM) - shall be the LAC employee responsible for implementing County's asbestos policy and program. The AM shall be considered County's Representative for all determinations of project consistency with County's department policy and laws and regulations relating to asbestos.
- 1.3.4 Asbestos - includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these materials that has been chemically treated and/or altered. Asbestos includes Presumed Asbestos Containing Material (PACM).
- 1.3.5 Asbestos Consultant - shall be the independent party retained by the County to provide consultation and supervision services for asbestos abatement and survey activities. Typical qualifications and operations of the Asbestos Consultant are given in Appendix C.
- 1.3.6 Asbestos-containing construction material (ACCM) - any material containing more than one tenth of one percent asbestos., but less than 1% by weight.
- 1.3.7 Asbestos-containing material (ACM) - any material containing more than one percent asbestos.
- 1.3.8 Authorized person - any person authorized by the employer and required by work duties to be present in regulated areas.
- 1.3.9 Class I asbestos work - activities involving the removal of thermal system insulation (TSI) and surfacing ACM and PACM, including removal of non-friable asbestos by aggressive methods.
- 1.3.10 Class II asbestos work - activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.
- 1.3.11 Class III asbestos work - repair and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed. No more than 25 square feet, or one glove bag, worth of material is to be disturbed.

- 1.3.12 Class IV asbestos work - maintenance and custodial activities during which employees contact but do not disturb ACM or PACM.
- 1.3.13 Clean room - an uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.
- 1.3.14 Closely resemble - that the major workplace conditions which have contributed to the levels of historic asbestos exposure, are no more protective than the conditions of the current workplace.
- 1.3.15 Competent person - one who can identify existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them: in addition, for Class I and Class II work who is specially trained in a training course which meet the criteria of EPA's model accreditation Plan (40 CFR 763) for project designer or supervisor, or its equivalent
- 1.3.16 Critical barrier - two or more layers of plastic sealed over all openings into a work area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a work area from migrating to an adjacent area.
- 1.3.17 Decontamination area - an enclosed area adjacent and connected to the regulated area and consisting of an equipment room, clean room, and on occasions, a shower unit, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.
- 1.3.18 Demolition - the wrecking or taking out of load-supporting structural member and any relating razing, removing, or stripping of asbestos products.
- 1.3.19 Disturbance - contact that releases fibers from ACM or PACM or debris containing ACM or PACM. This term includes activities that disrupt the matrix of ACM or PACM, render ACM or PACM friable, or generate visible debris. Disturbance includes cutting away small amounts of ACM and PACM, no greater than the amount which can be contained in one standard sized glove bag or waste bag in order to access a building component. In no event, shall the amount of ACM or PACM so disturbed exceed that which can be contained in one glove bag or waste bag which shall not exceed 60 inches in length and width.
- 1.3.20 Employee exposure - that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

- 1.321 Equipment room (change room) - a contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.
- 1.322 Fiber - a particulate form of asbestos, 5 micrometers or longer, with a length to diameter ration of at least 3 to 1.
- 1.323 Glovebag - an impervious plastic bag-like enclosure affixed around asbestos containing material, with glove-like appendages through which materials and tools can be handled.
- 1.324 High-efficiency particulate air (HEPA) filter - a filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.
- 1.325 Homogenous area - an area of surfacing material or thermal system insulation that is uniform in color and texture.
- 1.326 Industrial hygienist - a professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards. A Certified Industrial Hygienist (CIH) is an industrial hygienist who has been certified by the American Board of Industrial Hygiene. ***A CIH must also be certified in asbestos to perform asbestos-related work.**
- 1.327 Intact - that the ACM has not crumbled, been pulverized, or otherwise deteriorated so that it is no longer likely to be bound with its matrix.
- 1.328 Modification - a changed or altered procedure. Material or component of a control system, which replaces a procedure. Material or component of a required system. Omitting a procedure or component, or reducing or diminishing the stringency or strength of a material or component of the control system is not a "modification".
- 1.329 Negative initial exposure assessment - a demonstration by the employer which complies with the criteria in Title 8 of the California Code of Regulations, Section 1529 (Title 8 CCR 1529), subsection (f)(2)(c), that employee exposure during an operation is expected to be consistently below the Permissible Exposure Limit (PEL).
- 1.330 Presumed Asbestos-Containing Material (PACM) - thermal system insulation and surfacing material found in buildings constructed no later than 1980. The designation of material as "PACM" may be rebutted pursuant to CCR Title 8 Section 1529, subsection (k)(4). Materials may not be deemed PACM for disposal purposes.

- 1.3.31 Project Designer - a person who has successfully completed the training requirements for the abatement project designer established by 40 U.S.C. Section 763.90(g).
- 1.3.32 Regulated area - an area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos, exceed or there is a reasonable possibility they may exceed the permissible exposure limit.
- 1.3.33 Removal - all operations where ACM and/or PACM is taken out or stripped from structures or substrates, and includes demolition operations.
- 1.3.34 Renovation - the modifying of an existing structure, or portion thereof.
- 1.3.35 Repair - overhauling, rebuilding, reconstructing or reconditioning of structures or substrates, including encapsulation or other repair of ACM or PACM attached to structures or substrates.
- 1.3.36 Surfacing material - material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).
- 1.3.37 Surfacing ACM - surfacing material which contains more than 1 percent asbestos.
- 1.3.38 Thermal system insulation (TSI) - ACM applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain.
- 1.3.39 Thermal system insulation ACM - is thermal system insulation that contains more than 1 percent asbestos.

1.4 Notifications

- 1.4.1 Notification of asbestos abatement activities shall be provided by the Contractor to all cognizant federal, state, and local agencies prior to the start of abatement activities. At least ten (10) working days prior to the start of work, the Contractor shall submit the following to the County, or its representative for review. No work shall begin until these documents are submitted, and approved by the County, or its representatives.
- 1.4.1.1 Notices required by federal/state/local regulations. In addition, proof of timely transmittal to the respective agency requiring the notice.

- 14.12 Copies of current, valid permits required by state/local regulations.
- 14.13 Copies of all state and local licenses and permits necessary to carry out the work described in this plan.
- 142 Agency Notification
 - 1421 The Contractor will notify, in writing, Cal/OSHA and SCAQMD of the planned asbestos removal operation at least 14 calendar days prior to beginning work. Proof of notification shall be supplied to the County, or its representative, prior to the start of work.
- 1.5 Quantity Take-off
 - 1.51 All ACM quantities shall be determined by the bidder and no claim for additional cost will be accepted by the County as a result of quantities of ACM to be removed except those provided for in these Specifications.
 - 1.52 Any quantities implied in these Specifications are illustrative only and are not intended to represent actual quantities for bidding purposes.
- 1.6 Submittals
 - 1.61 Manufacturer's Product Data
 - 1.6.1.1 Local Exhaust Equipment
 - 1.6.1.2 Vacuum Equipment
 - 1.6.1.3 Respirators
 - 1.6.1.4 Pressure Differential Monitor
 - 1.62 Plan for Removal and Demolition of Asbestos: Submit a detailed job-specific plan of the Work procedures to be used in the removal and demolition of materials containing asbestos at least one week prior to the start of Work.
 - 1.621 The plan shall be prepared and signed by the Contractor.
 - 1.622 Such plan shall include a sketch showing the location, size, and details of asbestos control areas, location and details of the change rooms, layout of change rooms, layout and location of waste container pass-out airlock system, and locations of local exhaust equipment and their effluent exhaust locations.

- 1623 The plan shall also include interface of trades involved in the construction, sequencing of asbestos-related Work, disposal plan, type of wetting agent and removal encapsulant to be used, respirators, protective equipment, pressure differential monitoring devices, and a detailed description of the method to be employed in order to eliminate emissions.
- 1624 The plan shall include copies of emergency, security and contingency plans as follows:
 - 1.6.2.4.1 A plan to provide emergency and fire evacuation for removing workers from the work zone in an emergency. A copy of this plan shall be filed with the local fire and/or ambulance unit.
 - 1.6.2.4.2 A plan for maintaining the security of the work zone. The security plan shall provide a means of preventing accidental or unauthorized entry.
 - 1.6.2.4.3 A contingency plan addressing emergencies, equipment failures and barrier failure. This plan shall include telephone numbers of representative of the Contractor to be contacted in emergencies.
- 1625 The plan shall be approved prior to the start of asbestos abatement Work.
- 1626 Prior to beginning Work, the County, Consultant, and Contractor shall meet to discuss in detail the asbestos plan, including Work procedures and safety precautions.
- 163 Field Test Reports
 - 1631 Air Sampling Results: Fiber counting shall be completed and results made available to the County *within 24 hours*. The Consultant shall notify the Contractor immediately of exposure to asbestos fibers more than the Permissible Exposure Limit (PEL) of 0.1 fibers/cubic centimeter (f/cc).
 - 1632 Pressure Differential Recordings for Local Exhaust Systems: The Contractor shall review and report the pressure differential recordings onsite and frequently to address any failures in containment, particularly at the beginning and end of each shift. The Contractor shall immediately report to the County variance in the permissible pressure differential which could cause adjacent unsealed areas to have asbestos fiber concentration more than 0.01 fibers per cubic centimeter or background, whichever is higher.

- 1633 Asbestos Disposal Quantity Report: The Contractor shall review and report to the County within 24 hours from the end of each day, the amount of asbestos-containing material removed during the previous day. Quantities shall be listed as bags or parcels, not bins.
- 164 Administrative and Closeout Submittals
- 1641 Notification of Equipment Rental: If rental equipment is to be used during asbestos handling and disposal, written notification concerning the intended use of the equipment will be furnished to the rental agency, with a copy to the County.
- 1642 The Contractor shall submit to the County, or its representative, a certification that exposure measurements, medical surveillance, and worker training records are kept in conformance with CCR Title 8, Section 1529. This certification must be signed by an officer of the abatement-contracting firm and notarized.
- 1643 Landfill Delivery Records: *Within 3 days* after delivery of asbestos-containing material to the landfill, submit detailed delivery tickets, and hazardous waste manifests, prepared, signed, and dated by an agent of the landfill, certifying the amount of materials delivered to the landfill.
- 1644 Waste Disposal Site Approval: Submit recommended waste disposal site to the County for approval prior to the start of the project. Submit written evidence to the County prior to disposal, that the waste disposal site is approved for asbestos disposal by the EPA and other applicable authorities. Contractor shall use the form attached hereto as Attachment 5. At job completion, these records shall be inserted into the job binder and transmitted to the County's Representative.
- 1645 Respiratory Protection Program: The abatement Contractor and Consultant must have a written Respiratory Protection Program as required by CCR Title 8, Section 5144. The Respiratory Protection Form (Appendix B), shall be completed by the Contractor, and submitted to the County, or its representative.
- 1646 Certificate of Worker's Acknowledgment: Appendix C provides a model certificate of worker training. After each worker, has completed the Contractor's respiratory protection program, had the appropriate level of asbestos training, and had a medical exam, a fully executed copy of this, or an equivalent form, shall be completed and submitted to the County, or its representative.

- 16.4.7 Personnel Training Certificates: Prior to the Notice to Proceed, the successful Contractor shall submit a declaration certifying that all of the Contractor's employees have been adequately trained in accordance with CCR Title 8, Section 1529. The Contractor shall also submit proof that all personnel who will be permitted to enter contaminated Work Areas have been adequately trained in accordance with CCR Title 8, Section 1529 for certification as an Asbestos Worker or Supervisor for Class I asbestos abatement projects. These documents are to be kept onsite, throughout the project
- 16.4.8 Medical Examination and Certification: Prior to the Notice to Proceed, the Contractor shall submit proof that all personnel who will be permitted to enter contaminated Work Areas have had medical examinations in accordance with CCR Title 8, Section 1529. Provide a written certification signed by a licensed physician that all workers and supervisors have met or exceeded all the medical prerequisites listed herein and in CCR Title 8, Section 1529 and 29 CFR 1910.134. These documents are to be kept onsite, throughout the project
- 16.4.9 Contractor Licensing Board Asbestos Certification: Submit a copy of the Contractor's California State Contractor's Licensing Board Asbestos Certification in accordance with the California Business and Professional Code, Section 7058.5, to the Contractor.
- 16.4.10 At no time, shall an asbestos abatement contractor subcontract services to another asbestos abatement contractor
- 16.4.11 Contractor Class C Asbestos Removal License: Submit proof that the Contractor possesses a current California Class C Asbestos Removal License to the County.
- 16.4.12 Hazardous Waste Hauler License and EPA Transporter's Number: Submit proof that the Contractor or the Contractor's Hazardous Waste Hauler possesses a current Hazardous Waste Hauler License and EPA Transporter's Number to the County.
- 16.4.13 Cal/OSHA Registration: Submit a copy of the Contractor's current California OSHA registration to conduct asbestos-related work.
- 16.4.14 Submit any current and valid licenses, permits, and notices required by federal/state/local regulations and proof of timely transmittal of notices to the respective agency requiring the notices.

164.15 At job completion, Contractor shall transmit the job binder to County's Representative. Contents shall be as described in this section plus any additional items as listed in Appendix B.

1.7 Quality Assurance

1.7.1 Where methods or procedures are specified, they shall constitute minimum measures and shall in no way relieve Contractor of sole responsibility for the means, methods, techniques, sequences or safety measures in connection with the work.

1.7.2 The removal of asbestos shall be supervised by an asbestos supervisor who has experience in this field of construction and can furnish a record of satisfactory performance on at least three projects for work of comparable type.

1.7.3 All work shall be performed in compliance with all pertinent laws, rules and regulations, and industry standards existing at the time of the work, including but not limited to:

1.7.3.1 Federal requirements which govern abatement work or hauling and disposal of hazardous waste materials include, but are not limited to, the following:

- United States Environmental Protection Agency (EPA), Title 40, Code of Federal Regulations, Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAP), National Emission Standard for Asbestos (40 CFR, Part 61, Subpart A & M).
- EPA, Asbestos Hazard Emergency Response Act (AHERA), Title 40, Code of Federal Regulations, Part 763, including Appendices (40 CFR, Part 763).
- EPA, Resource Conservation & Recovery Act (RCRA).
- United States Department of Transportation (DOT), Hazardous Substances, Title 49, Code of Federal Regulations, Parts 171 through 180 (49 CFR Parts 171 and 180).
- United States Department of Labor, Division of Occupational Safety and Health (OSHA), Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite, Final Rules, Title 29, Code of Federal Regulations, Part 1910, Section 1001 and Part 1926, Section 1101.
- Respiratory Protection, 29 CFR Part 1910, Section 134 and 42 CFR Part 84.

- Asbestos in Construction Industry, 29 CFR Part 1926.
- Access of Employee Exposure/Medical Records, 29 CFR, Part 1910, Section 2.
- Hazard Communication, 29 CFR, Part 1910, Section 1200.
- Specifications for Accident Prevention Signs and Tags, 29 CFR, Part 1910, Section 145.
- Personal Protective Equipment, 29 CFR, Part 1910, Sections 132 -138.
- National Electric Code

1.7.32 State and Local Regulations

- The State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA), Asbestos in Construction, Title 8, California Code of Regulations, Section 1529 (CCR Title 8, Section 1529).
- Title 8, Section 341.6, Registration, Asbestos-Related Work.
- Title 8, Division 1, Chapter 4, Division of Industrial Safety.
- The State of California, Department of Health Services, Title 22, California Code of Regulations, Environmental Health, Section 66699, Persistent and Bioaccumulative Toxic Substances (CCR Title 22, Section 66699).
- The State of California, Health and Safety Code, Sections 25249.5 and 25249.6.
- The State of California, Business and Professions Code, Section 7085.5 (Asbestos Certification) and other corresponding regulations in the California Contractors State License Board, Title 16, California Code of Regulations, Chapter 8 (CCR Title 16, chap. 8).
- California Labor Code, Sections 6501.5, 6501.7, 6501.8, and 6501.9.
- South Coast Air Quality Management District, Rules and Regulations including Rule 1403.
- Division 10 of the City of Los Angeles Fire Code, 92 Edition.

1.7.3.3 Analytical Methods

- National Institute for Occupational Safety and Health (NIOSH) Method 7400 – Fibers.
- U.S. EPA Level II Transmission Electron Microscopy Analytical Method by Yamate et al., 1984.
- EPA, Title 40, Code of Federal Regulations, Part 763, Appendix A, Subpart F, Section 1, Polarized Light Microscopy, (40 CFR, Part 763).

1.7.3.4 Miscellaneous Standards and References

- Underwriters Laboratories (UL) Standard 586, 1990 High Efficiency, Particulate, Air Filter Units.
- American National Standards Institute (ANSI), ANSI Z9.2, Fundamentals Governing the Design and Operation of Local Exhaust Systems.
- American National Standards Institute (ANSI), ANSI Z88.2, Practice for Respiratory Protection.
- National Fire Protection Association (NFPA), Standard 10, Standard for Portable Fire Extinguishers.

1.7.4 All applicable state, local regulations and ordinances, including any regulations regarding state and/or local licenses or certificates.

1.7.5 Where applicable state or local regulations are more stringent than federal requirements or the requirements referenced herein, Contractor and Consultant shall adhere to the more stringent regulations.

1.7.6 The Contractor warrants that he is familiar with the codes and requirements applicable to asbestos abatement work and shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work. If the Contractor observes that the Specifications or plans are at variance therewith, he shall give written notice to the County's Representative describing such variance. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without written notice to the County's Representative, he shall bear all costs arising therefrom. The Subcontractor's particular attention is directed to the applicable Cal/OSHA regulations found in CCR Title 8, Section 1529 and the necessity of complying with the regulations in the progress of his work. Failure or omission on the part of the Contractor, or any of their representatives, either to discover or to bring to the attention of the

County any deviation from, omission from, or noncompliance with the requirements for asbestos abatement shall not be used by the Contractor as defense for failure on his part to fulfill such requirements.

PART 2 PRODUCTS

- 2.1 Polyethylene sheeting in sizes to minimize the frequency of joints.
- 2.2 Tape: Glass fiber or other tape capable of sealing joints of adjacent plastic sheets and for attachment of plastic sheeting to finished or unfinished surfaces of dissimilar materials under both dry and wet conditions.
- 2.3 Surfactant (Wetting Agent): Shall consist of materials that are non-toxic and non-irritating to skin and eye, and non-carcinogenic. The wetting agent shall consist of 50 percent polyoxyethylene or polyglycol ester and 50 percent polyoxyethylene ether, or the equivalent. Wetting agents shall be applied by means of an airless sprayer or equal.
- 2.4 Encapsulant: Shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvents.
- 2.5 Impermeable Containers: Air and water-tight, suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site and labeled in accordance with applicable Cal-OSHA regulations (CCR Title 8, Section 1529). Two types of impermeable containers shall be used:
 - 2.5.1 Six (6) mil plastic bags
 - 2.5.2 Metal or fiber drums with tightly fitting lids.
- 2.6 Warning Labels and Signs: In conformance with applicable Cal/OSHA regulations (CCR Title 8, Section 1529).
- 2.7 Other Materials: Provide all other materials, such as lumber, nails, and hardware that may be required to construct and dismantle the decontamination area and the barriers that isolate the Work area.

PART 3 EXECUTION

- 3.1 Material Handling
 - 3.1.1 Deliver materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
 - 3.1.2 Store materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient to prevent damage or contamination.

- 313 Remove all ACM from the premises. Dispose of materials that become contaminated with asbestos in accordance with applicable regulatory standards.

3.2 Equipment

- 321 Respirators: Contractor shall provide workers with personally issued and marked respiratory equipment approved by NIOSH and meeting the specifications of Cal/OSHA. This respiratory equipment shall be suitable for the asbestos exposure level in the Work area according to CCR Title 8, Section 1529 (i). The Contractor shall provide disposable HEPA (P100) cartridges as required, with sufficient replacement cartridges. Cleaning wipes shall also be provided as necessary
- 322 Personal Protective Equipment: Contractor shall provide workers, County, and authorized visitors with sets of protective disposable clothing, head covers, gloves, eye protection and foot covers of sizes to properly fit individual workers and visitors whenever they are required to enter the Work area. Provide access and use of the Contractor's change room. Provide a minimum of four sets per day and sufficient sets as required for workers and County. The personal protective equipment shall remain the property of the Contractor.
- 323 Change Rooms: Provide a temporary unit with a separate equipment room, decontamination room, for personnel required to wear whole body protective clothing.
- 3.2.3.1 Separate each room from the others and from the control area by airlocks.
 - 3.2.3.2 Keep street clothing and street shoes in the clean area.
 - 3.2.3.3 Vacuum and remove asbestos-contaminated disposable protective clothing while still wearing respirators in the equipment room. Seal clothing in impermeable bags or containers for disposal.
 - 3.2.3.4 Do not remove disposable protective clothing in the decontamination locker room.
 - 3.2.3.5 Remove cloth work clothing in the decontamination locker room.
 - 3.2.3.6 Tag and bag cloth work clothes for laundering and keep work shoes in the decontamination locker room.
 - 3.2.3.7 Do not wear work clothing between home and work.
 - 3.2.3.8 Provide showers with hot and cold water.
 - 3.2.3.9 Locate showers between the decontamination locker room and the clean locker room, and require employees to shower before changing into street clothes.

- 3.2.3.10 Shower wastewater shall be handled and disposed as asbestos-containing material or shall be filtered through a final filter of at least 0.5-micron particle size collection capability before disposal into the sanitary sewer system.
- 3.2.3.11 Handle and dispose of wastewater filters as asbestos-containing material.
- 3.2.3.12 Clean asbestos-contaminated work clothing in accordance with CCR Title 8, Section 1529 or use disposable clothing
- 3.2.3.13 Change rooms shall be physically attached to the Work area wherever feasible and required.
- 324 Eye Protection: Furnish goggles for personnel engaged in asbestos operation when a full-face respirator is not being used.
- 325 Caution Signs and Labels: Provide caution signs printed in English and the prominent language of the location at approaches to asbestos Work areas. Locate signs at such distance that personnel may read the sign and take the necessary precautions before entering the Work area. Provide caution labels printed in English and the prominent language of the location. Affix labels to asbestos materials, scrap, waste, debris, sealed impermeable bags, asbestos waste drums, and other asbestos-containing products. Caution signs and labels shall conform to the requirements defined in CCR Title 8, Section 1529.
- 326 A minimum of one 4A/60BC dry chemical extinguisher shall be maintained at each of the following locations:
 - 3.2.6.1 At each electrical panel.
 - 3.2.6.2 At each corner of the Work area.
 - 3.2.6.3 Within 5 feet of the external entry to the shower room from the Work area.
 - 3.2.6.4 Within 5 feet of the external entry to the shower room from the "clean room."
- 3.3 Tools and Local Exhaust System: Provide the local exhaust system in accordance with ANSI Z9.2 and as specified herein.
 - 331 Provide a local exhaust system in each Work area.
 - 332 Filters on vacuums and exhaust equipment shall be absolute HEPA filters and UL 586 labeled.
 - 333 Provide local exhaust equipment, certified by South Coast Air Quality Management District, designed for a minimum of one Work area air change every 15 minutes at 75% efficiency and additional air change flow rate sufficient to maintain a minimum pressure differential of minus 0.02 inches of water column relative to adjacent, unsealed areas. Local exhaust equipment shall be operated 24 hours per day until the

asbestos control area is removed. The Contractor is responsible for providing all necessary manpower and/or equipment, including but not limited to, emergency power, security and fire watch to ensure 24-hour operation.

- 334 Additional Ventilation Units: Provide Local Exhaust Systems to the site in accordance with these Specifications for use inside the containment in the event engineering controls are not effective in controlling the fiber count below the PEL during the removal process. The unit(s) shall be placed inside the containment as an additional filtration in a manner to move the air away from the workers' breathing zones and towards the exhaust unit(s).
- 335 Back-up Ventilation Units: Provide at a minimum one additional Local Exhaust System for up to every 10 units on the site for replacement if a ventilation unit fails to operate properly. These backup units must be stored on site during the entire project duration.
- 336 Provide a manometer-type or magnehelic-type negative pressure differential monitor with minor scale divisions of 0.02 inches of water and accuracy within plus or minus one percent.
- 337 Calibrate the manometer daily and as recommended by the manufacturer.
- 338 Furnish recorded readings of the pressure differential between locations in the Work area and adjacent unsealed areas at the beginning of each workday and every 2 working hours thereafter.
- 339 Pressure differential readings shall be taken inside the Work area from the furthest point from the local exhaust equipment.
- 33.10 The local exhaust system shall be operated continuously, 24-hours per day, until the asbestos control area enclosure is removed.
- 33.11 Replace filters as required to maintain the efficiency of the system. Units are to be turned off during replacement. Running units output are to be increased or additional units are to be turned on to maintain the pressure during replacement procedures.
- 33.12 The building heating, ventilating, and air conditioning (HVAC) system shall not be used as the local exhaust system for the Work area.

3.4 Worker Protection

- 34.1 A tailgate will be held to discuss the hazards of the job and the methods to perform the work.

- 342 Prior to commencement to work, all workers shall be instructed and shall be knowledgeable in the appropriate procedures of personal protection and asbestos removal.
- 343 Contractor and Consultant shall be solely responsible for enforcing worker protection requirements.
- 344 Reporting Unusual Events: When an event of unusual and significant nature occurs at the site, Contractor shall prepare and submit a special report listing chain of events, persons participating, responses and similar pertinent information. When such events are known or predictable in advance, advise the County at the earliest possible date.
- 345 Reporting Accidents: If a significant accident occurs at the site or anywhere else work is in progress, the Contractor shall prepare and submit appropriate reports to the County. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained.

3.5 General Work Area Requirements

- 351 Workers shall always wear a respirator properly fitted on the face while in the Work area. Workers wearing tight-fitting face pieces shall be clean-shaven to the extent that the hair does not interfere with the sealing surface of the respirator. This must be documented by a standard respirator fit test.
- 352 The Contractor shall instruct and train workers in proper respirator use. They will also mandate the performance of fit checks any time a respirator is worn, including after meals and breaks.
- 353 Workers shall wear disposable, full-body coveralls and disposable head covers and footwear suitable for asbestos work in the Work area.

3.6 Decontamination Unit Requirements: At all Work areas, the Contractor shall set up a change room, shower and equipment room outside the Work area. Where feasible and required the change room, shower and equipment room will be attached to the Work area. All workers without exception shall:

- 361 Remove and properly store street clothes in the change room and put on new disposable coveralls, head covers, footwear and cleaned respirator before entering the Work area.
- 362 Remove the disposable coveralls, head covers, and footwear in the equipment room and dispose them in an appropriate asbestos waste container. Still wearing their respirators, workers shall proceed to the showers and remove their respirators while showering with soap and

tempered water. Wetted HEPA respirator cartridges shall be disposed of in appropriate asbestos containers.

- 363 This procedure shall be followed each time a worker enters or leaves the Work area.
 - 364 Workers shall not eat, drink, smoke, or chew gum or tobacco in the Work area.
 - 365 The Contractor shall provide disposable coveralls, head covering, and footwear to any official representative of the County who inspects the project.
 - 366 All persons entering the Work area shall wear an approved respirator and disposable coveralls, head covering, and footwear.
- 3.7 Daily personal air monitoring shall be conducted by the Contractor to determine the airborne concentrations of asbestos to which workers may be exposed.
- 3.8 Sign-In/Sign-Out Log and Daily Activity Report
- 381 Contractor shall maintain a sign-in/sign-out log in the immediate vicinity of the change room of any decontamination area. This log shall be maintained from the time the first activity is performed involving the disturbance of asbestos-containing material until acceptance of the final air test results. All persons entering the Work area, including the Contractor's workers, County, County's consultants, and Government officials, shall be required to sign in and out each time upon entering and leaving the Work area. All persons shall indicate name, time, company or agency represented, and reason for entering the Work area.
 - 382 Contractor shall maintain a daily activity report describing work performed, materials and methods used, inspections made, test taken, and any unusual conditions or problems.
 - 383 Consultant shall immediately notify the County if any substrate or material not originally discussed needs to be or is disturbed or removed.
 - 384 Except for governmental inspectors having jurisdiction, no visitors shall be allowed in any work area, except as authorized by the County.
 - 385 Any materials, such as supplies, copper piping, etc., removed from site, without proper authorization, will be deemed as theft.
- 3.9 Housekeeping
- 391 The Contractor shall always keep the premises free from accumulation of waste materials or rubbish caused by their employees.

Bags of asbestos material and other waste material shall be removed immediately at the completion of work at each shift. Maintain surfaces of the Work area free of debris and keep waste from being distributed outside of the immediate Work area.

- 392 Removal of Asbestos Waste Containers - Provide a waste container removal system. Asbestos waste containers shall not be removed through the change rooms. The waste container removal system shall consist of a wash down station inside the Work area, a washroom, and a waste container holding area. Provide airlocks between each area and an airlock with access to outside the Work area from the holding areas. Provide caution signs as specified herein for asbestos Work areas. The waste container removal system shall be a temporary unit constructed to prevent the escape of asbestos fibers from the area. The system shall be physically attached to the Work area. Personnel entering the waste container removal system shall wear personal protective equipment. The system shall not be used to enter or exit the Work area. Access to outside the waste container removal system shall be sealed except during the removal of asbestos waste containers. Perform cleanup of the waste container removal system as specified herein for enclosed Work areas. Do not remove the waste container removal system enclosure and caution signs prior to receipt of the County's clearance certification. All asbestos waste containers shall be removed from the Work area daily.
- 393 Procedure for Disposal of Asbestos: Do not remove any asbestos-containing materials from the site without approval from the County. Procedure for hauling and disposal of asbestos waste shall comply with 40 CFR 61, Subpart M and CCR Title 22, and South Coast Air Quality Management District Rule 1403.

3.10 Work Area Preparation

- 3.10.1 Provide Warning Signs meeting regulatory requirements at each visual and physical barrier.
- 3.10.2 Where appropriate, the Contractor shall seal all openings with a 6-mil minimum polyethylene containment barrier to prevent leakage of air into the outside environment or other portions of the building. Individually seal ventilation openings in walls (supply and exhaust), wall mounted fixtures, doorways, windows, convectors, and other wall and floor openings into the Work Area with adhesive tape alone or with 2 layers of polyethylene sheeting at least 6-mil, taped securely in place with adhesive tape.
- 3.10.3 All work shall be performed as either Class I, Class III, or Class IV work. Class II work will be performed under Class I containment requirements.

- 3.104 The Contractor shall pre-clean movable objects to be salvaged for the Contractor within the proposed Work areas using HEPA vacuum equipment or wet cleaning methods as appropriate. The Contractor shall move such items to storage or other area as directed by the County.
- 3.105 If materials are deemed contaminated, they are not to be removed from the containment area until they are properly decontaminated or disposed of.
- 3.106 The Contractor shall pre-clean immovable objects, such as mechanical and electrical equipment and fixtures, within proposed Work area using HEPA vacuuming equipment or wet cleaning methods as appropriate.
- 3.107 Prior to placing plastic sheeting, clean the Work area(s) and immediately adjacent areas physically connected to abatement areas using HEPA vacuum equipment or wet-cleaning methods as appropriate. Do not use methods that raise dust such as broom sweeping or vacuuming with non-HEPA equipped vacuum cleaners.
- 3.108 Contain Work areas with two layers of 4-mil plastic sheeting on walls and ceilings, and two layers of 6-mil plastic sheeting on floors, or as otherwise directed in writing by the Asbestos Consultant.
- 3.109 Install as a drop cloth a 6-mil sheet of plastic, creating the 3rd layer of flooring, in areas where asbestos removal work is to be carried out. Completely cover floor with sheet plastic. Where the work is within 10 feet of a wall, extend the drop cloth up wall. Support sheet plastic on wall with duct tape, seal top of drop cloth plastic to Primary Barrier with duct tape so that debris is unable to get behind it. Provide cross strips of duct tape at wall support as necessary to support sheet plastic and prevent its falling during removal operations. Remove drop cloth at end of each work shift or as work in an area is completed.
- 3.10.10 The Contractor shall construct worker and waste container/equipment decontamination units in compliance with EPA guidelines. Provide sufficient numbers of lockers in change or "clean" rooms or workers' clothing with one locker reserved for County personnel.
- 3.10.11 The Contractor shall establish emergency exits and procedures for the Work area, satisfactory to fire officials and provide fire extinguishers as required. Exits shall be demarcated with arrows and large lettering on the polyethylene sheeting walls visible from throughout the work area
- 3.10.12 The Contractor shall ensure that barriers and plastic enclosures remain effectively sealed and taped. Inadvertent tears in plastic shall be repaired with fiber tape and the tear covered by plastic applied with spray adhesive, overlapping the tear by 6 inches on all sides.

- 3.10.13 If during performance of abatement work suspect ACM is observed outside of abatement enclosures, or if damage occurs to the enclosure barrier(s), work shall stop immediately upon discovery, appropriate repairs will be made (by Contractor), and all such debris will be collected using appropriate vacuums and wet methods.

PART 4 ASBESTOS REMOVAL

- 4.1 General: In a Work area, the Contractor shall:
- 4.1.1 Remove and dispose of all asbestos containing materials in accordance with the methods and procedures outlined in CCR Title 8, Section 1529.
 - 4.1.2 Where appropriate, work areas shall be airtight and enclosed under differential air pressure for the duration of the asbestos removal and the subsequent cleaning phases until all removal areas have been air- tested and found to follow the specified final air quality clearance level as determined by the Certified Asbestos Consultant to meet local and federal requirements.
 - 4.1.3 Perform appropriate cleaning using HEPA vacuum or wet cleaning methods of all areas physically connected to areas receiving asbestos removal.
 - 4.1.4 Dispose of all contaminated or otherwise removed materials and wastes in sealed and labeled containers in an approved sanitary landfill.
 - 4.1.5 Never use high pressure water streams to remove any type of ACM or ACCM.
 - 4.1.6 After removal, all surfaces shall be wet-cleaned and HEPA vacuumed to remove residual accumulated material. After cleaning, surfaces shall appear free of visible material.
 - 4.1.7 Prior to the removal of the plastic sheeting from the wall and floor surfaces, apply approved encapsulant on all concrete substrates, structural steel, and piping surfaces from which the material was removed and to plastic sheeting prior to its removal.
 - 4.1.8 Following related repair work remove any remaining floor and wall plastic, including seals on openings, and dismantle worker waste container/equipment decontamination areas and leave all areas clean.
 - 4.1.9 Eating, smoking or applying cosmetics shall not be permitted in the Work areas.

4.2 Class I Work within a Negative Pressure Enclosure System (NPE).

- 4.2.1 A Certified Asbestos Consultant must supervise all Class I work. A NPE will be used for the removal of spray-on acoustic ceiling, spray-on fireproofing, drywall, and the removal and/or decontamination of ceiling tile, ceiling t-grid system, and attached fixtures within site, building, or structure specified by the LAC.
- 4.2.2 The NPE shall be built with a digital monometer, shower, water filter with a 5-micron pore size, and a heating unit attached.
- 4.2.3 Before beginning work within the enclosure and at the beginning of each shift, the NPE shall be inspected for breaches and smoke-tested for leaks by the Asbestos Consultant. Any leaks detected will be sealed by the Contractor.
- 4.2.4 Electrical circuits in the enclosure shall be deactivated and locked out, when necessary. Temporary power and portable lighting sources will be provided from outside the work area; insure safe installation (including using ground fault circuit interrupters (GFCI) of temporary power sources and equipment by compliance with all applicable electrical code requirements and Federal, state and local requirements.
- 4.2.5 Thoroughly wet ACM prior to be removed to satisfaction of Asbestos Consultant. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant applied with airless spray equipment.
- 4.2.6 Mist work area continuously with amended water to reduce airborne fiber levels. Apply mist with airless spray equipment. **Must always mist the area unless a safety risk is associated with liquid in the area.***

4.3 Removal of OSHA Class I Work within Glovebags

- 4.3.1 At least two persons shall perform the removal for each glovebag or glovebag in operation.
- 4.3.2 Employees must don the appropriate personal protective equipment.
- 4.3.3 Check pipe where the work will be performed. Wrap damaged (broken lagging, hanging, etc.), pipe in two layers of 6-mil plastic and "candy-stripe" with adhesive tape.
- 4.3.4 Place a drop cloth on surfaces beneath the pipe insulation to be removed. Build a spot containment around the work area.
- 4.3.5 Place one layer of adhesive tape around undamaged pipe at each end where the glovebag will be attached. If the pipe insulation is not ACM, remove pipe insulation approximately three inches on either side of the

point of attachment. Use caution, however, as ACM insulation may be found under the fiberglass. Then proceed with the attachment of the glove bag directly to the pipe.

- 4.3.6 Slit top of the glovebag open (if necessary) and cut down the sides to accommodate the size of the pipe (about 2 inches longer than the pipe diameter).
- 4.3.7 Place necessary tools into pouch located inside glovebag.
- 4.3.8 Seal glovebag.
- 4.3.9 Request that the Asbestos Consultant perform a smoke tube test. If leaks are found, tape close using adhesive tape and re-test.
- 4.3.10 Insert wand from garden sprayer through water sleeve. Adhesive tape water sleeve tightly around the wand to prevent leakage. Attach HEPA vacuum hose to the glovebag and seal.
- 4.3.11 Remove insulation using putty knives or other tools. Place pieces in bottom of bag without dropping.
- 4.3.12 Rinse tools with water inside the bag and place back into pouch.
- 4.3.13 Using scrub brush, rags and water, scrub and wipe down the exposed pipe.
- 4.3.14 Remove water wand. Turn on the vacuum only briefly to collapse the bag.
- 4.3.15 Remove the vacuum nozzle, twist water sleeve closed and seal with adhesive tape.
- 4.3.16 From outside the bag, pull the tool pouch away from the bag. Place adhesive tape over twisted portion and then cut the tool bag from the glovebag, cutting through the twisted-taped section. Contaminated tools may then be placed directly into next glovebag without cleaning.
- 4.3.17 Alternatively, tool pouch with the tools can be placed in a bucket of water, opened underwater, and tools cleaned and dried. Discard rags and scrub brush with asbestos waste.
- 4.3.18 With removed insulation in the bottom of the bag, twist the bag several times and tape it to keep the material in the bottom during removal of the glovebag from the pipe.
- 4.3.19 Slip a 6-mil disposal bag over the glovebag (still attached to the pipe). Remove tape or cut bag and open the top of the glovebag and fold it down into disposal bag.

- 4.3.20 HEPA vacuum the drop cloth and place into disposal bag.
- 4.3.21 If a removal encapsulant is used, test to insure it will neither leave a residue that will impede visual inspection nor become gummy during cleaning.
- 4.3.22 Seal exposed ends of remaining pipe insulation.
- 4.3.23 Remove disposable suits and place these into bag with waste.
- 4.3.24 Collapse the bag with a HEPA vacuum, twist top of bag, seal with at least three wraps of adhesive tape, bend over the neck of the bag and seal again with at least three wraps of adhesive tape.
- 4.3.25 Request that the Asbestos Consultant conduct a visual inspection of the removal area.
- 4.4 Class II work:
 - 4.4.1 The CAC must supervise all Class II work. Contractor must use critical barriers over all openings to the regulated area. All Class II work shall use the same work practices and requirements as Class I asbestos jobs, including the containment and monometer requirements.
- 4.5 Class II Work - Vinyl and Asphalt Flooring Materials
 - 4.5.1 For removing vinyl and asphalt flooring materials containing asbestos Contractor must ensure that employees:
 - 4.5.1.1 Do not sand flooring or its backing
 - 4.5.1.2 Do not rip up resilient sheeting
 - 4.5.1.3 Do not dry sweep
 - 4.5.1.4 Do not use mechanical chipping unless performed in a negative pressure enclosure
 - 4.5.1.5 Use vacuums equipped with HEPA filters to clean floors
 - 4.5.1.6 Use wet methods when removing resilient sheeting by cutting
 - 4.5.1.7 Use wet methods to scrape residual adhesives and/or backing
 - 4.5.1.8 Remove tiles as intact as possible
 - 4.5.1.9 May omit wetting when tiles are heated and removed intact
 - 4.5.1.10 Assume resilient flooring material - including associated mastic and backing, are ACM, unless an asbestos survey or Certified Asbestos Consultant determines it asbestos free
- 4.6 Class II Work - Roofing Materials
 - 4.6.1 To remove asbestos containing roofing materials, Contractor must ensure that employees:

- 4.6.1.1 Remove them intact
 - 4.6.1.2 Use wet methods when possible
 - 4.6.1.3 Continuously mist cutting machines during use, unless the retained CAC determines misting to be unsafe
 - 4.6.1.4 Immediately HEPA vacuum all loose dust along the cut
 - 4.6.1.5 Lower as soon as possible or by the end of the work shift any bagged or wrapped roofing material to the ground via a covered, dust-tight chute, crane, or hoist
 - 4.6.1.6 Transfer unwrapped materials to a closed receptacle to prevent dispersing the dust when lowered
 - 4.6.1.7 Isolate roof level heating and ventilation air intake sources or shut down the ventilation system
- 4.7 Class II Work - Cementitious Asbestos Containing Siding and Shingles or Transite Panels
 - 4.7.1 When removing cementitious asbestos containing siding and shingles or transite panels, Contractor must ensure that employees:
 - 4.7.1.1 Do not cut, abrade or break siding, shingles or transite panels when possible.
 - 4.7.1.2 Spray each panel or shingle with amended water before removing
 - 4.7.1.3 Lower to the ground any wrapped or bagged panels or shingles via a covered dust-tight chute, crane, or hoist, as soon as possible or by the end of the work shift
 - 4.7.1.4 Cut nails with flat, sharp instruments
- 4.8 Removal of Class II Materials - Asbestos Containing Gaskets
 - 4.8.1 When removing asbestos containing gaskets, Contractor must ensure that employees:
 - 4.8.1.1 Remove gaskets within glove bags if they are visibly deteriorated and unlikely to be removed intact
 - 4.8.1.2 Thoroughly wet the gaskets with amended water prior to removing
 - 4.8.1.3 Immediately place the wet gaskets in a disposal container
 - 4.8.1.4 Scrape using wet methods to remove residue
- 4.9 Removal of Other Class II Asbestos Containing Material
 - 4.9.1 For removal of any other Class II ACM, Contractor must ensure employees:
 - 4.9.1.1 Do not cut, abrade, or break the material where feasible

- 4.9.1.2 Thoroughly wet the material with amended water before and during removal
 - 4.9.1.3 Immediately bag or wrap removed ACM and transfer to a closed receptacle at the end of the work shift
- 4.9.2 Contractor may use different or modified engineering and work practice controls if:
 - 4.9.2.1 They can demonstrate, by employee exposure data during the use of such methods and under similar conditions, that employee exposure will not exceed the PEL under any anticipated circumstances
 - 4.9.2.2 The retained CAC evaluates the work area, the projected work practices, and the engineering controls **and certifies, in writing**, that they will reduce **all** employee exposure to below the PEL under expected conditions. The evaluation must be based on exposure data for conditions closely resembling those of the current job and for employees with equivalent training and experience
- 4.10 Class III Work
 - 4.10.1 Contractor must use wet methods and local exhaust ventilation, when feasible, during Class III work. Where drilling, cutting, abrading, sanding, chipping, breaking, or sawing thermal insulation or surfacing materials occurs, Contractor must use impermeable drop cloths as well as mini-enclosures, glove bag systems, or other effective isolation methods including creating critical barriers and ensuring that employees wear respirators. (See also the respirator requirements elsewhere in these specifications) Class IV Work:
- 4.11 Class IV Work
 - 4.11.1 Employees conducting Class IV asbestos work must have attended an asbestos awareness training program. Employees must use wet methods and HEPA vacuums to promptly clean ACM or PACM debris. In areas where thermal system insulation or surfacing material is present, employees must assume that all waste and debris contains asbestos.
 - 4.11.2 For unusual situations and/or asbestos containing materials not covered herein consult with the retained CAC for additional instructions.

PART 5 CLOSURE

- 51 ACM should be placed in labeled, leak-tight containers and/or wrapping. The labels shall contain all information as specified by the Occupational Safety and Health Standards of the Department of Labor, OSHA under 1926.1101(k)(2)(iii) and CCR Title 8, Section 5229, and any local regulations.
- 52 For temporary storage on site, ACM shall be stored in a secured area. The area shall be demarcated with Asbestos Warning Signs and caution tape.
- 53 Work areas and all other decontaminated areas and cleaned areas shall be considered clean when a) the Work area passes a visual inspection by the consultant and b) air testing performed by the consultant employed by the County, shows 0.01 or less fibers/cc (or background levels) of air using standard test methods of Phase Contrast Microscopy (PCM), NIOSH Analytical Method Number 7400.
- 54 Areas that do not comply with the standard of cleaning for final clearance shall continue to be cleaned by and at the Contractor's expense until the specified standard is achieved by results of air sampling tests by A Certified Asbestos Consultant. The costs of all follow-up tests necessitated by the failure of the air tests to meet the cleaning criteria shall be borne by the Contractor; the County will deduct the cost of such follow-up tests from whatever moneys remain due to the Contractor. Follow-up testing shall occur within the time allotted for gross removal or all costs to the County of the building attributable to delayed occupancy or usage shall be borne by the Contractor.
- 55 When an inspection determines that the area has been visually decontaminated, and the clearance of 0.01 f/cc (or less) is achieved and, the decontamination enclosure systems shall be removed, the area thoroughly wet cleaned, and materials from the equipment room and shower disposed of as contaminated waste. The remaining barriers between contaminated and clean areas and all seals on openings into the Work area and fixtures shall be removed and disposed of as contaminated waste.
- 56 All plastic sheeting, tape, cleaning material, clothing, and all other disposable material used in the asbestos removal operation or items used in the Work area shall be packed into sealable 6-mil plastic bags. These bags must be marked with labels as required by Cal/OSHA in CCR Title 8, Section 1529.

APPENDIX A
SCHEDULE OF ACM TO BE REMOVED AND
TABLE (AND FIGURES)

Abatement Contractor to Furnish

APPENDIX B
RESPIRATORY PROTECTION FORM

County of Los Angeles
Appendix B – General Asbestos Abatement Specification

RESPIRATORY PROTECTION FORM

Project Name: _____

The following level of respiratory protection is proposed for the indicated operations to maintain concentrations of asbestos below the specified Permissible Exposure Limit (PEL) inside the respirator facepiece.

Operation	Anticipated Exposure (f/cc)	Respiratory Protection	Protection Factor	f/cc in Mask
<u>Preparation</u> Asbestos:				
<u>Abatement</u> Asbestos:				
<u>Decontamination</u> Asbestos:				
<u>Other</u> Asbestos:				

The Contractor certifies that to the best of the Contractor's knowledge and belief the above represent a true and accurate representation of airborne concentrations to be expected for the operations indicated, and are based upon airborne data from past projects with similar materials and operations.

Contractor: _____

Signed by:

Signature : _____

Date _____

Print Name : _____

APPENDIX C

CERTIFICATE OF WORKERS ACKNOWLEDGEMENT

**Appendix C – County of Los Angeles General Asbestos
Abatement Specification**

CERTIFICATE OF WORKER'S ACKNOWLEDGEMENT

Project Name: _____ Date: _____

Project Address: _____

Contractor: _____

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employer's contract with the County for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. The former practices shall be implemented at no cost to you. By signing this certification, you are assuring the County that your employer has met these obligations to you.

RESPIRATORY PROTECTION: Within the past 12 months, I have been trained in the proper use of respirators, and have been informed of the respirator type to be used on the above referenced project. I have a copy of the written respiratory protection manual issued by my employer. I have been equipped at no cost with the respirator to be used on the above project. Within the past 12 months, I have received, and passed a fit test for my respirator.

TRAINING COURSE: Within the past 12 months, I have been trained, by an accredited training provider, in the dangers inherent in handling asbestos. I have been trained in the dangers associated with the inhalation of breathing asbestos. I have been trained in the proper work procedures and personal and area protective measures for working with asbestos.

MEDICAL EXAMINATION: I have had, and passed a medical examination within the last 12 months which was paid for by my employer, and met the criteria required by T8CCR, 1529.

Signature: _____

Printed Name: _____ I.D. Number: _____

Witness: _____

SECTION 02 26 26

LEAD BASED PAINT ABATEMENT

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1.0 GENERAL - SCOPE OF WORK

The work specified herein is lead-based paint (LBP) abatement and demolition which is to be performed by competent persons trained, knowledgeable and qualified in the techniques of LBP abatement, demolition, and the handling and disposal of LBP and/or LBP contaminated materials. The LBP abatement and demolition shall be performed by Contractors who comply with all applicable federal, state and local regulations, and are capable of, and willing to, perform the work pursuant to this specification. All LBP abatement and demolition will be performed in conjunction with the asbestos removal portion of project, where feasible and applicable.

1.1 EXPERIENCE AND WORKMANSHIP

- 1.1.1 The Contractor performing the LBP abatement and demolition work shall use workers and supervisors accredited pursuant to Title 17, Code of California Regulations (CCR), Articles 5 and 7 and shall have a minimum of one year of experience and a minimum of three LBP removal projects or abatement work on projects similar in scope and size. Submit proof with bid.
- 1.1.2 The Contractor performing this work MUST be familiar with all applicable regulations covering LBP removal work. This includes all permits, licenses, and certificates required to perform this type of hazardous work and related disposal requirements.
- 1.1.3 The Contractor shall attend a Pre-Job Start Meeting as scheduled by Los Angeles County Department (LAC). Prior to this meeting the Contractor shall provide all of the following submittals:
 - 1.1.3.1 Preparation of work area
 - 1.1.3.2 Personal protective equipment including but not limited to respiratory protection and protective clothing
 - 1.1.3.3 Employees who will participate in the project, including delineation of experience, training, and assigned responsibilities during the project
 - 1.1.3.4 Decontamination procedures for personnel, work area and equipment
 - 1.1.3.5 Abatement methods and procedures to be utilized
 - 1.1.3.6 Contractor required air monitoring procedures
 - 1.1.3.7 Procedures for handling and disposal of lead waste materials

1.1.3.8 Procedures for final decontamination and cleanup

1.1.3.9 A sequence of work and performance schedule

1.1.3.10 Emergency procedures

1.1.3.11 Contractor will designate a person(s) with all the necessary and required qualifications to administer First Aid, CPR, and any related assistance required. This person(s) will be on site during the entire abatement procedure

1.1.4 It is the Contractor's responsibility to maintain adequate controls to insure worker safety for the duration of this work.

1.2 DEFINITIONS

For the purposes of these Specifications, the following definitions apply:

- 1.2.1 Abatement lasting 20 years or more: Any measure designed to eliminate lead paint hazards in accordance with established standards and laws. Abatement strategies include: removal of lead-based paint (LBP); enclosure of LBP; encapsulation of LBP (with a product that has been shown to meet established standards for a minimum of twenty years); replacement of building components coated with LBP; removal of lead contaminated dust; removal of covering of lead contaminated soil with a durable covering (not grass or sod, which are considered Abatement lasting less than 20 years); as well as all preparation, cleanup, disposal, post-abatement clearance testing, record keeping, and monitoring.
- 1.2.2 Abatement lasting less than 20 years: A set of measures designed to temporarily reduce human exposure or likely exposure to lead-based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of lead-based paint hazards or potential hazards, and the establishment and operation of management and resident education programs.
- 1.2.3 Action Level (AL): 30 micrograms per cubic meter of air (30 ug/m³), which is expressed as an 8-hour time-weighted average.
- 1.2.4 Abatement Crew Supervisor (ACS): Department of Public Health (CDPH) accredited Lead-Related Construction Supervisor and shall have at least one year's experience on LBP abatement projects.

- 1.2.5 Amended Water: Water to which surfactant (wetting agent) has been added to increase the ability of the liquid to penetrate the surface coating.
- 1.2.6 Biological Monitoring: Medical evaluation of an individual, including the analysis of a person's blood to determine the level of lead contamination in the body. Biological monitoring for lead abatement work as described herein shall be directed by a licensed physician.
- 1.2.7 Certified Industrial Hygienist: Person Certified by the American Board of Industrial Hygiene (ABIH).
- 1.2.8 Clean Room: Area of a worker decontamination facility used for donning protective equipment and storing street clothes.
- 1.2.9 Containment: System, process, or barrier used to contain lead hazards inside a work area such as described in Guidelines for the Evaluation and Control of Lead-Based Hazards in Housing, U. S. Department of Housing and Urban Development, July 2012, Chapter 8, "Resident Protection and Worksite Preparation".
- 1.2.10 Contractor: As used in these Specifications refers to the Lead Abatement Contractor who will perform work under contract with the Los Angeles County Department.
- 1.2.11 CDPH: California Department of Public Health
- 1.2.12 Employee: Any person employed or hired by an employer in any lawful employment.
- 1.2.13 Elevated Blood Lead Level: Blood lead concentration equal to or greater than that which a qualified physician and/or relevant legal requirements deem unsafe or unhealthy.
- 1.2.14 Encapsulation: Any covering or coating that acts as a barrier between lead-based paint and the environment, the durability of which relies on adhesion and the integrity of the existing bonds between multiple layers of paint and between the paint and the substrate.
- 1.2.15 Enclosure: Covering surfaces and sealing or caulking with durable materials so as to prevent or control chalking, peeling, flaking or other deterioration of substances containing lead, so that it does not become or remain airborne or surface-accessible.

- 1.2.16 General Contractor: Contractor responsible for coordination of all general construction work and who is licensed as a general contractor by the State Contractors Licensing Board.
- 1.2.17 High Efficiency Particulate Air (HEPA) Filter: Type of filtering system capable of filtering out particles of 0.3 microns or greater diameter from a body of air at 99.97 percent efficiency or greater.
- 1.2.18 Intact Painted Surface: Defect-free surface with no loose, peeling, chipping, or flaking paint. Painted surfaces must be free from crumbling, cracking, or falling materials and/or plaster and must not have holes in them. Intact surfaces are not damaged in any way.
- 1.2.19 Lead-based: Paints, glazes, and other surface coatings that contain an amount of lead equal to, or in excess of 0.7 milligram per square centimeter (0.7 mg/cm²) or more than half of one percent (0.5 percent) by weight or five thousand parts per million (5000 ppm).
- 1.2.20 Lead-containing: Coatings noted in 1.2.19 that contain an amount of lead in excess of 0.06 percent by weight.
- 1.2.21 LAC: Los Angeles County Department.
- 1.2.22 PEL: Permissible Exposure Limit, which is 50 micrograms per cubic meter of air (50 ug/m³) expressed as an 8-hour time-weighted average.
- 1.2.23 Qualified Lead Abatement Contractor: Contractor capable of providing a properly trained and equipped work force for lead abatement work. The supervisors and workers must be accredited pursuant to Title 17, Code of California Regulations, Articles 5 and 7 and shall have a minimum of one year of experience, a minimum of three LBP removal projects or abatement work on projects similar in scope and size..
- 1.2.24 RCRA: Resource Conservation and Recovery Act.
- 1.2.25 STLC: Soluble Threshold Limit Concentration and is the acceptance criteria for Class I, II, and III waste disposal facilities. The regulatory level is five milligrams per liter (5 mg/l).
- 1.2.26 Subcontractor: Contractor who performs work directly for the Contractor.
- 1.2.27 SSWP: Site Specific Work Plan provided by the Lead Abatement Contractor.

- 1.2.28 TCLP: Toxicity Characteristic Leachate Procedure which is the Federal sample analysis for determining the hazard characteristic of a waste generated at a lead abatement site and is the acceptance criteria for Class I waste disposal facilities. The regulatory level is five milligrams per liter (5 mg/l).
- 1.2.29 TTLC: Total Threshold Limit Concentration and is the acceptance criteria for Class II and III waste disposal facilities. The regulatory level is one thousand milligrams per kilogram (1000 mg/kg).
- 1.2.30 Work Area: Area where lead-based paint or presumed lead-based paint is disturbed, or abatement is conducted.

1.3 STANDARDS AND GUIDELINES

- 1.3.1 The current issue of each document shall govern. Where conflict among requirements or within these specifications exist, the more stringent requirements shall apply.
- 1.3.2 General Applicability of Codes, Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the specification, all applicable codes, regulations, and standards have the same force and effect (and are made part of the specification by reference) as if copied directly into the specification, or as if published copies are bound herewith.
- 1.3.3 Contractor Responsibility: The Contractor shall assume full responsibility and liability for compliance with all applicable federal, state, and local regulations pertaining to work practices, hauling, disposal and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of all personnel as required by the applicable federal, state, and local requirements. Include in site specific work plan.

In addition, the Contractor will be responsible for obtaining all local permits and paying all fees prior to beginning work. Copies of permits must be submitted to LAC prior to start of work and must be posted at the project site. Include in site specific work plan.

1.3.4 OCCUPATIONAL SAFETY AND HEALTH ACT

- 1.3.4.1 The Contractor shall comply with all applicable requirements of the California General Industry Safety and Health

Standards, and the Safety and Health Regulations for Construction, Title 8, California Code of Regulations.

- 1.3.4.2 The Contractor shall strictly adhere to the provisions of Federal OSHA Section 1926.62, Lead in Construction, Cal/OSHA Lead Construction Standard 8 CCR 1532.1, and Title 17 CCR, Division 1, Chapter 8.
- 1.3.4.3 The Contractor shall be responsible for enforcing compliance with standards and these specifications with his/her employees.
- 1.3.4.4 The Contractor shall comply with the Federal Environmental Protection Agency (EPA) regulations pertaining to handling and disposal of lead-containing materials as well as the State of California and any local governmental agencies which have been delegated responsibility for the administration and enforcement of federal regulations.
- 1.3.4.5 The Contractor shall comply with all requirements of the waste disposal site identified in the approved site specific work plan.

1.3.5 OTHER REQUIREMENTS

- 1.3.5.1 The Contractor shall comply with American National Standards Institute (ANSI) - ANSI Z9.2. Fundamentals Governing the Design and Operation of Local Exhaust Systems.
- 1.3.5.2 The Contractor shall comply with said regulations, requirements, and standards (noted above) and require and be directly responsible for compliance therewith on the part of his agents, employees, materialmen and Subcontractors; and shall directly receive and be responsible for all citations, assessments, fines or penalties, which may be incurred by reason of his agents, employees, materialmen, or Subcontractors failing to so comply.
- 1.3.5.3 The Contractor shall indemnify LAC and their representatives and save from any and all losses, costs and expenses, including fines, judgments, and reasonable attorney's fees incurred by LAC by reason of negligence on the part of the Contractor in exposing his employees, LAC personnel, visitors, and/or in the proper or accepted procedures dealing with lead abatement and/or violation of such laws, ordinances, regulations, and directives (federal, state and local), which are currently in effect by the Contractor, his Subcontractors, or material men.

1.4 DAMAGES

- 1.4.1 The Contractor shall protect all components that are to remain from damage caused by this work. Damaged areas shall be repaired or replaced at the Contractors' expense.

1.5 SUBMITTALS AND NOTICES Include

in the SSWP the Following.

- 1.5.1 Proof to LAC that all required permits, manifests, site locations, and arrangements for transport and disposal of lead-based materials and wastes and the like have been obtained including, but not limited to, the following:
 - 1.5.1.1 The EPA hazardous waste generator identification number (GIN).
 - 1.5.1.2 The name and appropriate certification/licenses of the hazardous material transport firm.
 - 1.5.1.3 The name and appropriate certification/licenses of the waste disposal facility.
- 1.5.2 A description of the schedule for LBP demolition and removal phasing and construction of the decontamination system(s), waste load-out area(s), and containment area(s) used to isolate the functional space(s) in compliance with this specification and applicable regulations. These requirements shall be met by submission of shop drawings on which each of these areas are clearly identified.
- 1.5.3 A comprehensive work plan for the LBP abatement and demolition project. The work plan shall clearly identify the demolition and abatement method(s), containment plan(s) by floor or section, time lines, and responsible parties.
- 1.5.4 A written respiratory protection plan as required in 29 CFR 1926.62 and 8 CCR 1532.1.
- 1.5.5 A written medical examination and consultation plan that includes the items required by 29 CFR 1926.62 and 8 CCR 1532.1.
- 1.5.6 Certifications documenting that employee information and training for lead exposure has been completed for Contractor's personnel and other affected subcontractors personnel.
- 1.5.7 The Contractor shall also submit the following:

- 1.5.7.1 Work schedule.
- 1.5.7.2 Method of application and materials to be used.
- 1.5.7.3 Submit various manufacturers' information (including MSDS) and type and brands of materials for workers' protection.
- 1.5.7.4 Copies of all certifications of disposal as designated by LAC.
- 1.5.7.5 Copies of all permits.
- 1.5.7.6 Copies of the CDPH Abatement of Lead Hazard Notification form 8551.
- 1.5.7.7 Copies of all OSHA Form 101 or equivalent CAL/OSHA accident/injury/incident reports.
- 1.5.7.8 Copies of the CDPH Lead Hazard Evaluation Report form 8552 if conducting a lead hazard evaluation in a public facility (required submission to CDPH within 30 days of the evaluation, per CA Title 17 Article 16 Work Practice Standards, requirements for Public and Residential Buildings)

1.6 AIR MONITORING

1.6.1 Initial Determination

- 1.6.1.1 The Contractor shall conduct an initial determination of the worker lead exposures as required by the Cal/OSHA Construction Lead Standard [Title 8 CCR 1532.1 (d)].
- 1.6.1.2 All Contractor and subcontractor employee categories shall be included in the exposure monitoring and shall be representative of a full shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level. Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to lead.
- 1.6.1.3 The duration of air monitoring shall be sufficient to provide a statistical confidence (95 percent upper confidence limit) that no employees are exposed above the lead AL or PEL.
- 1.6.1.4 The results of the initial determination shall be used to establish the degree of engineering (barriers, two-stage, or three-stage containment), administrative and respiratory protection controls.

- 1.6.1.5 The results of the initial determination shall be reviewed and approved by LAC or designee.

1.6.2 Periodic Exposure Monitoring

- 1.6.2.1 Notwithstanding the results of the initial determination, the Contractor shall conduct daily employee exposure monitoring of not less than ten (10 percent) of the Contractor's employees.
- 1.6.2.2 Daily monitoring of the Contractor's employees shall be performed to enable each employee's exposure to be reasonably represented by at least one full-shift (7 hours minimum) air sample.
- 1.6.2.3 The minimum frequency of the exposure monitoring shall be maintained based on employee exposure levels, as required by Title 8 CCR 1532.1.

1.6.3 Area Monitoring

- 1.6.3.1 LAC or designee shall conduct initial and daily area monitoring in the work area and at the outside perimeter of the work area.
- 1.6.3.2 A minimum of two air samples shall be collected: one inside the designated work area and one outside the work area.

1.6.4 Materials and Laboratory Analysis

- 1.6.4.1 Portable low-flow pumps will be used to draw a known volume of air through a 37 millimeter (mm) diameter, 0.8 micron MCE filter. Samples will be analyzed pursuant to the NIOSH 7300 method to yield a weight-per-unit volume (mg/ml).
- 1.6.4.2 Air flow volumes will be calibrated utilizing a field rotameter, which will be calibrated with a primary standard such as a frictionless piston (soap film bubble burette).
- 1.6.4.3 All samples will be analyzed for lead by a Laboratory, which is accredited by the American Industrial Hygiene Association (AIHA) and by the AIHA's Environmental Lead Laboratory Accreditation Program (ELLAP).

1.6.5 Air Monitoring Data

- 1.6.5.1 Air monitoring samples shall be delivered to the laboratory for analysis at the completion of each work day with a service

category request for the laboratory to return sample results within 24 hours.

1.6.5.2 LAC or designee and the Contractor will make all air sampling results available as soon as they are available.

1.6.5.3 The results of all air monitoring shall be maintained at the work site.

1.7 SPECIAL RECORDS

1.7.1 The Contractor shall provide in the SSWP the name and address of the Sub-Contractor(s), if any, responsible for the demolition, the abrasive blasting and clean-up work.

1.7.2 The starting and completion dates of the abatement work shall be documented by the contractor. The contractor shall submit a work schedule including start/completion dates to LAC.

1.7.3 A summary of the techniques used to comply with these regulations shall be submitted by the contractor in the SSWP.

1.7.4 The Contractor shall submit for information and records, copies of all records indicating that the renovation work has been performed in compliance with lead paint abatement requirements, such as daily logs, marked drawings/blueprints et. al.

1.8 SITE SECURITY

1.8.1 Contractor shall provide security so that only authorized personnel may enter the work site. All hazardous waste containers shall be located within the work site, be enclosed and locked at all times when personnel are not present to oversee the material, i.e., hazardous waste dumpster. All containers of hazardous materials shall be clearly labeled as containing hazardous materials with signs in both English and Spanish.

1.8.2 The LBP abatement and demolition work area is to be restricted only to authorized, trained and protected personnel. These may include the Contractor's employees, employees of subcontractors, owner employees and representatives, state and local inspectors, and any other designated individuals. A list of authorized personnel shall be established prior to job start and posted in the clean room of the worker decontamination facility and in the Contractor's office.

1.8.3 Entry into the work area by unauthorized individuals shall be reported immediately to LAC by the Contractor.

- 1.8.4 A log book shall be maintained in the clean room area of the worker decontamination system. Anyone who enters the LBP abatement work area must record name, affiliation, time in, and time out for each entry.
- 1.8.5 Access to the work area shall be through a worker decontamination system(s) located at the work site. All other means of access (doors, windows, hallways, etc.) shall be blocked or locked so as to prevent entry to or exit from the work area. The only exceptions to this rule are the waste load-out, area which shall be sealed except during the removal of containerized lead waste from the work area, and emergency exits in case of fire or accident. If two- or three-stage containment areas are required, emergency exits shall not be locked from the inside; however, they shall be sealed with polyethylene sheeting and taped until needed.
- 1.8.6 Contractor shall have control of site security during operations in order to protect work efforts and equipment.
- 1.8.7 During the course of the entire LBP portion of the project, the Contractor shall have an Abatement Crew Supervisor (ACS) on site, during abatement operations. The ACS shall be a CDPH accredited Lead-Related Construction Supervisor and shall have had at least one year experience with a minimum of three LBP abatement projects. During those phases of lead abatement involving removal of materials and during those periods of time when the work requires negative air units, the Contractor shall also have an individual on site to both maintain security and maintain the negative air units.

1.9 EMERGENCY PLANNING

- 1.9.1 Emergency planning and procedures shall be developed by the Contractor.
- 1.9.2 Emergency procedures shall be in written form and prominently posted. All employees must read and sign these procedures to acknowledge receipt and understanding of work site layout, location of emergency exits and emergency procedures.
- 1.9.3 Emergency planning shall include written notification of police, fire, LA City and County, and emergency medical personnel of planned lead abatement activities, work schedule and layout of work area, particularly barriers that may affect response capabilities.
- 1.9.4 Emergency planning shall include considerations of fires, explosions, toxic atmospheres, electrical hazards, loss of electrical power, slips, trips and falls, confined spaces and heat related injuries. Written procedures shall be developed and employee training in procedures shall be provided.

1.95 Employees shall be trained in evacuation procedures in the event of workplace emergencies.

1.9.5.1 For non-life-threatening situations, employees injured or otherwise incapacitated shall decontaminate following normal procedures before exiting the workplace to obtain proper medical treatment.

1.9.5.2 For life-threatening injury or illness, worker decontamination shall take least priority. After taking measures to stabilize the injured worker, he/she shall be removed from the workplace and proper medical treatment secured.

1.9.5.3 In the event that evacuation procedures are required, the Contractor shall notify ambulance, paramedic personnel, the medical facility and any other required persons that the injured individual(s) is or may be contaminated with lead.

1.96 Emergency telephone numbers of all emergency response personnel shall be prominently posted in the clean room/change area and Contractor's office, along with the location of the nearest telephone.

1.97 The Contractor shall provide an emergency eyewash in the change room of the decontamination unit(s). The eyewash shall be capable of a minimum of fifteen minutes of water flow.

1.10 PRE-CONSTRUCTION MEETING

1.10.1 After approval of the SSWP the Contractor shall attend a pre-construction job meeting at a time agreed upon by the Contractor, and LAC.

1.10.2 At this meeting, the Contractor and supervisory personnel who will provide on-site direction of the lead abatement activities must attend and be prepared to discuss:

1.10.2.1 Preparation of work area.

1.10.2.2 Protection of occupied building areas.

1.10.2.3 Personal protective equipment including but not limited to respiratory protection and protective clothing.

1.10.2.4 Employees who will participate in the project, including delineation of experience, training, and assigned responsibilities during the project.

1.10.2.5 Decontamination procedures for personnel, work area and

- equipment.
- 1.10.2.6 Lead abatement methods and procedures to be utilized.
- 1.10.2.7 Required air monitoring procedures.
- 1.10.2.8 Procedures for handling and disposing of waste materials.
- 1.10.2.9 Procedures for final decontamination and clean-up.
- 1.10.2.10 Detailed LBP removal and/or demolition work and performance schedule.
- 1.10.2.11 Copy of the CDPH Abatement of Lead Hazard Notification form 8551.
- 1.10.2.12 Procedures for dealing with heat stress if needed.
- 1.10.2.13 Emergency procedures.

1.11 CONSTRUCTION MEETINGS

- 1.11.1 The Contractor shall attend construction meetings that may include representatives of LAC, the lead contractor, and the demolition contractor.

2.0 PRODUCTS

2.1 GENERAL

- 21.1 All materials, tools, and equipment listed herein required shall be provided by the contractor.

2.2 MATERIALS AND SUPPLIES

- 221 Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name, and labeling as required by 8 CCR Section 5194: Hazard Communication Standard.
- 222 Store all materials that are subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient to prevent damage or contamination.
- 223 Damaged or deteriorating materials shall not be used and shall be removed from the premises. Material that becomes contaminated with lead shall be disposed of in accordance with the applicable regulations.
- 224 Polyethylene Sheeting - 6 mil thickness, unless otherwise specified, in

- sizes to minimize the frequency of joints.
- 225 Tape - Capable of sealing joints of adjacent sheets of plastic sheets and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under dry and wet conditions, including use of amended water, chemical removers, or removal encapsulates.
 - 226 Surfactant (wetting agent) - Detergent solution.
 - 227 Chemical Remover - Suitable to aid in removal of lead; to be approved by LAC.
 - 228 Warning Labels and Signs - As required by Cal/OSHA Regulations. All warning signs provided for this project must be in both English and Spanish.
 - 229 Encapsulant - Product shall have UL approval and be certified by the manufacturer to be compatible for lead painted surfaces and painting over when dry.
 - 2210 Other Materials - Provide all other materials as may be specified in drawings; also, other materials such as lumber, nails, and hardware, which may be required to construct and dismantle the decontamination area and the barriers that isolate the work area.

2.3 TOOLS AND EQUIPMENT

- 231 Provide suitable tools for lead paint removal.
- 232 Negative Air Pressure System - Whenever a two or three stage containment is required, a negative pressure must be established in the work area by means of a local exhaust system. The equipment shall exhaust through a three-(or more) stage HEPA filtration system to the outside of the work area. The equipment shall be in operation for 24 hours per day until decontamination and final clean-up of the work area is completed. The system shall comply with the following:
 - 2.3.2.1 Filtration equipment shall be in compliance with ANSI Z9.2, Local Exhaust Ventilation.
 - 2.3.2.2 Provide, maintain, and monitor per containment the pressure differential between the work area and the building outside of the work area with a monitoring device incorporating a continuous recorder (e.g., strip chart). Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building. This pressure differential, when measured across any physical or critical barrier, must be

capable of maintaining a minimum pressure differential of minus 0.02 inch water gauge in the work area relative to adjacent areas.

- On a daily basis submit the printout from pressure differential monitoring equipment, marking printout with date, start time, and end time for each day.
- Use printout paper that indicates elapsed time in intervals no greater than hours.
- Indicate on printout starting and stopping times of lead abatement work, type of work in progress, and filter changes.
- Cut printout into segments by day and attach to 8-1/2" x 11" paper. Label each page by building and date.
- Submit printout to Owner's Representative (IH) on a daily basis.

- 233 Negative air pressure system units shall be employed in sufficient quantity to provide 4-air changes per hour in the workplace.
- 234 Water Filtration System - Water used for showering in the decontamination area and any other lead-contaminated water must be filtered prior to disposal into the existing sewer system. The system shall at a minimum contain a 3-stage filtering system with a 5.0 micron filter. The filtration system shall be adequate to meet the lead discharge limitations of the local publicly-owned treatment works (POTW).
- 235 Half-face air purifying respirator with canisters containing HEPA filters, and NIOSH approval for lead dust and fume.
- 236 Type "C" supplied air system or powered air purifying respirators (PAPR), if required by virtue of exposures.
- 237 Temporary electrical cords and outlets shall be of an approved type and connected to a source of power outside of the work area and protected by a ground fault circuit interrupter (GFCI) as directed by LAC.
- 238 Temporary Electrical Panels - Provide temporary electrical panels sized, properly grounded and equipped to accommodate all electrical equipment and lighting required for lead abatement work.

2.4 PERSONNEL REQUIREMENTS

24.1 Training:

2.4.1.1 Any worker entering an area known to contain lead-based paint for the purpose of removing or disturbing lead-based paint must have successfully completed training in Worker Lead-Based Paint Abatement Health and Safety.

2.4.1.2 In addition, lead abatement workers shall have, at a minimum, four days training. Lead abatement supervisors shall have, at a minimum, five days training. Such training shall have been conducted by a training provider accredited by the California Department of Health Services.

2.4.1.3 Evidence of completion of the training required by 2.4.1.2 shall be on site prior to an individual's initial entry into the work area.

242 Biological Monitoring: All LBP workers must have initial (not greater than 30 days prior to the worker starting on the project) blood lead level (BLL) and zinc protoporphyrin (ZPP) screening determined by the whole blood lead method, utilizing vena-puncture technique. In addition, the Contractor shall have a physical performed for each employee by a physician who understands the requirements of the Cal/OSHA lead standards.

243 Employees who are exposed or may be exposed at or above the AL for more than 30 days in any consecutive 12 months, shall have BLL and ZPP testing performed at minimum every 2 months for the first 6 months, and every 6 months thereafter.

244 For LAC projects lasting 30 days or longer, the LBP workers shall have follow-up BLL testing done every 30 days.

245 A worker will be removed from the job if his blood lead level is 50 µg/100 deciliter (dl) or greater. The Contractor shall be responsible for medical surveillance and record keeping.

246 Respiratory Protection:

2.4.6.1 It is anticipated that the minimum respiratory protection required for this project is a negative pressure, half mask, air purifying respirator, equipped with HEPA filters for airborne lead levels not in excess of 0.5 mg/m³ (10 x PEL). However, for abrasive blasting activities a Powered Air Purifying Respirator (PAPR) will be required until air monitoring allows for down grading of respiratory protection. Contractors will base bids on these types of respirators.

2.4.6.2 In the event air monitoring results exceed the protection factor for negative pressure, half mask, air purifying respirators the following protection will be required:

- Full facepiece air purifying respirator, with HEPA filters for airborne lead levels not in excess of 2.5 mg/m (50 x PEL).
- Pressure demand, full facepiece, supplied air respirators for airborne lead concentrations expected to meet or exceed 50 mg/m (1000 x PEL).

2.4.6.3 All workers inside the LBP abatement work area will wear the proper respirator for the lead concentration generated. Contractors will base their bids on proper respirator for the lead concentration generated.

2.4.6.4 Workers must be properly trained in the care, use, and maintenance of respirators. The Contractor will require that a fit test is performed on these workers and passed not less than one month before they enter the work area. A formal respiratory protection program must be implemented in accordance with 8 CCR 5144.

2.4.6.5 Respirators will not be removed until the worker enters the washing area (or equivalent) of the decontamination chamber.

24.7 Personal Protective Equipment:

2.4.7.1 Workers will wear full body disposable suits with hoods and booties. A TYVEK or similar type of suit may be worn. Suits will continue to be worn inside the work area after the area passes pre-lead abatement inspection and shall remain in use until the area passes final clearance inspection.

2.4.7.2 Goggles or safety glasses with side shields shall be worn while on site at all times.

2.4.7.3 Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some removal and/or coating products. Consult the MSDS and obtain the proper filters as necessary.

2.4.7.4 During abrasive blasting operations, a launderable cloth full body suit with hood and booties shall be worn. At the conclusion of this work the coveralls are to be HEPA vacuumed and stored

in a plastic bag. They may be re-used until they are ready to launder and/or the end of the project. The contractor may either launder or dispose of the cloth coveralls in accordance with regulatory requirements and these specifications. All other personal protective equipment and personal hygiene practice requirements in these specifications remain applicable.

248 Personal Hygiene Practices:

2.4.8.1 The Contractor shall enforce and follow good personal hygiene practices during lead abatement. These practices will include, but not be limited to, the following:

2.4.8.1.1 No eating, drinking, smoking, chewing gum, or tobacco, or applying of cosmetics in work area. The Contractor will provide a clean space, separated from the work area, for these activities.

2.4.8.1.2 All workers must wash hands and face upon leaving the work area for breaks and lunch and shall shower at the end of the work shift. Wash facilities will be provided by the Contractor consisting of, at minimum, running potable water, towels, and a HEPA vacuum. Upon leaving the work area, each worker will remove and dispose of work suit, wash and dry face and hands, and HEPA vacuum clothes that were worn under the disposable suits in the work area. An appropriate emergency eyewash shall be available for use.

2.4.8.1.3 The decontamination unit (shower, change room, et. al.) may be located so that it is not contiguous with the work area. In this case, workers shall wear two full body disposal suits, as required in 2.4.7.1, while in the work area. Upon leaving the work area the outside suit shall be HEPA vacuumed and then removed. Then, while still wearing the inside suit and respirator, the worker will proceed directly to the decontamination unit, wash face and hands and clean the exterior of the respirator. Then the inside suit may be removed. The respirator must be removed in the shower room. The interior and exterior of the respirator must be cleaned, filters must be taped or discarded. The respirator must be placed in a clean poly bag and stored in the clean room of the decontamination unit.

2.4.8.1.4 Disposable clothing such as TYVEK suits and other personal protective equipment (PPE) must be donned prior to entering work area. A clean room will be provided for workers to put on suits and other personal protective equipment and to store their street clothes. Disposable suits shall be used once, then properly discarded.

2.4.8.2 A lavatory facility must be provided and located in the immediate vicinity of work area. The eating and drinking area, clean room, and the lavatory facility must be maintained in a clean and orderly fashion at all times. The Contractor will provide portable lavatories when needed and disinfect them daily. Workers must HEPA vacuum their suits and wash face and hands prior to entering the lavatory or eating/drinking area.

2.4.8.3 If air monitoring data shows that employee exposure to airborne lead exceeds 50 µg/m, the following conditions apply:

- Street clothes cannot be worn into containment. Workers must wear nylon shorts, TYVEK shorts, or proceed under full shower conditions with no cloths under the disposable suit.
- Three-stage decontamination unit must be established consisting of equipment room and airlock shower and airlock and a clean room
- Showers must be provided if feasible. Shower water must pass through at least a 5.0 micron filter before returning to the public waste system, and the effluent discharge lead concentrations must not exceed the levels stipulated by the local POTW. The shower water shall be contained in 55 gallon drums and be tested for lead content before proper disposal.
- All workers must shower upon leaving work area.

3.0 EXECUTION

3.1 WORK SCHEDULE (Include in SSWP)

31.1 The work is to be carried out diligently to completion. The Contractor shall furnish to LAC a schedule identifying anticipated starting and completion dates for each removal phase which includes all lead operations.

3.2 PREPARATION OF WORK AREA

321 The Contractor performing the LBP abatement and demolition shall

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perform this work in conjunction with various phases of the project identified during the pre-bid job walk or subsequent construction meetings. One layer of 6 mil thick plastic shall be used to protect the floor. All overlaps and seams shall be taped. The contractor is responsible for ensuring the removal of all existing movable, (i.e., trash, furniture and fixtures, etc).

322 Work Area: Preparation of the work area is dependent upon the type of lead abatement planned and the expected/experienced concentrations of airborne lead within the containment (employee exposure monitoring) and exterior to the containment (area monitoring). Three levels of engineering controls and work area preparation are anticipated:

322.1 One-Stage Containment - Air monitoring results less than the AL. Single-layer of six mil polyethylene plastic with Z-flap at entry/egress points and signs to identify the lead abatement area and required entry authorizations. This control level is anticipated primarily for lead abatement via demolition of the walls within the building after paint stabilization has occurred (i.e., removal by scraping of loose paint chips).

322.2 Two-Stage Containment - Air monitoring results are greater than the AL, but less than the PEL. Complete physical containment with two-layers of six mil plastic on wall, airlocks, clean and equipment rooms and negative air pressure system. This control level may be required for on-site removal methods such as abrasive blasting and on- site LBP removal with chemicals.

322.3 Three-Stage Containment - Air monitoring results above the PEL. Full three-stage containment with two-layers of six mil plastic, airlocks, negative air pressure system, dirty/equipment rooms, showers, and clean/change room. This control level may be required for extensive on-site, dry removal methods (this type of containment is not anticipated during this project unless the contractors are unwilling to meet the requirements of these specifications).

323 Shower - Shower facilities are required.

324 The number, sequence and types of containments shall be identified in the work plan.

325 Shut down of electrical power: When and where required, provide temporary power and lighting and ensure safe installation of temporary power sources and equipment per applicable electrical code requirements. Provide safety lighting and ground fault interrupter circuits as a power source for electrical equipment. Existing power to the building

shall be shut off at the source.

326 Minimum Lighting: The Contractor shall establish minimum lighting requirements as follows: a minimum of 20 foot-candles in the general work area and a minimum of 50 foot-candles on working surfaces where removal and/or detailing is taking place.

327 Signage: The Contractor shall post signs immediately outside all entrances and exits to the work area.

327.1 The Contractor shall keep the signs posted.

327.2 The Contractor shall insure that the required sign meets the following description:

- The sign is at least 20" x 14" and states the date and place of the lead abatement project
- The sign includes the phrase, "Warning, Lead Work Area, Poison No Smoking, Eating or Drinking" in bold lettering at least two inches high

328 TWO AND THREE STAGE CONTAINMENTS ONLY

328.1 Shut down and isolate (by means of one layer of 6 mil plastic sheeting) heating, cooling and ventilating air systems to prevent contamination and lead dust dispersal to other areas of the structure. During the work, vents or openings within the work area shall be sealed with tape and plastic sheeting.

328.2 Seal off all openings, including but not limited to corridors, doorways, skylights, ducts, grilles, or diffuser openings and any other penetrations of the work areas, with two layers of 6 mil plastic sheeting sealed with tape. Doorways and corridors that will not be used for passage during work must be sealed with 6 mil plastic barriers.

328.3 Build airlocks at entrances to and exits from the work area. Airlocks should be built in a manner that allows for in-flow air. Make-up air, if required, shall be admitted through specially constructed vents which prevent contaminated air from leaving the work area.

328.4 Establish a negative air pressure system which produces 4 air changes per hour in the work area and maintains a pressure

differential of minus 0.02 inch water gauge between the inside and outside of the work area. The location and identification of each individual negative air unit shall be provided to LAC for each work area. Identification (for example, labels) shall be clearly visible in the work area and at the unit's exhaust location.

32.8.5 A failure rate of 20 percent of the negative air units shall be reason to cease operations and seal the work area until the units are fully operational.

329 Maintain emergency and fire exits from the work areas, and/or establish adequately marked alternative exits satisfactory to Los Angeles County Fire Code.

3.3 LBP DEMOLITION AND ABATEMENT SHALL NOT COMMENCE UNTIL

331 The LBP Work Plan, and all required submittals and notices listed in section 1.5 of this document as well as training, respirator program, respirator fit-test results, proof of medical exams, and MSDS have been reviewed and approved by LAC or designee.

332 Arrangements have been made for disposal of waste at sites acceptable to LAC.

333 Arrangements have been made for containing and/or disposing of waste water resulting from showering and other LBP abatement activities.

334 Work areas, decontamination enclosure system, and waste load-out area are effectively segregated.

335 Tools, equipment, and material waste receptacles are on-site.

336 All respirators are on-site and fully operative.

337 A visitor and employee log-in/log-out system is in place at the job site. All persons entering the site will be required to sign in and sign out. Bound, pre-paginated ledgers shall be employed for the sign-in, sign-out system.

338 Should any Presumed Asbestos Containing Material (PACM) be identified, the work activities shall cease in the effected area and the materials shall be sampled and analyzed for asbestos content. LAC to be notified immediately.

3.4 ENCLOSURE AND WASTE LOAD-OUT AREA

34.1 If two or three stage containments are required, construct a worker

decontamination enclosure system contiguous to the work area, described as follows:

- 3.4.1.1 An equipment room with two doorways, one to the work area and one to the shower room.
- 3.4.1.2 A shower room with two doorways, one to the equipment room and one to the clean room. The shower room shall contain at least one shower with hot and cold water. Careful attention shall be paid to the shower enclosure to ensure against leaking of any kind. Ensure a supply of soap and shampoo is available at all times in the shower room. Clean and dry towels shall be available for employees and owner-authorized visitors and personnel. A three stage water filtration system must be employed prior to release of shower water into the local sewage system.
- 3.4.1.3 A clean room with one doorway into the shower and one entrance or exit to non-contaminated areas of the building or outside. The clean room shall have sufficient space for storage of the workers' street clothes, towels and other non-contaminated items. Individual lockers shall be available to workers within the clean room.

Workers shall change clothes (i.e., dress and undress) within the clean room exclusively. If additional space is required for changing clothes, the Contractor will be required to construct modesty rooms (if inside the building, use black polyethylene sheeting, if outside the building, use 2" plywood).

- 3.4.1.4 The worker decontamination enclosure system shall be of rigid construction, preferably movable, and shall exist independent of the facility but contiguous to the work area (i.e., building facilities such as toilets, sinks, and shower shall not be used in constructing the decontamination enclosure system). If the entire facility is built on-site, it shall be constructed of 2" plywood, 2" x 4" studs and fully lined with two layers of 6 mil polyethylene sheeting. Toilet facilities for workers shall be located within the decontamination enclosure system accessible through either the equipment room or shower room.
- 3.4.1.5 The worker decontamination area shall be under negative air at all times; sufficient quantities of make-up air will also be provided for by the Contractor.
- 3.4.1.6 Construct a waste load-out wash down station contiguous to the

equipment room or work area. The waste load-out area shall be constructed of 2" plywood, 2" x 4" studs, and fully lined with two layers of 6 mil polyethylene sheeting or as approved by LAC or its designee.

342 If two or three-stage containments are required, move all materials or equipment from the work area through the equipment decontamination room according to the following sequence:

34.2.1 Airlocks shall be established at the entrance of the waste load-out area and a separate negative air machine shall be utilized exclusively for this waste load-out area.

34.2.2 Access to the waste load-out area shall only be through the work area through a separate airlock between the work area and the wash down station.

34.2.3 At the waste load-out station, thoroughly wet clean contaminated equipment, sealed polyethylene bags or metal drums and pass them into wash room. Once inside the washroom, again wet clean and place sealed metal drums, polyethylene bags or equipment into a second layer of 6 mil polyethylene sheeting or bag. All workers in this decontamination facility shall be required to wear full protective clothing and appropriate respiratory protection.

34.2.4 All double-bagged waste shall be transported to dumpster by sealed, portable containers. The dumpster and portable container shall be fully lined (exclusive of ceiling) with one layer of 6 mil polyethylene sheeting. Dumpster and portable containers shall be leak tight and tested by the Contractor.

343 LBP components shall be transported to the waste dumpster, to the extent feasible, in carts to prevent the loss/spreading of LBP paint chips. If pallet-type or flat bed conveyances, etc., are used, the path from the work area to the dumpster shall be demarked with warning tape, covered with a layer of 10 mil plastic, if feasible, and cleaned with a HEPA vacuum to ensure that any paint chips are cleaned up.

3.5 MAINTENANCE OF ENCLOSURE SYSTEM

351 Ensure that barriers and plastic linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.

352 Visually inspect enclosures and negative air units at the beginning of each

work period or shift. Details of the inspections are to be included in the Contractor's daily log.

- 353 Use smoke methods to test effectiveness of barriers and the negative air pressure system when directed by LAC or IH Consultant.

3.6 CLEAN-UP PROCEDURES

- 361 General: When active lead abatement work is taking place, there shall be continuous, ongoing cleanup to reduce the accumulation of debris, and the work site shall be cleaned at the end of each day's activities. Prior to beginning lead control, all stored materials or equipment shall be either removed to a "clean room" or wrapped in polyethylene prior to start of the lead abatement work. A separate, secured area within the containment space shall be designated for storage of debris until it can be properly disposed of according to the contract documents. The lead abatement area shall be secured to prevent entry by any persons after termination of the workday. Disposable supplies such as mop heads, sponges, and rags shall be replaced regularly and disposed of according to the LBP Specifications. Durable equipment, such as power and hand tools, generators, and vehicles shall be cleaned monthly. All equipment shall be cleaned by HEPA vacuuming and detergent washing. No equipment shall be removed from the work area until it has been cleaned.
- 362 All clean-up procedures, as described herein, will be completed before the removal of the 6 mil. thick area containment plastic sheeting on vents, as well as doorways to the outside.
- 363 Clean-Up Methods and Equipment: Areas in which lead abatement operations have been completed shall be cleaned, starting at the ceilings and working down to the floors, by vacuum cleaning using a high efficiency particulate air (HEPA) vacuum, followed by a wet cleaning with a general all purpose cleaner or a cleaner made specifically for lead. After spraying the surface, a wet and dry HEPA vacuum shall be used to vacuum the water from the surface.
- 364 High Efficiency Particulate Air (HEPA) Vacuum: The Contractor will obtain training in the use of the HEPA vacuum from the manufacturer prior to use. The Contractor shall obtain HEPA vacuum attachments, such as various sized brushes, crevice tools, and angular tools to be used for varied application, and service the HEPA vacuum routinely to assure proper operation. Caution shall be taken any time the HEPA is opened for filter replacement or debris removal. Operators shall wear a full set of protective clothing and equipment, including respirators, when using the HEPA vacuuming equipment. Prior to leaving the work area and while in storage each HEPA vacuum must have all orifices sealed with duct tape

and vacuum related tools must be cleaned and bagged. Only an approved HEPA vacuum will be used.

- 365 Wet Cleaning with a General All Purpose Cleaner: The Contractor shall prepare and use either an all purpose cleaning detergent or a cleaning agent made specifically for lead according to the manufacturer's recommended coverage. Detergent solutions should be replaced after each individual area has been washed unless the Contractor has used a garden spray application and vacuumed the surface. The waste water from cleanup shall be contained and disposed of according to the contract document.
- 366 Removal of Plastic Sheetting: The plastic sheeting covering the floors, window openings and ground shall be sprayed, picked up and HEPA-vacuumed prior to removal. The plastic sheeting shall be carefully folded from the corners and ends toward the middle and placed into a double 4 mil or single 6 mil plastic bag and sealed. Bags shall be stored in the designated area and disposed of according to the specifications.
- 367 Triple Clean: The entire area shall be HEPA-vacuumed, washed, and HEPA-vacuumed again. No dry sweeping is allowed. After this cleaning, any surfaces requiring painting such as plaster walls, or plaster ceilings shall be sealed or primed with an approved product. The lead related final cleaning may be combined with the final asbestos cleanup procedures.
- 368 Cleanup and Inspection After Abatement: The Contractor shall begin final cleanup no less than 24 hours (unless notified otherwise) after final clearance and all materials, equipment, debris and plastic sheeting have been removed. The entire area shall be HEPA-vacuumed, washed with a cleaning agent, and HEPA-vacuumed, washed with a cleaning agent, and then HEPA-vacuumed again. No dry sweeping is allowed. LAC will then visually inspect the entire area to ensure that all abated surfaces have been primed, painted, or sealed. All disposal supplies used during cleanup, such as mop heads, sponges, etc., shall be disposed of according to the specifications.

3.7 DISPOSAL OF WASTE MATERIAL (Include in SSWP)

- 37.1 The Contractor shall contact the regional EPA, state, and local authorities to determine LBP debris disposal requirements. Resource Conservation and Recovery Act requirements shall be complied with as well as applicable state hazardous waste and solid waste and LAC requirements. During the actual lead abatement, the Contractor shall not leave debris at the facility or nearby property, incinerate debris, dump waste by the road or in an unauthorized dumpster, or introduce lead-contaminated water into storm water (will not be flushed down yard inlet or street drain) or sanitary

sewers (will not be flushed down toilet or other household drain).

372 The presumptions and reservations in 3.7.3 and 3.7.4 govern the classification of the waste, except for waste material not listed therein.

373 Presumed non-hazardous waste. The following categories of waste material are presumed to be non-hazardous without STLC or TCLP testing.

- Intact painted building materials
- HEPA vacuumed disposable work clothes and cleaned respirator filters
- Filtered wash water
- Wet wiped or HEPA vacuumed plastic sheeting and tape used to protect surfaces

374 Presumed hazardous waste.

The following categories of waste materials are presumed to be hazardous without STLC or TCLP testing.

- Abrasive blasting materials, if any used
- Paint chips
- HEPA vacuum debris and filters, dust from air filters, and paint dust
- Unfiltered liquid waste
- Sludge from chemical stripping
- Rags, sponges, mops, scrapers, and other such materials used for abatement and cleanup
- Non-impervious work gloves

375 Hazardous Solid Waste: The Contractor shall place lead-based paint chips, debris, and lead dust, etc., in double (4-mil) or single (6-mil) polyethylene bags that are air-tight and puncture-resistant and place them in properly labeled 55 gallon metal drums provided by the Contractor.

Other types of substrate that do not fit into plastic bags will be wrapped in 6 mil poly and labeled "DANGER, LEAD DUST."

376 The Contractor will place all disposable materials, such as work gloves, sponges, mop heads, filters, disposable clothing, and brooms in double (4-mil) or single (6-mil) plastic bags and in properly labeled 55 gallon metal drums provided by the Contractor.

377 The Contractor shall clean surfaces and equipment and remove debris. The Contractor shall then remove plastic sheeting and tape from covered surfaces. Prior to removing the plastic sheeting, the Contractor shall lightly

mist the sheeting with amended water in order to keep dust down and fold inward into tight small bundles to bag for disposal. The Contractor shall place all plastic sheeting in double (4-mil) or single (6-mil) thick plastic bags and seal them.

- 37.8 The Contractor shall bag and seal vacuum bags and filters in double (4-mil) or single (6-mil) thick plastic bags and place them in properly labeled 55 gallon metal drums provided by the Contractor.
- 37.9 The Contractor shall place all contaminated clothing or clothing covers used during lead abatement and cleanup in plastic bags for disposal prior to leaving the equipment room and place them in properly labeled 55 gallon metal drums provided by the Contractor.
- 37.10 The Contractor shall place solvent residues and residues from strippers in properly lined labeled drums made out of materials that cannot be dissolved or corroded by chemicals. Solvents, caustics, and acid waste must be segregated and not stored in the same containers with LBP waste but must be stored in appropriate disposal drums provided by the Contractor.
- 37.11 The Contractor shall contain and properly dispose of all liquid waste, including lead-dust contaminated wash water.
- 37.12 The Contractor shall HEPA-vacuum the exterior of all liquid waste containers prior to removing the waste containers from the work area and shall wet wipe the containers to ensure that there is no residual contamination. Containers should then be moved out of the work area into the designated storage area.
- 37.13 The Contractor shall carefully place the containers into the truck or dumpster used for transportation.
- 37.14 The Contractor shall ensure that all waste is transported in covered vehicles to a LAC approved disposal site with proper labeling and manifesting.
- 37.15 If the Contractor, with LAC approval, subcontracts the removal of the LBP waste, he shall ensure that the company removing the waste material adequately covers all loads so that no dust or debris is released.
- 37.16 Disposal of Hazardous Waste (as determined by 3.7.3, 3.7.4, or STLC testing). The Contractor will be required to comply with LAC directives concerning all hazardous waste disposal. All disposal costs associated with the wastes are to be borne by the LBP abatement contractor.

- 37.17 Waste Containers: The Contractor will comply with EPA and DOT regulations for containers. The Contractor shall contact LAC, the state, local authorities and the disposal site to determine their criteria for containers. The more stringent requirements shall apply. All disposal costs associated with the wastes are to be borne by the LBP abatement contractor.
- 37.18 The waste containers shall be removed from the site and transported to the waste disposal site when full or within 5 days of the conclusion of abatement work.
- 37.19 Waste Transportation: If the Contractor is not a certified hazardous waste transporter, a contract shall be entered into with a certified transporter to move the waste. This transporter must be approved by LAC. The Contractor shall require the certified hazardous waste transporter to follow all applicable Federal, State, and Local regulations, including manifesting.
- 37.20 Recyclables: The recipient of recyclable materials containing lead paint shall be informed in writing of the presence of the lead paint prior to transporting them.

4.0 LBP ABATEMENT METHODS (Include in SSWP)

4.1 GENERAL

The alternatives covered in this section are included for awareness in the event they may be necessary and available for the contractor to use. Methods that do not generate dust or fume shall be proposed in the SSWP.

4.2 ABRASIVE REMOVERS - MACHINE SANDER

4.2.1 Machine Sanding Equipment

4.2.1.1 Sanders shall be of the dual action, rotary action, orbital or straight line system type, capable of being fitted with a HEPA dust pick-up system.

4.2.1.2 Air compressors utilized to operate this equipment shall be designed to continuously provide 90 to 110 psi or as recommended by the manufacturer.

4.2.2 Execution

4.2.2.1 Sanding shall only be done on flat surfaces which allow the HEPA dust collection hood to come into tight contact with the surface being sanded. Surfaces to be sanded shall be wide

enough to allow maximum efficiency of the HEPA dust collection system.

- 4.2.2.2 All lead-based paint shall be removed down to the bare substrate surface. In cases in which some pigment may remain embedded in wood grain and similar porous substrate, care shall be taken to avoid damage to the substrate with the sanding machine. If the pigment cannot be removed without damaging the substrate, the Contractor shall notify LAC for further instructions.

4.3 DEMOLITION OF INTACT WALLS

- 4.3.1 The demolition of intact drywall systems will be done in such a manner to control the spread of dust and liquid effluent created during the process.

- 4.3.1.1 Normal demolition activities that may be utilized by the contractor to demolish the wall systems include, but are not limited to, manual demolition, Bobcat, sawing, etc.

4.3.2 Execution

- 4.3.2.1 The demolition of the wall systems shall be done wet such that dust control measures are utilized to control the spread of dust and lead dust into various areas of the building which may or may not be directly involved in LBP demolition.

- 4.3.2.2 The paint chips and dust with paint chips generated during this type of work shall be collected and disposed as hazardous waste.

4.4 HEAT GUN REMOVERS

- 4.4.1 Heat Blower Gun Equipment. Electrically-operated heat-blower gun shall be a flameless electrical paint softener type. Heat-blower shall have electronically controlled temperature settings to allow usage below a temperature of 700 degrees Fahrenheit. Heat-blower shall be GFCI type (non-grounded) 120V, AC application, UL listed. Heat-blower shall be equipped with various nozzles to cover all common applications (cone, fan, glass protector, spoon reflector, etc.).

4.4.2 Execution

- 4.4.2.1 The hot air stream from the heat-blower gun shall be directed at the painted surface and the paint allowed to blister and soften. Considerable lead is volatilized from lead-based paint and lead fumes are released at approximately 700 degrees Fahrenheit.

Heat-blower shall not be operated above 700 degrees Fahrenheit and respiratory protection is required for all persons in the work area.

- 4.4.2.2 Softened paint shall be removed down to the substrate surface as completely as possible by scraping and/or brushing. In cases where some pigment may remain embedded in plaster and similar porous substrate, care shall be taken to avoid damage to the substrate with the scraping or brushing. If the pigment cannot be removed without damaging the substrate, the Contractor shall notify LAC for further instructions.

4.5 ON-SITE CHEMICAL REMOVERS

4.5.1 Chemical Stripping Removers

- 4.5.1.1 **Chemical removers shall contain no methylene chloride products.** Chemical removers shall be compatible with and not harmful to the substrate to which that they are applied. Chemical removers used on masonry surfaces shall contain anti-stain formulation that inhibits discoloration of stone, granite, brick, and other masonry construction.

4.5.2 Chemical Stripping Agent Neutralizer

- 4.5.2.1 Chemical stripping agent neutralizers may be used on exterior surfaces only. Neutralizers shall be compatible with and not harmful to the substrate that they are applied too. Neutralizers shall be compatible with the stripping agent that has been applied to the surface substrate.
- 4.5.2.2 Execution. Chemical stripping agents and neutralizers shall be applied in accordance with the recommendations of the manufacturer. Care must be taken to adhere to all health/safety code and other specification section requirements. Stripping agents shall not be allowed to penetrate plaster or substrates. The softened paint shall be removed by scraping or wire brush.

4.6 VACUUM BLASTING REMOVERS

4.6.1 Vacuum Blasting Equipment and Abrasive Media

- 4.6.1.1 Blasters shall be of full containment vacuum type, designed in full compliance with all codes that govern abrasive blasting the removal and handling of hazardous materials. The machine shall automatically clean dust and contaminants from the used abrasive by a dust separator before reuse of abrasive. All

machine air filters shall be automatically cleaned during operations. The machine shall automatically load the dust and contaminants into approved disposable bags during operations. The machine shall be equipped with brush type blast heads for a wide range of flat, curved, and other shaped surfaces.

- 4.6.1.2 Blasting media shall be non-toxic and conform to the recommendations and specifications of the vacuum blasting machine manufacturer.

4.6.2 Execution

- 4.6.2.1 Blasting shall be done on flat and shaped surfaces that are compatible with the available blast heads as provided by the equipment manufacturer. Blast heads shall come into contact with the surfaces being blasted to provide maximum containment of dust and debris created by the blasting operation.

- 4.6.2.2 All lead-based paint shall be removed down to the bare substrate. In some cases in which pigment may remain embedded in porous materials, care shall be taken not to damage the substrate with the blasting operation. If pigments cannot be removed without damaging the substrate, the Contractor shall notify LAC for further instructions.

- 4.6.2.3 Blasting operations shall be performed by workers who are properly trained in the use of the blasting equipment being utilized.

- 4.6.2.4 All work shall be in compliance with this Section, all other applicable specification sections, and all health and safety codes.

4.7 ABRASIVE BLASTING

4.7.1 Abrasive Blasting Equipment and Abrasive Media

- 4.7.1.1 Blasters shall be designed in full compliance with all codes that govern abrasive blasting and the removal and handling of hazardous materials.

- 4.7.1.2 Blasting media shall be non-toxic and conform to the recommendations and specifications of the blasting machine manufacturer.

4.7.2 Execution

- 4.7.2.1 The abrasive blasting shall be done within the approved containment.
- 4.7.2.2 All lead-based paint shall be removed down to the bare substrate. Care shall be taken not to damage the substrate with the blasting operation. If pigments cannot be removed without damaging the substrate, the Contractor shall notify LAC.
- 4.7.2.3 Blasting operations shall be performed by workers who are properly trained in the use of the blasting equipment being utilized.
- 4.7.2.4 All work shall be in compliance with this Section, all other applicable specification sections, and all health and safety codes.
- 4.7.2.5 Work shall be stopped and the area cleaned if visible emissions of dust are observed outside the contained area.

4.8 HEPA VACUUM POWER TOOL CLEANING

- 4.8.1 Power tool cleaning involves the use of an air compressor to power the sanding, impacting (needle gun), grinding, or brushing equipment in order to remove all paint, rust, and mill scale on metal and irregular surfaces. When surfaces are flat and the tool is used properly, dust generation is minimal. However, dust will escape in areas of complex configuration when an adequate seal between the tool and the surface cannot be maintained.
- 4.8.2 Containment shall consist of a tarp or wind screen to isolate the work area and ground covering of 10 mil plastic.
- 4.8.3 Execution
 - 4.8.3.1 Select the proper shroud for the shape of the surface to be treated. Attach tool to HEPA vacuum. Worker fatigue may cause the shroud to loose contact with the surface and may cause a significant amount of dust and chips to be emitted if this occurs. All debris shall be cleaned up as soon as possible to avoid tracking material out of the work area.
 - 4.8.3.2 100percent of this work shall be air sampled.

4.9 PEELING PAINT

- 4.9.1 There is a substantial amount of peeling paint on the structures to be demolished.

4.9.2 Execution

- 4.9.2.1 Demolish the structures in a manner to avoid creating lead-containing dust and fumes.
- 4.9.2.2 During the course of demolition and at the end of each work shift, the fallen paint chips shall be collected manually and/or with a HEPA vacuum. One or more persons shall be assigned this work with no other duties. The paint chips and dust with paint chips collected in this manner shall be disposed as hazardous waste.

4.10 ENCLOSURE - PANELING (INTERIOR)

4.10.1 Materials

- 4.10.1.1 Pre-finished Plywood Panel: Pre-finished plywood paneling shall be 5/32 inch thick, good (1) grade, lauan backing grade veneer, with Type II bonding glue. Surface flame spread shall not exceed a 200 rating in accordance with ASTM E84 - Surface Burning Characteristics of Building Materials, or in accordance with building code, whichever is most restrictive.
- 4.10.1.2 Panel Finish-Nails, Putty Stick, Molding: The panel finish shall be as selected by the Project Manager from samples submitted. Nails shall be finish type. Color of nails, putty stick, and molding shall be matched to the paneling. Molding shall be as recommended by the manufacturer.
- 4.10.1.3 Adhesive: Adhesive for bonding paneling to framing or existing surfaces shall be as recommended by the paneling manufacturer.
- 4.10.1.4 Furring Strips: If furring strips are used, a system that is enclosed at the top, bottom, and sides of the walls in addition to the placement of the strips for enclosure installation shall be used. Adhesive shall be applied to the top, side, and bottom furring strips prior to attaching the paneling.

4.10.2 Execution

4.10.2.1 Surface Preparation

- 4.10.2.1.1 Remove foreign material by wash-down with a 5 percent to 10 percent trisodium phosphate solution. Remove loose plaster, loose paint, and

loose wallpaper.

4.10.2.1.2 Repair damaged areas flush with existing wall surface prior to installation of paneling.

4.10.2.1.3 Warning labels stating surface contains "LEAD-BASED PAINT" shall be affixed to the surface prior to being enclosed. Labels shall be 3" x 5" and placed every 4' across the wall being enclosed.

4.10.2.2 Test for Soundness

4.10.2.2.1 Test for soundness of paint bond where the condition is questionable by application of 3/8" x 3" long bead of adhesive to the face of an 8" square of gypsum wallboard and press wallboard square on to wall surface to be tested. Allow setting time recommended by adhesive manufacturer. Pull square away from wall. Paint bond is acceptable if the paper surface is separated from the wallboard square.

4.10.2.2.2 Repeat test procedure wherever wall surface is questionable. If test fails, Contractor will notify LAC for further instructions.

4.10.2.3 Paneling Installation

4.10.2.3.1 Panel shall fit as tight as possible to adjacent surfaces (zero clearance). Each panel shall be fitted before applying adhesive.

4.10.2.3.2 The adhesive shall be applied in a 3/8 inch diameter bead at 16 inch o.c. or on all framing and continuous 1/2 inch from edges. One bead shall be installed at each abutting edge.

4.10.2.3.3 Press panel firmly into contact with adhesive. Nail top, bottom, and side edges at 6 inch o.w. Caulk or seal around perimeter of each panel with an approved caulk or sealant.

4.10.2.3.4 Nails used to install paneling over existing wall surfacing shall be sized to penetrate a minimum of 7/8 inch into the existing wall framing.

4.10.2.3.5 Molding shall be installed with mitered, tight,

smooth corners.

- 4.10.2.3.6 Penetrations made in paneling to accommodate electrical receptacles, switches, light fixtures, etc., shall be sealed continuous with a non-hardening caulk or sealer. Penetrations shall be slightly larger than the existing opening to allow for a tight seal to the existing wall surfacing.

4.11 ENCLOSURE - GYPSUM WALLBOARD

4.11.1 Materials

- 4.11.1.1 Gypsum Wallboard Gypsum wallboard shall be in accordance with ASTM C36-70 or Federal Specification SS-L030C, Type III, Grade R, Class I and shall be 1/2 inch thick.
- 4.11.1.2 Molding-Beading
 - 4.11.1.2.1 Corner bead shall be U.S. Gypsum No. 101 dura-bead or equal.
 - 4.11.1.2.2 Casing bead shall be U.S. Gypsum No. 200A metal trim or equal.
 - 4.11.1.2.3 Molding shall be installed with formed, mitered, tight and smooth corners and splices.
- 4.11.1.3 Adhesive: Adhesive for bonding wallboards to framing or to existing surfaces shall be as recommended by the wallboard manufacturer.
- 4.11.1.4 Nails: Nails shall not be used.
- 4.11.1.5 Screws: Screws shall be self-tapping, bugle-head for use with power driven screwdrivers. Type S, 1" long, shall be used to fasten wallboard to sheet metal. Type W, 1-1/4" long shall be used to fasten wallboard to wood. Type G, 1-1/2" long shall be used to fasten wallboard to wallboard. Type G, 1-1/2" long shall be used to fasten wallboard to an existing plaster wall and shall be penetrated into framing a minimum of 5/8 inch.
- 4.11.1.6 Furring Strips: If furring strips are used, a system that is enclosed at the top, bottom, and sides of the walls in addition to the placement of the strips for enclosure installation shall

be used. Adhesive shall be applied to the top, side, and bottom furring strips prior to attaching the paneling.

4.11.1.7 Joint Materials

4.11.1.7.1 Joint tape shall be perforated type or in accordance with ASTM C475-70 or FS SS-J-570A, Type II.

4.11.1.7.2 Joint compound shall be in accordance with ASTM C475 or FS SS-J-570, Type I, or equal.

4.11.1.8 Laminating Adhesive. Laminating adhesive shall be in accordance with wallboard manufacturer's recommendation or ASTM C557-67.

4.11.2 Execution

4.11.2.1 Surface Preparation

4.11.2.1.1 Remove foreign material by wash-down with a 5 percent to 10 percent high phosphate solution. Remove loose plaster, loose paint, and loose wallpaper.

4.11.2.1.2 Repair damaged areas larger 3" x 3" flush with existing wall surface prior to installation of gypsum wallboard.

4.11.2.1.3 Wallboard shall be conditioned prior to application by storing in the room in which wallboard is to be applied no less than 24 hours before wallboard is installed.

4.11.2.1.4 Warning labels stating surface contains "LEAD-BASED PAINT" shall be affixed to the surface prior to being enclosed. Labels shall be 3" x 5" and placed every 4' across the wall being enclosed.

4.11.2.2 Test for Soundness

4.11.2.2.1 Test for soundness of paint bond where the condition is questionable by application of 3/8" x 3" long bead of adhesive to the face of an 8"

square of gypsum wallboard and press wallboard square on to wall surface to be tested. Allow setting time recommended by adhesive manufacturer. Pull square away from wall. Paint bond is acceptable if the paper surface is separated from the wallboard square.

4.11.2.2.2 Repeat test procedure wherever wall surface is questionable.

4.11.2.2.3 If the test fails, Contractor shall notify the Owner or the Owner's Representative for further instruction.

4.11.2.3 Wallboard Installation

4.11.2.3.1 Wallboards shall be used in maximum lengths to minimize end joints. End joints shall be staggered and located as far as possible from wall and ceiling centers. Each sheet of wallboard shall be fitted before applying adhesive. Fill the perimeter of each sheet with "non-asbestos containing mud" and tape.

4.11.2.3.2 Adhesive bead shall be applied as a 3/8" diameter bead and installed at 16" o.c. on all framing. Secure all ends and abutting edges by application of a 3/8" diameter bead, continuous 1/2" in from ends and abutting edges.

4.11.2.3.3 Press wallboard firmly into contact with adhesive. Screw top, bottom, and side edges at 8 inch o.c.

4.11.2.3.4 Penetrations made in wallboard to accommodate electrical receptacles, switches, light fixtures, etc., shall be sealed continuous with a non-hardening caulk or sealer. Penetrations shall not be smaller than those in existing wall surfacing to allow a tight seal to the existing surfacing.

4.11.2.4 Joint Treatment

4.11.2.4.1 V-grooves formed by abutting rounded edges of wallboard shall be filled with non- asbestos

containing prefill joint compound. Permit prefill joint compound to harden prior to application of tape.

- 4.11.2.4.2 A thin uniform layer of joint compound shall be applied to all joints and angles that are to be reinforced and reinforcing tape applied immediately. Apply a skim coat immediately following tape embedment.
- 4.11.2.4.3 Fastener depressions shall be filled level with the wallboard surface by three separate applications of joint compound.
- 4.11.2.4.4 Two finish fill coats shall be applied and adequate time shall be allowed for drying between coats. Light sanding shall be done between coats to provide a smooth surface before application of second coat.
- 4.11.2.4.5 All joint compound surfaces shall be sanded to provide a flat smooth surface ready for decorative painting.

4.12 ENCAPSULATION

- 4.12.1 Encapsulation is the process that makes LBP inaccessible by providing a barrier between the LBP and environment. The barrier is formed using a liquid applied coating or adhesive bonding covering material. The encapsulation product/system shall be warranted by the manufacturer to perform for at least 20 years as a durable barrier. The encapsulant must be capable of being applied safely; must not contain toxic substances; must adhere to existing paint films; must have the ability to remain intact for an extended period of time when exposed to environmental conditions and use patterns; and it must comply with fire, health and environmental regulations as well as the requirements of ASTM E-1795. Encapsulation is not recommended for friction surfaces (e.g., window jambs, exterior wood flooring, or stairs) deteriorated components or paint films, severely deteriorated paint films, or surfaces in which there is known incompatibility between two existing coating layers.
- 4.12.2 When encapsulation is used, all areas in which the material exists shall be labeled and recorded.
- 4.12.3 When encapsulation is utilized LAC shall conduct surface by surface visual inspection of all encapsulant applications at minimum 1 month and

6 months from the date of completion. Any failures of the encapsulant shall be repaired by the Contractor within 30 days.

4.12.3.1 Execution

4.12.3.1.1 The selection and use of encapsulation products or systems: follow the manufacturer's recommendations, select several potential encapsulants and surface preparations and conduct patch tests with the selected products.

4.12.3.1.2 Surfaces to be encapsulated shall be thoroughly cleaned with non-sudsy degreasers or other appropriate cleaning products. Flaking, peeling paint shall be removed and the surface stabilized. If the painted surface is smooth and glossy, the surface shall be de-glossed. Corroded metal should be cleaned using HEPA power tools to remove rust and contaminants. Bare concrete and masonry materials should be washed to remove loose dirt, degraded materials or other surface contaminants.

4.12.3.1.3 Field Patch Tests: When the encapsulant has cured according to the manufacturer's directions, conduct a patch test for each encapsulant, surface preparation, and component. For liquid- applied systems the test patch size is approximately 6 x 6 inches. Smaller 3 x 3 inch patch sizes may be used for fiber-reinforced coverings. First visually inspect the covering for signs of incompatibility with the paint film.

Cut an 2" x 2" into the patch area approximately 1.5 to 2 inches long. Place the cutting tool at the intersection of the two cut lines and using the point of the cutting tool attempt to peel or lift the patch. If the patch peels or tears a large (1/2 x 1/2 square inch) portion or section of patch away from the existing top coat then the test fails. Document all patch test results.

4.12.3.2 Encapsulants may be brushed, rolled, or sprayed on. Containment shall consist of ground covering with 10 mil plastic. Ventilation is required when using volatile solvents or chemicals.

4.12.3.2.1 Adhesively Bonded Coverings

- Surfaces shall be thoroughly cleaned with non-sudsy degreasers or other appropriate cleaning products. Flaking, peeling paint shall be removed and the surface stabilized.
- Apply adhesive with a roller according to manufacturer's directions.
- Align and trowel the covering over the adhesive.
- Apply top coat if needed.

4.13 OFF-SITE CHEMICAL REMOVERS

4.13.1 Chemical Stripping Removers. Chemical removers shall contain no methylene chloride products. Chemical removers shall be compatible with and not harmful to, the substrate that they are applied to. Chemical removers used on wood substrate shall be of a product that will not raise or discolor wood grain.

4.13.2 Execution

- 4.13.2.1 Extreme care shall be taken to not damage or cause harm to elements to be taken off-site. Elements must be marked and identified using an inconspicuous engraving. Hardware associated with an element shall be bagged and marked as to which element the hardware is associated with. If needed, hardware shall be chemically stripped, cleaned, or reconditioned as required.
- 4.13.2.2 Chemical stripping agents shall be applied and the lead-based paint removed in accordance with the recommendations of the manufacturer. Stripping agents shall not be allowed to penetrate wood or other fibrous substrate.
- 4.13.2.3 Care must be taken to adhere to all health/safety codes and other specification section requirements that apply to the job site areas.

4.14 REMOVAL AND REPLACEMENT

4.14.1 Materials. All substrates that are removed for future replacement shall be reviewed and approved by the LAC. Substrates include plaster trim, plaster walls/ceilings, wood door trim, wood window trim, wood base, wood chair/crown moldings, and exterior components. No historical architectural

elements can be removed without prior written consent by the LAC. A written plan for removal of substrate shall be submitted prior to the start of work for any removal.

4.14.2 Execution

4.14.2.1 Care shall be taken to avoid damage to adjacent areas during the removal of substrate to be replaced.

5.0 INTERIM CONTROL METHODS (INCLUDE IN SSWP)

5.1 GENERAL

The alternatives covered in this section are included for awareness in the even they may be necessary and available for the contractor to use. Methods that do not generate dust or fume shall be proposed in the SSWP.

5.2 PAINT FILM STABILIZATION

5.2.1 Eliminate any exterior and interior leaks in the building.

5.2.1.1.1 Roofing leaks, including porches, gutters, and downspouts must be fully repaired prior to stabilizing the LBP.

5.2.1.2 Missing/deteriorated caulking, trim, fasteners, windows should be replaced and corrected.

5.2.1.3 Eliminate moisture sources such as plumbing leaks and inadequately ventilated areas which can cause paint film failure.

5.2.2 SUBSTRATE REPAIRS

5.2.2.1 Repair all rotted structural, siding, or railing components; defective plaster; missing door hardware; loose siding or trim; and loose wallpaper.

5.2.2.2 Voids, deterioration, cracks, dents, and other defects in the substrate must be corrected in order to stabilize paint on the substrate.

5.2.2.3 Friction and abrasion points on lead-contaminated surfaces should be repaired and eliminated.

5.2.3 Paint Removal Methods

Recommended approaches to surface preparation are as follows:

5.2.3.1 Wet scraping: continually mist surface with water while scraping to remove all loose, flaking, and deteriorated paint

5.2.3.2 Wet scraping: continually mist surface with water while scraping to remove all loose, flaking, and deteriorated paint

5.2.3.3 Do not remove paint by burning or torching, power sanding with HEPA attachments, or abrasive blasting. Dry scraping and chemical strippers with methylene chloride is prohibited

5.2.4 Special Surface Preparation – Clean, degloss, neutralize, and rinse surfaces.

5.2.4.1 Chemically treat surfaced if necessary to ensure good paint adhesion. Follow manufacture's printed recommendations for the stabilization system used.

5.2.4.2 Test pH of surfaces

5.2.4.2.1 Place litmus paper on wet surface

5.2.4.2.2 Surface pH should be between 6 and 8

5.2.4.2.3 If pH is not between 6 and 8, rinse surface with clear water or other neutralizing solution until proper pH is achieved

5.2.4.3 Remove oils, waxes, and mold

5.2.4.3.1 Provide appropriate eye, skin, and respiratory protection during mold decontamination procedures

5.2.4.3.2 Remove mold with a 1 percent to 10 percent bleach solution.

5.2.4.3.3 Remove waxes with ammonia and water.

5.2.4.3.4 Degrease surfaces with suitable cleanser.

5.2.4.3.5 Thoroughly rinse surfaces after cleaning.

5.2.5 All surfaces should be dry before priming or repainting

5.2.6 Select primer and topcoat by considering longevity, moisture resistance, and organic compound content with low volatility. Paint film stabilization involves the application of at least two coats (primer and topcoat). Use a primer/topcoat system from the same manufacturer to ensure compatibility.

5.2.7 Apply all paints at appropriate thickness or according to manufacturer's directions. Apply paint only during proper temperature, wind, and humidity conditions. Allow sufficient time for each coat to dry fully.

5.3 LOW PRESSURE WATER WASHING

5.3.1 Uncontained low pressure water washing is strictly prohibited due to the potential for widespread environmental contamination. In the event that this method must be used to remove loose paint from a surface a **full** containment is required. The containment shall be structured in such a way as to capture and contain **all** run off water. The run off water shall be considered hazardous until tested to show otherwise. Since capturing and containing all water is not always feasible, this method of paint removal is not permitted for LBP abatement work in housing.

6.0 CLEARANCE CRITERIA

The clearance criteria for each project shall be established prior to the start of a project as all or part of the specification. These criteria will include such elements as surface wipe concentrations, soil concentrations, etc.

6.1 Visual Clearance

After the lead paint abatement, clean-up and waste removal, LAC or designee shall perform a final visual inspection to the degree of cleanliness of the affected area. After the area has passed the visual inspection LAC or designee shall conduct wipe tests in accordance with the CDPH Title 17 requirements. The wipe testing shall be repeated after all further construction activities have been completed and before area re-occupancy.

6.2 Wipe Tests

The wipe tests shall conform to Table 10.1 in the HUD LBP 2012 Guidelines. Samples shall be analyzed by a qualified laboratory utilizing the EPA 6010 method.

6.3 Clearance Criteria

LAC or designee shall submit the test results indicating that the lead dust level in the tested unit is below that allowable by the regulatory agencies. Laboratory turnaround time will be less than 24 hours. The following Title 17 levels (not to exceed) apply:

6.3.1 Floors: 40 micrograms per square foot.

6.3.2 Interior Horizontal Window Surfaces: 250 micrograms per square foot.

6.3.3 Exterior Floors and Exterior Horizontal Window Surfaces: 400 micrograms per square foot.

6.4 Re-Cleaning Requirements

If the test results indicate higher levels, the Contractor shall repeat the clean-up procedure at no cost as described in 3.6.8 and retesting for dust shall be conducted by LAC or designee until the area is tested and found to contain an acceptable level of lead dust.

7.0 PROJECT MONITORING

LAC, at its discretion, may engage the services of a CIH/with CDPH certifications as a Lead Project Designer, Lead Inspector/Risk Assessor, and Lead Project Monitor to provide surveillance and monitoring of the project on behalf of LAC.

This CIH, either directly or via one or more subordinate lead certified professionals, will be responsible to ensure that the lead-related work is performed in accordance with these specifications and the Contractor's approved work plan, and to conduct surveillance air

monitoring and perform the clearance testing.

7.1 Surveillance and Stopping the Work

- 7.1.1 LAC or designee will provide daily surveillance of the lead related work. LAC or designee Certified Industrial Hygienist may, in the interests of the health and safety of workers, residents and/or the public, approve deviations from these specifications.
- 7.1.2 If, at any time, LAC or designee decides that work practices are violating pertinent provisions of these specifications, endangering workers, employees, residents or the public, or endangering LAC facilities, LAC or designee will immediately notify the Contractor that operations shall cease until corrective action is taken and the Contractor shall be responsible for stopping the job and taking such corrective action before proceeding with the work.
- 7.1.3 If a negative air pressure system is required by the initial air monitoring, periodic exposure and/or area monitoring, and at any time is not operating in compliance with the specified requirements, and/or units are non-operational, operations shall cease until the Contractor corrects the deficiencies.
- 7.1.4 Delays caused by inappropriate work practices as noted in these specifications and/or excessive concentrations shall be at the Contractor's expense.
- 7.1.5 No later claims for extra compensation which result from action taken under this section will be recognized by the LAC.

APPENDIX

TECHNICAL SPECIFICATIONS AND SURVEY REPORT

Asbestos Containing Materials Abatement Specifications dated Nov, 11, 2024,
Technical Specifications For Removal of Lead Based Paint dated Nov. 11, 2024
and Limited Asbestos/Lead-Paint Survey Report dated Nov. 4, 2024,
by prepared by **REMDOX, INC.**

REMDOX

TECHNICAL SPECIFICATIONS FOR REMOVAL OF ASBESTOS CONTAINING MATERIALS

PROJECT TITLE: BJN Security Upgrades project
Project Address: 16350 Filbert St, Sylmar, CA
PCA: P9700230
PROJECT ID: 00002241
Contract No.: PW15538

Los Angeles County Department of Public Works
Courtney Tossounian, Capital Project Manager
900 S. Fremont Avenue, 5th Floor
Alhambra CA 91803

REMDOX

Project No. 24-115 | November 11, 2024

10020 National Boulevard, Unit B
Los Angeles, California, 90034
(310) 854-5453

REMDOX

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1. Asbestos and Lead Materials Survey/Testing Report dated November 4, 2024, prepared by prepared by
REMDOX

REMDOX

1 BACKGROUND

The work specified herein is Asbestos Containing Material (ACM) abatement which is to be performed by competent persons trained, knowledgeable and qualified in the techniques of ACM abatement, and the handling and disposal of ACMs. The ACM abatement shall be performed by Contractors who comply with all applicable federal, state and local regulations, and are capable of, and willing to, perform the work pursuant to this specification. All ACM abatement will be performed in conjunction with the Lead removal portion of project, where feasible and applicable.

This specification is based on the below survey reports. The following reports identified in the below table summarizes the findings for the Barry J. Nidorf Juvenile Hall upgrades project located at 16350 Filbert Street, Sylmar, CA 91342. REMDOX understands that the Client is proposing to perform renovation within the Dry Storage Room, 2nd floor electrical room, and 2nd floor roof.

Report Name and Prepared By	Location and Site Structures	Report date
Asbestos and Lead-Based Paint Survey by REMDOX	Barry J. Nidorf Juvenile Hall – 16350 Filbert Street, Sylmar, CA 91342 – Dry Storage Room, 2 nd floor electrical room, and 2 nd floor roof	November 4, 2024

Note: Technical Specifications for the removal of Lead have been prepared in a separate document and should be reviewed simultaneously.

2 ASBESTOS-CONTAINING MATERIALS

Refer to the enclosed survey reports for a full list of asbestos-containing materials [ACMs], asbestos-containing construction materials [ACCMs], and materials containing less than <0.1% asbestos (*definition of asbestos materials is provided in the next paragraph*). Please note that REMDOX collectively refers to those materials as ACMs throughout these Specifications. Any quantities listed in the survey reports are illustrative only and are not intended to represent actual quantities for abatement project bidding purposes. It is the responsibility of the abatement contractor (Contractor) to measure ACM quantities and determine the level of effort required to properly remove identified ACMs from Site building simultaneously with removal of LBP as described in a separate specifications document. The Contractor must visit the Site and observe and quantify ACMs in all abatement areas. No claim for additional cost (e.g., change orders) will be accepted by the Client based on incorrect quantity estimates.

ACMs are those materials in which asbestos content is greater than one percent (1%) by weight. ACCMs are those materials in which asbestos content is greater than 0.1 %, but less than 1% by weight.

3 SUMMARY

The below sections includes the furnishing of all labor, materials, facilities, equipment, services, employee training, permits, agreements, waste transport and disposal necessary to perform the work required for asbestos removal in accordance with these specifications, EPA, SCAQMD, OSHA, NIOSH, State of California regulations, and any other applicable federal, state and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable.

Perform the work and provide service as needed to accomplish abatement of all identified asbestos containing materials at the Project Site. Sampling data for identification of asbestos containing materials and non-asbestos

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containing materials is available from the Construction Manager. The requirements of all regulations and specifications must be observed for the removal or disturbance of any material containing any amount of "asbestos."

Comply with all requirements of this specification. Alternate and innovative technologies and procedures are encouraged and must be submitted in detail for approval prior to any work being performed. Any alternative technologies submitted must have been written by a Certified Industrial Hygienist (CIH) or State of California Certified Asbestos Consultant (CAC). In the event ACMs or ACCMs in addition to those identified are discovered, do not disturb. Immediately notify the Construction Manager who will have the additional materials tested.

4 LIMITATIONS

Please note that additional ACMs may be present within wall or attic spaces, plenums, mechanical systems, below grade etc., that were not readily accessible during the Survey. Immediately prior to and/or during renovation activities, if any suspect non-characterized building material are discovered the work should be halted and those materials should be sampled and analyzed for asbestos content and immediately brought to the attention of an independent third party consultant.

5 ASBESTOS ABATEMENT

NOTIFICATIONS AND PERMITS

The abatement contractor (Contractor) is responsible for securing all necessary permits and notifying all appropriate regulatory agencies in writing at least 10 working days prior to commencement of abatement activities at the Site or within the period prescribed by applicable laws or regulations. The cost of regulatory interaction and securing all necessary permits is to be included in the bid submittal. Notifications must contain all information required by various regulatory agencies, including but not limited to the following:

- Name and address of Contractor.
- Scheduled starting and completion dates for asbestos abatement activities.
- Procedures that will be employed to comply with the regulations.
- Name and address of the waste disposal facility where the asbestos waste will be transported.
- Drawings of the Site, decontamination stations, routes of escape, fire extinguishers, etc.

Appropriate regulatory agencies may include, but are not limited to:

- United States Environmental Protection Agency (USEPA).
- California Department of Industrial Relations, California Occupational Safety and Health Administration (Cal-OSHA).
- California Environmental Protection Agency (Cal-EPA).
- Department of Toxic Substances Control (DTSC).
- South Coast Air Quality Management District (SCAQMD).

PRE-JOB SUBMITTALS

The following information must be submitted by the Contractor at least five days prior to the start of abatement activities:

- Proof of registration for asbestos-related work with Cal-OSHA.
- Proof of Contractor's license and asbestos certification from the Contractor Licensing Board.

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- Copies of required notifications to Local, State and Federal entities such as SCAQMD and Cal-OSHA.
- List of designated authorized personnel to be involved with abatement activities, including competent person(s).
- Proof of required employee training certifications, medical examination and certification, and respirator fit-test certifications.
- Proof of insurance per the requirements of the Los Angeles County Department of Public Works
- Proof that all required permits have been obtained.
- A written standard operating procedure for the selection, fit testing, and use of respiratory protection.
- Proof that all authorized personnel are participating in a medical surveillance program.
- Copies of safety data sheets (SDS) for any and all chemicals to be utilized as part of the abatement project.
- Copies of emergency plans (including fire evacuation), security plans (including means for preventing accidental or unauthorized entry), and contingency plans (including relevant telephone numbers and addressing emergencies, equipment failures, and barrier failures).
- Copies of the project schedules, including critical dates (i.e., start of mobilization, commencement of asbestos removal operations, and completion of demobilization).
- A detailed job-specific plan of work procedures to be used in the abatement process including: sketches showing location, size, and details of asbestos control areas, location and details of change rooms, location of waste container pass-out airlock system, and locations of local exhaust equipment, a disposal plan, types of wetting agent; respirators, protective equipment, and pressure differential monitoring devices, and a detailed description of the method to be employed to control pollution.
- Documentation that waste haulers and disposal facilities (i.e., landfills) to be used have obtained any necessary federal, state, and local permits and are willing to accept the types of asbestos-containing waste that will be generated during the project. The Client has the right to reject unacceptable disposal facilities. Contractor shall provide client with disposal facility information prior to project commencement. Commingling of wastes (i.e., from other job sites or generators) is not allowed.

REGULATIONS

Contractor must comply with the latest requirements and regulations governing asbestos removal and disposal. These regulations include, but are not limited to:

- Applicable USEPA regulations for asbestos (Code of Federal Regulations, Title 40, Part 763).
 - 29 CFR 1910, Occupational Safety and Health Standards, General.
 - 29 CFR 1910.134 Respiratory Protection.
 - 29 CFR 1910.1001 Asbestos – General Industry.
 - 29 CFR 1910.1200, Hazard Communication.
 - 29 CFR 1926 Occupational Safety and Health Standards, Construction.
 - 29 CFR 1926.55, Gases, Vapors, Fumes, Dusts, and Mists.
 - 29 CFR 1926.59, Hazard Communication.
 - 29 CFR 1926.1101 Asbestos – Construction Industry.
 - 40 CFR 61 Subpart A and Subpart M, USEPA, National Emission Standards for Hazardous Air Pollutants (NESHAP).
 - 40 CFR, Part 763, The Asbestos Hazard Emergency Response Act.
 - 49 CFR Parts 106, 107, 171 to 179, The Transportation Safety Act, Hazardous Material Transportation Act.
- Applicable California Code of Regulations (Titles 8 and 22).
 - Title 8, Section 1514, Personal Protective Equipment
 - Title 8, Section 1529 Asbestos in the Construction Industry.

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- Title 8, Section 1531 Construction Respiratory Protective Equipment.
- Title 8, Section 3203 Injury and Illness Prevention Program.
- Title 8, Section 5144 Respiratory Protective Equipment.
- Title 8, Section 5155 Airborne Contaminants.
- Title 8, Section 5194 Hazard Communication.
- Title 8, Section 5208 General Industry Safety Orders, Asbestos Regulations.
- Applicable U.S. National Emissions Standards for Hazardous Air Pollutants (Code of Federal Regulations, Title 40, Part 61).
- Applicable U.S. Department of Labor, Occupational Safety and Health Administration, Asbestos Regulations (Code of Federal Regulations, Title 29, Parts 1910.1001, 1910.134, and 1926.1101).
- Department of Transportation Regulations (49 CFR, Parts 172, 173, 178, and 179).
- South Coast Air Quality Management District (SCAQMD) Rule 1403.
- American National Standards Institute (ANSI):
 - ANSI Standard Z9.2 Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems.
- American Society for Testing and Materials (ASTM):
 - ASTM Standard D1331 Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents.
 - ASTM Standard E1368 Standard Practice for Visual Inspection of Asbestos Abatement Projects.
 - ASTM Standard E1494 Standard Practice for Encapsulation Testing of Friable Asbestos-Containing Surfacing Materials.
- All other applicable federal, state, county, or local rules or regulations.

Whenever a conflict or overlap of a federal, state, county, or local rule or regulation occurs, the most stringent provision must apply. Contractor warrants that Contractor is familiar with the codes and requirements applicable to perform asbestos abatement work and must give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work. If the Contractor observes that the Specifications or plans are at variance therewith, he must give written notice to the Client describing such a variance. Work conducted that is contrary to such laws, ordinances, rules, or regulations is at Contractor's cost. The Contractor should pay particular attention to applicable Cal-OSHA regulations found in 8 CCR 1529 and the necessity of complying with these regulations during the project. Failure or omission on the part of the Contractor, or any of his representatives, either to discover or to bring to the attention of the Client any deviation from, omission from, or noncompliance with the requirements for asbestos abatement must not be used by the Contractor as defense for failure on his part to fulfill such requirements.

TRAINING AND MEDICAL REQUIREMENTS

Contractor personnel performing asbestos removal work, including personnel who may assess asbestos work areas for any other purposes, must be appropriately trained on at least the following within the previous 12 months:

- The aspects of asbestos abatement in accordance with the EPA Model Accreditation Plan (MAP) asbestos abatement workers training (40 CFR, Part 763, Subpart E, Appendix C) consisting of a 32-hour course that includes hands-on training.
- The appropriate use, maintenance, and limitations of respirators in accordance with Title 8, CCR 5144 (Respiratory Protection Standard), including appropriate respirator fit testing.

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- All aspects of asbestos removal and handling required for the Contractor's designated competent person. Such training must be obtained in a comprehensive course for Contractor Supervisors that meets the criteria of the EPA MAP, and must consist of a
- 40-hour asbestos worker course that includes hands-on training.
- The Contractor must provide medical examinations for all workers who may encounter an airborne fiber concentration of 0.1 fiber per cubic centimeter (f/cc) or greater for an 8-hour Time Weighted Average. In the absence of specific airborne fiber data, the Contractor must provide medical examinations for all workers who will enter the work area for any reason. Examination must, at a minimum, meet OSHA requirements as set forth in 29 CFR 1926.1101 and CCR Title 8, Section 1529.

RESPIRATORY PROTECTION

The Contractor must instruct and train each worker involved in asbestos abatement in proper use of respiratory equipment and require that each worker always wear a respirator, properly fitted on the face, in the work area from the start of any operation which may cause airborne asbestos fibers, until the work area is completely decontaminated and clearance has been granted. Use of respiratory protection appropriate for the fiber-level encountered in the work place or as required for other toxic or oxygen-deficient situations encountered, is required.

The following regulations and standards regarding respiratory protection must be followed:

- OSHA - 29 CFR 1910.1001, 1910.134, and 1926.1101.
- Cal-OSHA - CCR Title 8 1529.
- Compressed Gas Association, Inc. (CGA), Pamphlet G-7, "Compressed Air for Human Respiration," and Specification G-7.1, "Commodity Specification for Air."
- American National Standard Practices for Respiratory Protection (ANSI), ANSI Z88.2-1980 "Practices for Respiratory Protection."
- National Institute for Occupational Safety and Health (NIOSH).
- Mine Safety and Health Administration (MSHA).
- Other federal, state, and local regulations as required.

Where there is a conflict in requirements set forth in the above-listed regulations and standards, the Contractor must meet the more stringent requirement.

WORKER PROTECTION

The Contractor must do the following as related to worker protection:

- Set up, outside the decontamination facility, a board posting copies of all notifications, warning signs, licenses, and worker identifications for compliance with federal, state, and local laws and regulatory standards.
- Provide appropriate safety equipment to prevent slips, trips, and falls by abatement workers. Safety equipment may include lights, caution tape, signs, etc. All electrical equipment must be protected through the use of ground fault interrupt (GFI) circuitry. Contractor must follow all applicable regulations by federal and state OSHAs to provide a safe work place for all abatement workers.

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- Maintain a copy of the Contractor's Injury and Illness Prevention Program as mandated by the California Labor Code, Section 10.6401.7 at the Site at all times.
- Provide workers with appropriate respiratory equipment suitable for asbestos exposure level in the work area according to OSHA Standard 29 CFR 1910.134, 1910.1001, and ANSI Standard Z88.2-1980. Where respirators with disposable filters are employed, sufficient replacement filters must be provided for the workers, as necessary.
- Provide sufficient sets of disposable full body clothing for all abatement workers and authorized individuals. Such clothing must consist of full body coveralls, headgear, and eye protection as required by applicable safety regulations. At the completion of each day of abatement activity, all disposable items must be handled as asbestos-containing waste and properly disposed of as such. Contaminated, non-disposable clothing, footwear, and equipment must be properly contained, removed from the work area, and stored in an enclosed container at the completion of each work shift. At project completion all non-disposable items must be thoroughly cleaned, encapsulated and disposed of.
- Appropriately train all abatement workers to have sufficient instruction to perform the tasks assigned to them. Contractor must ensure that medical examinations required under asbestos regulations are current for all employees involved in the asbestos abatement project. All personnel entering the work area must wear an approved respirator and appropriate disposable coveralls, head cover, and footwear. Respirators must be fitted as required by OSHA fit test protocols.

PRODUCTS

The following products must be supplied and used by the Contractor during abatement activities:

- Polyethylene sheeting, 6-milimeter in thickness and in sizes to minimize the frequency of joints.
- Spray adhesives or other tape capable of sealing joints of adjacent plastic sheets and the attachment of plastic sheeting to finished or unfinished surfaces of dissimilar materials under both dry and wet conditions.
- Surfactants (wetting agents) that are non-toxic and non-irritant to skin and eye, and which are non-carcinogenic. Wetting agents must consist of 50% polyoxyethylene or polyglycol ester and 50% polyoxyethylene ether, or the equivalent. Wetting agents must be applied by means of an airless sprayer or equal.
- Encapsulant that conforms to USEPA requirements, and contains no toxic or hazardous substances and no solvents.
- Impermeable containers that are air/water-tight and suitable to receive and retain ACMs until disposal at an approved site and properly labeled in accordance with applicable Cal-OSHA regulations (CCR Title 8 1529) and all other applicable regulatory requirements.
- Warning labels and signs that are in conformance with applicable Cal-OSHA and SCAQMD regulations (CCR Title 8 1529 and Rule 1403).
- All other materials, such as lumber, nails, and hardware that may be required to construct and dismantle regulated work areas and decontamination areas and barriers that isolates the regulated work areas.

EQUIPMENT

The Contractor must provide and use the following equipment during the abatement project:

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- Personally issued and marked respiratory equipment approved by NIOSH and meeting the specifications of Cal-OSHA for each worker. This respiratory equipment must be suitable for the asbestos exposure level in the work area according to CCR Title 8 1529. The Contractor must provide disposable high-efficient-particulate-air (HEPA) cartridges (P-100) as required, with sufficient replacement cartridges.
- Sets of protective disposable clothing, head covers, gloves, eye protection, and foot covers of sizes to properly fit individual workers whenever they are required to enter the work area.
- Temporary decontamination entrance into the regulated work areas with a separate dirty room, shower room, and clean room for personnel required to wear full body protective clothing. Ensure that all personnel entering and leaving the workspace follow the following procedures:
- Separate each room from the others and from the control area by airlocks.
- Provide separate storage containers for each asbestos worker, in the clean room. Keep street clothing and street shoes in their respective storage.
- Vacuum and remove asbestos-contaminated disposable protective clothing while still wearing respirator in the dirty room. Seal clothing in impermeable bags or containers for disposal.
- Do not remove disposable protective clothing in the shower room. Remove disposable work clothing in the dirty room.
- Tag and bag disposable work clothes as contaminated asbestos waste.
- Street clothing and shoes shall be kept in the clean room (locker room).
- Protective suits should be HEPA vacuumed and removed carefully rolling it down, inside out, to reduce exposure to residual contamination. No further HEPA-vacuuming should be needed after removing the outer work clothing, unless it had been ripped or torn before removal and had not been immediately mended.
- Clean asbestos-contaminated work clothing in accordance with CCR Title 1529 or used disposable clothing.
- Physically attach the changing room to the work area whenever feasible and required.
- Asbestos warning signs (as outlined in CCR Title 8, 1529) printed in English and Spanish at entrances to work areas. Locate signs at such distance that a person may read the sign and take the necessary precautions before entering the work area. Affix labels to ACMs, scraps, waste, debris, sealed impermeable bags, asbestos waste drums, and other asbestos-containing receptacles. Caution signs and labels must be maintained at each of the following locations:
 - At each electrical panel.
 - At each corner of the work area.
 - Within 5 feet of the external entry to the clean room from the work area.
 - Within 5 feet of each external entry to the clean room or work area.

LOCAL EXHAUST SYSTEM

The Contractor must provide a local exhaust system in accordance with ANSI Z9.2 and as specified herein:

- A local exhaust system in each erected work area.
- Properly labeled HEPA and 586 filters on vacuums and exhaust equipment.

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- Local exhaust equipment designed for a minimum of one work area air change every 15 minutes and additional air change flow rate sufficient to maintain a minimum pressure differential of minus 0.02 inches of water column relative to adjacent, unsealed areas. Local exhaust equipment must be operated 24 hours per day until the asbestos control area has been removed. The Contractor is responsible for providing all necessary manpower and/or equipment including but not limited to emergency power, security, and fire watch to ensure 24-hour operation.
- Additional local exhaust systems (ventilation units) in accordance with these Specifications for use inside containment in the event engineering controls are not effective in controlling the fiber count below the permissible exposure limit (PEL) during abatement activities. The unit(s) must be placed inside the containment as an additional filtration device in a manner to move air away from the worker's breathing zones and towards the exhaust unit(s).
- At a minimum, one local exhaust system for every 10 units on the Site to serve as back-up in the event that a ventilation unit fails to operate properly. These backup units must be stored at the Site during the entire project duration.
- A manometer-type or magnehelic-type negative pressure differential monitor with minor scale divisions of 0.02 inches of water and accuracy within plus or minus one percent.
- In addition, the Contractor must:
- Calibrate the manometer daily and as recommended by the manufacturer.
- Furnish recorded readings of the pressure differential between locations in the work area and adjacent uncontained areas.
- Take pressure differential readings at several points inside the work area including the furthest point from the local exhaust equipment.
- Replace filters as required to maintain system efficiency.
- Ensure that the building heating, ventilation, and air conditioning (HVAC) system are not used as the local exhaust system for any work area.

MONITORING (PERSONAL, AREA, CLEARANCE)

Personal exposure monitoring must be conducted as follows:

- Representative sampling on workers during abatement activities. This must be conducted in accordance with Title 8 CCR 1529 and 1926.1101.
- Full shift personnel monitoring (consisting of a minimum of two samples [one 4-hour sample in the morning and one 4-hour sample in the afternoon]) that is representative of each task performed. More sample cassettes shall be used as deemed necessary to avoid overloading. Volume of personal samples must not exceed 480 liters.
- One excursion sample per work area. This includes one 30-minute sample, of the person selected by the Contractor, which is most likely exposed to the highest fiber concentrations. This sample must be taken at the time when the highest concentrations are anticipated.
- A minimum of 48 liters of air pulled through the filter and a maximum of 480 liters for personal exposure samples.

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- Submittal of at least 2 blank cassettes (or 10% of samples, whichever is greater). Blanks are to be opened at the beginning of the sampling period and stored in a clean area, then closed at the end of the sampling period and submitted with the day's samples for analysis.
- Area monitoring should be conducted by a third party consultant, to verify that area beyond the regulated work area/s and the outside environment remain uncontaminated, as follows:
- Area samples should be collected by phase contrast microscopy (PCM) analysis via NIOSH 7400 techniques.
- Air monitoring will be conducted inside the work area. If only half-face respirators are worn, airborne asbestos concentrations must be less than 0.1 feet per cubic centimeter (f/cc) inside the work area.
- Area samples should be collected outside the work area during abatement activities. Airborne asbestos concentrations of less than 0.1 f/cc must be maintained outside the work area.
- If air samples exceed the above-listed concentrations immediate corrective action must be taken by the Contractor to reduce airborne asbestos fiber concentrations to levels below the above-referenced concentrations.
- Daily air monitoring – if performed consultant will conduct a visual inspection of the work area at the end of each day of abatement activity. At the end of each shift, all asbestos debris must be contained and disturbed ACMs encapsulated. In addition, the regulated work area local exhaust system must be operated continuously from the beginning of the ACM removal until acceptable clearance air samples are obtained. Prior to clearance air monitoring, a visual inspection of the work areas will be made by the Certified Consultant. If the visual inspection is not deemed acceptable by Consultant, the Contractor must correct all deficiencies prior to clearance sampling. Upon completion of the visual inspection (to the satisfaction of the consultant), the Contractor may encapsulate the area prior to the collection of clearance air samples. Clearance sampling will be conducted by the Consultant as follows:
- There will be a maximum of up to five (5) clearance air samples per friable abatement work area and a minimum of two (2) clearance air samples per non-friable abatement work area.
- Clearance samples will be collected via phase contrast microscopy (PCM) techniques and analyzed via NIOSH 7400a methods by a third party accredited laboratory.
- In order for an abatement area to be considered “complete,” all of the data recorded within the enclosure must be below the EPA recommended “clearance criteria” of ≤ 0.01 f/cc.
- If a work area fails the clearance sampling, the Contractor must re-clean the areas as deemed necessary, and additional clearance samples must be collected and analyzed. This process must be repeated until passing results are achieved.
- If the initial PCM analysis is found to be greater than 0.01 f/cc, the air samples with the highest analytical result will be further analyzed using transmission electron microscopy (TEM) techniques by NIOSH 7402 methods.

GENERAL REQUIREMENTS

The Contractor must use the following engineering controls and work practices in any abatement activities at the Site, regardless of the level of exposure:

- Vacuum cleaners equipped with HEPA filters to collect all debris and dust containing ACM.

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- Wet methods, or wetting agents, to control employee exposure during asbestos abatement activities, except where Contractor demonstrates that the use of wet methods is infeasible (i.e., electrical hazards, equipment malfunction, sloped roofs, etc.).
- Prompt cleanup and disposal of waste and debris contaminated with asbestos in leak-tight containers (with exception of roofing materials).
- The following work practices and engineering controls must not be used during abatement activities:
- High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust.
- Compressed air used to remove materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture dust created by the compressed air.
- Dry sweeping, shoveling, or other dry cleanup of dust and debris containing ACMs.
- Employee rotation as a means of reducing employee exposure to asbestos.

WORK AREA PREPARATION

Class I – Work Activities

Prior to the start of work that involves the removal of thermal system insulation, Friable ACMs, and sprayed-on or troweled-on surfacing materials (greater than 1%), the Contractor must prepare the work area as follows:

- Provide warning signs meeting regulatory requirements at each visual and physical barrier. Asbestos work areas must be appropriately delineated and labeled to warn persons outside the work area of potential hazards and restrict their movement into the work area.
- Completely isolate the work areas from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area.
- Where appropriate, seal all openings with a 6-mil minimum polyethylene containment barrier to prevent leakage of air into the outside environment or other portions of the building. Individually seal ventilation openings on walls (supply and exhaust), wall mounted fixtures, doorways, windows, and other wall and floor openings into the work area with adhesive tape along with two layers of 6-mil polyethylene sheeting taped securely with adhesive tape.
- Disable ventilation systems or any other system bringing air into or out of the work area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature starting of equipment.
- Lock out/tag out power to the work area.
- Pre-clean movable objects to be salvaged within the proposed work areas using HEPA vacuum equipment or wet cleaning methods as appropriate. The Contractor must move such items to storage or another area as directed by the Client.
- Pre-clean immovable objects, such as mechanical and electrical equipment and fixtures, within the proposed work area using HEPA vacuum equipment or wet cleaning methods as appropriate.
- Completely cover all immovable objects with one layer of 6-mil plastic sheeting, securely taped in place with adhesive tape.

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- Do not use cleaning methods that raise dust such as broom sweeping or vacuuming with non-HEPA-equipped vacuum cleaners.
- Contain work areas with at least two layers of 4-mil plastic sheeting on walls and ceilings.
- Construct worker and waste container/equipment decontamination units in compliance with EPA guidelines. Provide sufficient numbers of lockers in change or “clean” rooms for workers’ clothing.
- Establish emergency exits and procedures for the work area, satisfactory to fire officials and provide fire extinguishers as required.
- Ensure that barriers and plastic enclosures remain effectively sealed and taped. Inadvertent tears in plastic must be repaired with fiber tape and the tear covered by plastic applied with spray adhesive, overlapping the tear by 6 inches on all sides.
- Provide HEPA filter-equipped local exhaust equipment designed for a minimum of one work area air change every 15 minutes. Local exhaust equipment must be operated 24 hours per day until the asbestos control area has been removed.
- If during abatement activities ACM is observed outside of abatement enclosures, or if damage occurs to the enclosure barrier(s), work must stop immediately upon discovery, appropriate repairs will be made (by Contractor), and all such debris will be collected using appropriate vacuums and wet methods.

Class II – Work Activities

Prior to the start of work, that involves the removal of roofing materials (e.g., cement “transite” pipes, membranes, mastics, etc.), the Contractor must prepare the work area as follows:

- Post danger signs and limit access to the work area. The work area must be cordoned off to prevent the entry of unauthorized persons. Danger signs must be posted at all areas of access to the regulated area. The signs must be in a language(s) understood by the majority of the local population.
- Shut down roof-level heating and ventilation air intake sources and covered and seal intakes by, at a minimum, two layers of 6-mil polyethylene sheeting.
- In addition, the following work practices must be followed in connection with roof mastic abatement:
- Roofing materials must be removed manually in such a way that the materials are not rendered friable (e.g., no power roof cutter, saws, etc.).
- Roofing materials must be removed in an intact state to the extent feasible.
- Wet methods must be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods will create safety hazards.
- ACMs that are removed must be contained, on the roof, in two (e.g., double bagged) 6-mil polyethylene bags.
- ACMs that have been removed from a roof must not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it must be lowered to the ground via covered, dust-tight chute, crane, or hoist.
- Any ACM that is not intact must be lowered to the ground as soon as is practicable, but in any event, not later than the end of the work shift. While the material remains on the roof it must either be kept wet and placed in 6-mil polyethylene bags.

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- Upon being lowered, ACMs within two (e.g., double bagged) 6-mil polyethylene bags must be transferred to a closed receptacle in such a manner so as to preclude the dispersion of dust.

Class II – Work Activities (continued)

Prior to the start of work that involves removal of flooring materials (floor tiles), window putties/caulking, the Contractor must prepare the work area as follows:

- Provide warning signs meeting regulatory requirements at each visual and physical barrier. Asbestos work areas must be appropriately delineated and labeled to warn persons outside the work area of potential hazards and restrict their movement into the work area.
- Completely isolate the work areas from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area.
- Seal all openings with a 6-mil minimum polyethylene containment barrier to prevent leakage of air into the outside environment or other portions of the building. Individually seal ventilation openings on walls (supply and exhaust), wall-mounted fixtures, doorways, windows, and other wall and floor openings into the work area with adhesive tape along with two layers of 6-mil polyethylene sheeting taped securely with adhesive tape.
- Disable ventilation systems or any other system bringing air into or out of the work area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature starting of equipment.
- Lock out/tag out power to the work area.
- Pre-clean movable objects to be salvaged within the proposed work areas using HEPA vacuum equipment or wet cleaning methods as appropriate. The Contractor must move such items to storage or another area as directed by the Client.
- Pre-clean immovable objects, such as mechanical and electrical equipment and fixtures, within the proposed work area using HEPA vacuum equipment or wet cleaning methods as appropriate.
- Cover all walls with 4-mil polyethylene splash guards to a height that will limit the potential for contamination in areas where chemical mastic removal will be performed.
- Do not use cleaning methods that raise dust such as broom sweeping or vacuuming with non-HEPA-equipped vacuum cleaners.
- Construct worker and waste container/equipment decontamination units in compliance with EPA guidelines. Provide sufficient numbers of lockers in change or “clean” rooms for worker’s clothing.
- Establish emergency exits and procedures for the work area, satisfactory to fire officials, and provide fire extinguishers as required.
- Ensure that barriers and plastic enclosures remain effectively sealed and taped. Inadvertent tears in plastic must be repaired with fiber tape and the tear covered by plastic applied with spray adhesive, overlapping the tear by 6 inches on all sides.
- Provide HEPA-filter-equipped local exhaust equipment designed for a minimum of one work area air change every 15 minutes. Local exhaust equipment must be operated 24 hours per day until the asbestos control area has been removed.

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- If during abatement activities ACM is observed outside of abatement enclosures, or if damage occurs to the enclosure barrier(s), work must stop immediately upon discovery, appropriate repairs will be made (by Contractor), and all such debris will be collected using appropriate vacuums and wet methods.

Asbestos Containing Construction Materials Containing (>0.1%-1) Asbestos Confirmed by 1,000 Point Count

Work Area Isolation and Protection of Asbestos-Containing Materials:

1. For interior work areas, isolate the work area for the duration of work by completely closing and sealing all openings and doorways into the work area including, but not limited to, heating and ventilation ducts, doorways, windows, floors and ceiling penetrations, and lighting. Isolation shall be accomplished by using one (1) layer of 6-mil plastic sheeting taped securely in place, or by caulking, including the construction as noted in number 2 below. The work area shall be protected and sealed airtight to the extent possible, and be subject to the approval of the Consultant.
2. For exterior work areas, seal all openings and doorways to the interior of the building within the work area including, but not limited to, heating and ventilation ducts, doorways, windows, floors and ceiling penetrations, and lighting. Isolation shall be accomplished by using one (1) layers of 6-mil plastic sheeting taped securely in place, or by caulking. The work area shall be segregated from the interior of the building, to the extent possible, and be subject to the approval of the Consultant.
 - Emergency and fire exits shall be maintained.
 - Shutdown and isolate heating, cooling and ventilating air systems to prevent contamination and fiber dispersal to other areas of the property.
 - Cover floor with one layer of 6-mil plastic sheeting, to serve as a drop cloth.
 - Post warning signs in English and Spanish meeting the requirements of 8 CCR 1529 (k)(7) and OSHA 29 CFR 1926.58(k)(1) and (k)(2)(ii) at the entry to the work area which shall be the only non-emergency entrance into the work area.
 - Warning signs shall be readily visible to any person attempting to, enter the work area
 - All waste will be disposed of as construction debris and packaged as specified herein.
 - After the ACCM removal work area has been prepared as specified above, request a formal site inspection by the Consultant. No removal, demolition or other disturbance of asbestos-containing construction material, dust, or debris shall occur until the Consultant has inspected and approved the site preparation work.

Materials Containing <0.1% Asbestos Confirmed by 1,000 Point Count

Materials reported to have <0.1% asbestos are not considered ACMs or ACCMs; Even though these materials are not considered ACMs or ACCMs, OSHA regulations require minimum abatement procedures to be followed if any asbestos is detected (e.g., impermeable drop cloths, material kept wet, material placed in a watertight bag, personal protection equipment, etc.). However, the material is not required to be performed by a licensed abatement contractor and, once abated, the material can be disposed of as general construction debris.

The following engineering controls must be in place prior to the start of the removal of materials identified as <0.1% asbestos:

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- Contractor must establish a regulated area utilizing asbestos caution tape, signs, and tenting as required by Cal-OSHA and NESHAP regulations.
- Contractor must place two layers of 6-mil polyethylene sheeting over all doors, windows, vents, etc.
- A one-stage decontamination area equipped with a hand washing station must be established contiguous with the work area to allow for employees to change from disposable suits into street clothes.
- A 6-mil polyethylene drop cloth must be placed beneath the work area.
- Material must be sprayed with amended water prior to removal, and kept wet during the removal process.

PERSONNEL DECONTAMINATION UNIT

Class I Work Areas

Contractor must provide a decontamination unit consisting of an arrangement of connected rooms or spaces (clean room, shower room, equipment room). The Contractor must require all personnel without exception to pass through the decontamination unit for entry into and exiting the work area for any purpose. Contractor must not allow parallel routes for entry or exit or removal of equipment or materials through the personnel decontamination unit. Contractor must provide adequate temporary lighting in the personnel decontamination unit. The personnel decontamination unit must include the following:

Clean room (change room)

Room must be physically and visually separated from the work area for the purpose of changing into protective clothing, which requires the following:

- Construct using polyethylene sheeting, at least 6-mil in thickness, to provide an airtight seal between the clean room and other decontamination units.
- Locate so that access to the work areas from the clean room is through the shower room.
- Separate cleaning room from the building by a sheet-plastic-flapped doorway.
- Require workers to remove all street clothes in this room, dress in protective coveralls, and put on respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require workers to enter this room either from outside the structure dressed in street clothes, or naked from the shower.
- Maintain floor of changing room dry and clean at all times. Do not allow overflow water from the shower to wet the floor in the changing room.
- Damp wipe all surfaces twice after each shift change with disinfectant solution.
- Provide posted information for all emergency phone numbers and procedures.
- Provide a continuously adequate supply of disposable bath towels.
- Provide one storage locker per employee.
- Provide an airlock between the clean room and the shower room. Separate the airlock from the clean and shower rooms with airtight walls fabricated of 6-mil polyethylene sheeting and plastic sheeting flapped doorways.

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Shower room (wash room)

Contractor must provide a completely watertight operational shower to be used for transit by dressed workers heading for the work area from the clean room, or for showering by workers headed out of the work area after undressing in the equipment room. The shower room requires the following:

- Construct a room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into a pan. Install a freely draining wooden floor in the shower pan at the elevation of the top of the pan.
- Separate this room from the rest of the Site building with airtight walls fabricated of 6-mil polyethylene.
- Separate this room from the clean room and equipment room with airtight walls fabricated of 6-mil polyethylene.
- Provide splash proof entrances.
- Provide shower head and controls.
- Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.
- Provide a soap dish and a continuously adequate supply of soap and maintain in sanitary condition. Provide liquid shampoo.
- Arrange so that water from showering does not splash into the clean or equipment rooms.
- Arrange water shut-off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the work area.
- Pump wastewater to the drain. Provide 20-micron and 5-micron wastewater filters in line to drain or waste water storage. Change filters daily or more often if necessary. Locate filters inside shower unit so that water lost during filter changes is caught by shower pan.

Equipment room (dirty room)

Workers must have equipment, footwear, and additional contaminated work clothing in the equipment room. This is a change and transit area for workers, which requires the following:

- Separate this room from the work area by a 6-mil polyethylene flapped doorway.
- Separate this room from the rest of the Site building with airtight walls fabricated of 6-mil polyethylene.
- Separate this room from the shower room and work area with airtight walls fabricated of 6-mil polyethylene.
- Damp wipe clean all surfaces after each shift change.
- Provide a container for collection of used protective clothing.
- Contractor must require that all workers adhere to the following sequence when entering or leaving the work area:
 - The worker enters the clean room and removes street clothing, puts on protective coveralls and respirator, and passes through the shower room into the equipment room.
 - Any additional clothing and equipment left in the equipment room needed by the worker are put on in the equipment room.

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- Worker proceeds to the work area.
- Before leaving the work area, the worker removes all gross contamination and debris from coveralls and feet.
- The worker then proceeds to the equipment room and removes all clothing except respiratory protection equipment.
- Extra work clothing such as boots, hard hats, goggles, and gloves are to be stored in the contaminated end of the equipment room.
- Disposable coveralls are placed in a bag for disposal with other material.
- After showering, the worker moves to the clean room and dresses in either new coveralls for another entry or street clothes if leaving.

Class II Work Areas

Contractor must provide personnel decontamination unit consisting of an arrangement of two connected rooms or spaces (clean room and equipment room). Contractor must require all personnel without exception to pass through the decontamination unit for entry into and exiting the work area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through the personnel decontamination unit. Provide adequate temporary lighting in the personnel decontamination unit. The personnel decontamination unit must include the following:

Clean room (changing room)

Room must be physically and visually separated from the work area for the purpose of changing into protective clothing, which requires the following:

- Construct using polyethylene sheeting, at least 6-mil in thickness, to provide an airtight seal between the clean room and other decontamination units.
- Locate so that access to the work areas from the clean room is through the shower room.
- Separate cleaning room from the building by a sheet-plastic-flapped doorway.
- Require workers to remove all street clothes in this room, dress in protective coveralls, and put on respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require workers to enter this room either from outside the structure dressed in street clothes, or naked from the shower.
- Maintain floor of changing room dry and clean at all times. Do not allow overflow water from the shower to wet the floor in the changing room.
- Damp wipe all surfaces twice after each shift change with disinfectant solution.
- Provide posted information for all emergency phone numbers and procedures.
- Provide a continuously adequate supply of disposable bath towels.
- Provide one storage locker per employee.
- Provide an airlock between the clean room and the equipment room. Separate the airlock from the clean and equipment rooms with airtight walls fabricated of 6-mil polyethylene sheeting and plastic sheeting flapped doorways.

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Equipment room (dirty room)

Workers must have equipment, footwear, and additional contaminated work clothing in the equipment room. This is a change and transit area for workers, which requires the following:

- Separate this room from the work area by a 6-mil polyethylene flapped doorway.
- Separate this room from the rest of the Site building with airtight walls fabricated of 6-mil polyethylene.
- Separate this room from the equipment room and work area with airtight walls fabricated of 6-mil polyethylene.
- Damp wipe clean all surfaces after each shift change.
- Provide a container for collection of used protective clothing.
- Contractor must require that all workers adhere to the following sequence when entering or leaving the work area:
 - The worker enters the clean room and removes street clothing, puts on protective coveralls and respirator, and passes through the shower room into the equipment room.
 - Any additional clothing and equipment left in the equipment room needed by the worker are put on in the equipment room.
 - Worker proceeds to the work area.
 - Before leaving the work area, the worker removes all gross contamination and debris from coveralls and feet.
 - The worker then proceeds to the equipment room and removes all clothing except respiratory protection equipment.
 - Extra work clothing such as boots, hard hats, goggles, and gloves are to be stored in the contaminated end of the equipment room.
 - Disposable coveralls are placed in a bag for disposal with other material.
 - After showering, the worker moves to the clean room and dresses in either new coveralls for another entry or street clothes if leaving.
 - The area must be of sufficient size as to accommodate cleaning of equipment and removing personal protective equipment without spreading contamination beyond the work area.
 - A HEPA vacuum and wash-down buckets must be located in the equipment room.
 - Work clothing must be cleaned with HEPA vacuum before it is removed.

In addition, follow bullets points above for descriptions of clean room and equipment room.

EQUIPMENT DECONTAMINATION UNIT

Contractor must provide an equipment decontamination unit consisting of an arrangement of rooms (clean room, holding room, and wash room) for removal of equipment and materials from the work area. Contractor must not allow personnel to enter or exit the work area through the equipment decontamination unit.

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Wash Room

Contractor must provide a wash room for cleaning of bagged or containerized asbestos-containing waste materials passed from the work area. Construct wash room of wood or PVC framing of appropriate-size materials and polyethylene sheeting, at least 6-mil in thickness and located so that packaged materials, after being wiped clean, can be passed through the holding room. Separate this room from the work area by a single-flap door of 6-mil polyethylene sheeting. Provide a drop-cloth layer of plastic 6 millimeters in thickness on the floor in the wash room for every load-out operation. Roll this drop-cloth layer of plastic from the wash room into the work area after each load out. Provide a minimum of two layers of plastic at all times. Use only clear plastic to cover floors.

Holding Room

Contractor must provide a holding room as a drop location for bagged ACMs passed from the wash room. Construct wash room of wood or PVC framing of appropriate-size materials and polyethylene sheeting, at least 6-mil in thickness. Separate this room from the adjacent rooms by single-flap doors of 6-mil polyethylene sheeting.

Clean Room

Contractor must provide a clean room to isolate the holding room from the area outside of the Site building. If possible, locate clean room to provide direct access to the holding room from the exterior. Construct wash room of wood or PVC framing of appropriate-size materials and polyethylene sheeting, at least 6-mil in thickness. Separate this room from the exterior by a single-flap door of 6-mil polyethylene sheeting.

Load-out Area

The load-out area is the transfer area from the Site building to a truck or dumpster. It may be the clean room of the equipment decontamination unit or a separate room or loading dock area. During transfer of material from the load-out area, erect primary barriers as necessary to seal the path from load-out area to truck or dumpster. Provide a lockable door to secure the work area during non-work hours.

Decontamination Sequence

Contractor must take all equipment or material from the work area through the decontamination unit according to the following procedure:

- Thoroughly wet-clean contaminated equipment or sealed polyethylene bags and pass into wash room.
- Once inside the wash room, wet-clean the bags and/or equipment.
- When cleaning is complete, pass items into the holding room.
- Workers from the building exterior enter holding room and remove decontaminated equipment and/or containers for disposal.
- Require those workers to wear full protective clothing and appropriate respiratory protection.
- At no time is a worker from an uncontaminated area to enter the enclosure when a removal worker is inside.

REMOVAL PROCEDURES FOR ABATEMENT OPERATIONS

In the work area, the Contractor must:

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- Remove and dispose of all ACMs in accordance with the methods and procedures outlined in CCR Title 8 1529.
- Where appropriate, enclose work areas under differential air pressure for the duration of the asbestos abatement and subsequent cleaning phases and until all removal areas have been air-tested and found to be in compliance with a specified clearance level.
- Perform appropriate cleaning using HEPA vacuum or wet-cleaning methods of areas physically connected to areas receiving asbestos removal.
- Dispose of all contaminated or otherwise removed materials and wastes in secure and labeled containers in an approved sanitary landfill.
- Never use high-pressure water streams to remove any type of ACMs.
- Before and during removal, the contractor must:
 - Thoroughly spray all ACMs with water containing an accepted wetting agent (i.e., amended water) to enhance penetration and an encapsulating fluid to minimize fiber release.
 - Apply fine, low-pressure spray of amended water to minimize fiber release (especially during removal of friable materials). Generally, ACMs must be sufficiently moistened to minimize emissions of airborne fibers as much as practical during removal.
- For removed ACMs the Contractor must:
 - Place, while still moist the ACMs, into double sealed watertight polyethylene bags (6-mil minimum) marked with the label prescribed by OSHA and department of transportation (DOT) regulations.
 - Pack all plastic sheeting, tape, cleaning material, clothing, and all other disposable materials or items used in the work area, while moist, into sealable plastic lined containers (6-mil minimum).
 - Clean exterior surfaces of all containers before leaving the work area.
 - Place all waste containers directly into designated covered trucks or roll-off bins lined with 6-mil plastic sheeting. Contained waste must be transferred to the truck or roll-off bin in a manner that minimizes tearing, puncturing, or breaking the containers.
- After removal, all surfaces must be wet-cleaned and HEPA vacuumed to remove residual accumulated material. After cleaning, surfaces must appear free of visual material.
- A visual inspection of the work area must be made by the consultant (REMDOX) at the end of each day of abatement activity. At the end of each shift, all asbestos debris must be contained and disturbed ACMs encapsulated. In addition, the local exhaust system (negative air) must be operated continuously from the beginning of ACM removal until acceptable clearance air samples are obtained.
- At abatement completion the Contractor must:
 - Remove all polyethylene sheeting except for the critical barriers. This should be performed in a manner that will maintain the integrity of the negative pressure enclosure.
 - After the polyethylene sheeting has been removed, except for the critical barriers, wipe down all walls and floors using wet methods.
 - Vacuum cleaners equipped with HEPA filters shall be used to collect all debris and dust containing ACM, ACCM and PACM.

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- Wet methods shall be used to control exposure during any asbestos handling, removal, cutting, and clean-up, unless the Contractor can demonstrate that the use of wet methods is infeasible due to (for example) creation of an electrical hazard or safety hazard during roofing abatement. Any exceptions to the requirement for wet methods must be approved in advance by the Los Angeles County Department of Public Works or Consultant.
- Waste and debris contaminated with asbestos must be promptly cleaned-up and stored in leak-tight containers or impermeably wrapped.

ACCM Removal Procedures

Amended water (wetting agent) mixed and carefully applied using an airless sprayer as specified by the manufacturer, shall continuously be used to control the release of asbestos fibers from the material prior to and during removal. The amended water shall be applied in sufficient quantity to fully saturate the material before it is removed. Wetting shall commence up to 24 hours before removal work to ensure effectiveness.

ACCM Removal Methods:

- No asbestos removal work shall begin until the work area has been prepared and approved by the Consultant.
- Removal workers shall wear half face air-purifying respirators with P-100 filters and protective clothing as previously described throughout all removal, cleanup, and waste handling operations.
- The Contractor may use removal encapsulants instead of amended water; applied per manufacturer's and federal guidelines.
- After large areas of the asbestos material have been fully wetted and tested, the asbestos shall be carefully removed in small sections by using hand scrapers or other suitable hand tools. No tools or equipment shall be used to render material friable without prior approval by District. Floor tile and mastic shall be removed with hand tools and wet methods.
- As the material is removed, it shall be promptly wetted and packed into impermeable, labeled 6-mil polyethylene, disposal bags. When each bag is full, the packaged material shall be sprayed with amended water, sealed (using duct tape or other fastener as approved by the Consultant), and transported to a temporary storage area inside the work area.
- Repeatedly spray the material to prevent it from drying out.
- Minimize contamination of the work floor, the exterior of disposal containers and all other surfaces within the work area. At the end of each shift, all surfaces shall be cleaned of all materials and then HEPA vacuumed or wet mopped.
- The decontamination facility shall be wet cleaned (a minimum of two times) using wet cleaning methods upon completion of any waste removal when the worker decontamination facility's shower room alternates as a waste container wash room, the shower room shall be washed with cloths or mops saturated with a detergent solution immediately prior to wet cleaning.
- Excessive water accumulation or flooding in the work area shall require work to stop until the water is collected and disposed of properly.
- Upon completion of removal work, but prior to commencing encapsulation or post removal cleaning of the work area, request the Consultant conduct an inspection and approve the removal work.

For all Class I and II jobs, the following procedures must apply:

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- A negative pressure enclosure (NPE) system will be used for the removal during Class I and Class I II jobs, with the possible exception of exterior work area (e.g., roof, underground transite utilities, stucco, etc.).
- Before beginning work within the enclosure and at the beginning of each shift, the NPE must be inspected for breaches and smoke-tested for leaks. Any leaks detected must be sealed by the Contractor.
- Electrical circuits in the enclosure must be deactivated and locked out/tagged out. Temporary power and portable lighting sources must be provided from outside the work area to insure safe installation (including using ground fault circuit interrupter [GFCI]). Temporary power sources and equipment must comply with all applicable electrical code requirements and federal, state, and local requirements.
- ACMs must be thoroughly wetted prior to removal using a fine spray (mist) of amended water or removal encapsulant applied with airless spray equipment.
- The work area must be continuously misted with amended water whenever necessary to reduce airborne fiber levels. Apply mist with airless spray equipment.

GENERAL ASBESTOS ABATEMENT GUIDELINES

All containers, trucks, and roll-off bins with asbestos-containing wastes must be individually labeled according to DOT regulations (49 CFR Part 172) including waste type, generator information (i.e., name and location), and disposal site destination. Storage of trucks or roll-off bins containing waste materials on-Site should be minimized. Moreover, waste materials are not to be temporarily stored off Site or taken to a transfer facility. Plastic sheet lining the inside of the truck or roll-off must be torn down at the disposal site and disposed of as asbestos-contaminated waste.

The Contractor will be responsible for all citations, cleanup, and/or monitoring costs associated with accidents, spills, or improper handling during collection, transport, and/or disposal of the wastes, including but not limited to re-cleaning associated with unacceptable clearance air sample results. Contractor will indemnify, defend, and hold harmless the Client, their officers, partners, employees, and assigns for and from all actions, lawsuits, or claims by government agencies and/or any loss sustained as a result of contamination of any area by Contractor negligence including but not limited to personal injury, lost profits, property damage, loss of property value, and attorney fees.

WASTE TRANSPORTATION AND DISPOSAL

Determine and insure compliance with:

- the current waste handling regulations applicable to each work site; and
- the current regulations for transporting and disposing, waste at each disposal landfill. Comply fully with these regulations and with all U.S. Department of Transportation, State, EPA, and all federal and local requirements.

At no additional cost to the Los Angeles County Department of Public Works, maintain a valid solid waste transportation registration issued by the California Department of Health Services Toxic Substance Division and obtain, complete, and fully comply with any other local hazardous waste manifesting requirements. Transportation methods shall comply with the provisions of EPA Title 40, Part 61, Subpart M, Title 22 of the California Administrative Code, Division 4 Environmental Health, Chapter 30, Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes, and with any hazardous waste regulations for temporary storage, transport, and disposal if such codes are enforced in states where the waste shall be stored, transported or disposed of by Contractor.

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All asbestos waste shall be disposed of at a facility permitted to accept asbestos-containing wastes. The Contractor will be responsible for all costs associated with recovering, transporting, and disposing of any asbestos-containing waste materials not properly disposed of. All trucks and/or roll-off containers used for transporting asbestos-containing waste materials must proceed or be transported from the Site directly to the disposal facility. The Client has the right to reject unacceptable disposal facilities. Contractor shall provide client with disposal facility information prior to project commencement. Commingling of wastes (i.e., from other job sites or generators) is not allowed.

- Provide waste packaging, transportation, and approved landfill disposal, plus all related recordkeeping.
- Package, label, and remove all asbestos waste as specified. Packaging shall be accomplished in a manner that minimizes waste volume, but ensures waste containers shall not tear or break.
- Provide legal transportation of asbestos wastes to the disposal landfill. Verify actual delivery, receipt, and disposal of each load of waste at the design landfill.

MANIFESTS

All asbestos waste must be removed from the regulated work area and disposed of under appropriate waste manifests (i.e., friable ACMs under a uniform hazardous waste manifest; non-friable ACMs under a non-hazardous waste manifest). Manifests are to be signed by a representative of the Los Angeles County Department of Public Works. The contractor must certify that all waste materials are properly classified, packaged, marked, and labeled, and are in all respects in proper condition for transport. Prior to transporting ACM wastes from the Site to the landfill, all waste manifests generated from this project must be submitted to the Client for review at the time wastes are collected by the transporter.

FINAL SUBMITTALS

At the conclusion of abatement activities, a letter of completion from the Contractor must be received by the Los Angeles County Department of Public Works within 14 business days upon abatement completion. The letter of completion must state, “All identified ACMs have been removed and disposed of in accordance with these specifications and all applicable federal, state, and local regulations, laws, and statutes from the areas depicted to undergo renovations.”

In addition to the previously requested submittals, the Contractor must submit copies of the project log book, employee air monitoring results, notifications, and employee work records from this Site to consultant within fourteen business days after completion of abatement activities.

Note: no work will be accepted as “final” until all manifest receipts have been received by the Los Angeles County Department of Public Works from the disposal facility acknowledging proper disposal of all asbestos-containing wastes generated from this project.

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TECHNICAL SPECIFICATIONS FOR REMOVAL OF LEAD BASED PAINT

PROJECT TITLE: BJN Security Upgrades project
Project Address: 16350 Filbert St, Sylmar, CA
PCA: P9700230
PROJECT ID: 00002241
Contract No.: PW15538

Los Angeles County Department of Public Works
Courtney Tossounian, Capital Project Manager
900 S. Fremont Avenue, 5th Floor
Alhambra CA 91803

REMDOX

Project No. 23-109 | November 11, 2024

10020 National Boulevard, Unit B
Los Angeles, California 90034
(310) 854-5453

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Attachments:

1. Asbestos and Lead Materials Survey/Testing Report dated November 4, 2024, prepared by prepared by REMDOX

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1 BACKGROUND

The work specified herein is Lead abatement which is to be performed by competent persons trained, knowledgeable and qualified in the techniques of Lead abatement, and the handling and disposal of Lead bearing components/substrates. The Lead abatement shall be performed by Contractors who comply with all applicable federal, state and local regulations, and are capable of, and willing to, perform the work pursuant to this specification. All Lead abatement will be performed in conjunction with the Asbestos removal portion of project, where feasible and applicable.

This specification is based on the below survey reports. The following reports identified in the below table summarizes the findings for the Barry J. Nidorf Juvenile Hall upgrades project located at 16350 Filbert Street, Sylmar, CA 91342. REMDOX understands that the Client is proposing to perform renovation within the Dry Storage Room, 2nd floor electrical room, and 2nd floor roof.

Report Name and Prepared By	Location and Site Structures	Report date
Asbestos and Lead-Based Paint Survey by REMDOX	Barry J. Nidorf Juvenile Hall – 16350 Filbert Street, Sylmar, CA 91342 – Dry Storage Room, 2 nd floor electrical room, and 2 nd floor roof	November 4, 2024

Note: Technical Specifications for the removal of Asbestos Containing Materials (ACMs) have been prepared in a separate document and should be reviewed simultaneously.

2 LEAD-BASED PAINT

Refer to the enclosed survey reports for a full list of Lead bearing substrate/components (*definition of lead bearing substrate is provided in the next paragraph*). It is the responsibility of the abatement contractor (Contractor) to measure LBP quantities and determine the level of effort required to properly remove identified LBPs from Site building simultaneously with removal of Asbestos Containing Materials as described in a separate specifications document. The Contractor must visit the Site and observe and quantify LBPs in all abatement areas. No claim for additional cost (e.g., change orders) will be accepted by the Los Angeles County Department of Public Works (LACDPW), based on incorrect quantity estimates

The U.S. EPA and the California childhood lead-poisoning regulations defines “Lead-Based Paint” as paint or coatings containing more than 1.0 milligrams per square centimeters (mg/cm²), 0.5% by weight or 5,000 parts per million (ppm). The Federal Consumer Products Safety Commissions (CPSC) banned the sale of paint with more than 600 ppm for most consumer use (This level was reduced in 2009 to 90 ppm). The State of California Department of Industrial Relations, Division of Occupational Safety and Health (DOSH) commonly known as “Cal-OSHA” title 8 California code of federal regulations (CCR) 1532.1 covers requirements for safety in construction work where employees may be occupationally exposed to lead equal to or exceeding 0.06% lead dry weight (600 ppm), which constitutes as a health hazard. The County of Los Angeles Department of Health Services (DHS) defines “Dangerous levels of lead-bearing substances” as any paint or coatings or structural materials which contains lead in excess of >0.7 milligrams per square centimeters (mg/cm²). California’s Title 17 CCR, Division 1, Chapter 8 requires treating all paint applied to surfaces of structures constructed before 1978 to be “Presumed Lead-Based Paint” and is not limited to residential and public buildings.

In short, “Lead-Based Paint” is currently defined by the federal government as paint with lead levels greater than or equal to 1.0 milligram per square centimeter (mg/cm²), or more than 0.5% by weight/5,000 parts

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Per Million (ppm). “Lead-Containing Paint” is currently defined by the federal government as lead paint in excess of 90 ppm by weight. Note: In order to comply with the Federal-OSHA requirements, lead safe work practices shall be exercised during all construction work, when worker exposure involving paints having any amount of lead exist, as described by Title 29 Code of Federal Regulations (CFR) 1926.62.

There were no lead bearing substrates identified during the limited assessment conducted by REMDOX. The following applies to painted surfaces or components anticipated to be disturbed and not sampled as part of limited lead survey conducted by REMDOX.

3 GENERAL – SCOPE OF WORK

The work specified herein is Lead abatement, which is to be performed by competent persons trained, knowledgeable and qualified in the techniques of lead-abatement and the handling and disposal of LBP, paint containing lead at a concentration greater than or equal to 5,000 ppm and/or paint containing lead at a concentration greater than 90 ppm. The lead-abatement shall be performed by Contractors who comply with all applicable federal, state and local regulations, and are capable of, and willing to, perform the work pursuant to this specification.

The Contractor performing lead-abatement work shall use workers and supervisors accredited pursuant to Title 17, Code of California Regulations (CCR), Articles 5 and 7 and shall have a minimum of one (1) year of experience and a minimum of three (3) LBP removal projects or abatement work on projects similar in scope and size. Submit proof with bid.

The contractor performing work which impacts painted surfaces or components containing any amount of lead should refer to the requirements of The Lead Renovation, Repair and Painting (RRP) Rule;

- Requires that firms performing renovation, repair, and painting projects that disturb lead-based paint in homes, child care facilities, and pre-schools built before 1978 be certified by EPA (or an EPA-authorized state).
- Requires the use of certified renovators who are trained by EPA-approved training providers
- Requires following lead-safe work practices to minimize the creation of dust and debris and ensure occupant safety.

The Contractor performing this work shall be familiar with all applicable regulations covering LBP/LCP removal work and waste disposal. This includes all permits, licenses, and certificates required to perform this type of hazardous work and related disposal requirements. It is the Contractor's responsibility to maintain adequate controls to ensure worker safety for the duration of this work.

4 GENERAL REQUIREMENTS

The Contractor must use the following engineering controls and work practices in any abatement activities at the Site, regardless of the level of exposure:

- Vacuum cleaners equipped with HEPA filters to collect all debris and dust containing lead-paint dust.
- Wet methods, or wetting agents, to control employee exposure during lead-paint abatement activities, except where Contractor demonstrates that the use of wet methods is infeasible (i.e., electrical hazards, equipment malfunction, sloped roofs, etc.).

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- Prompt cleanup and disposal of waste and debris contaminated with lead-paint chips and or dust in leak-tight drums or containers.

The following work practices and engineering controls **must not** be used during abatement activities:

- High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
- Compressed air/sandblasting used to remove materials containing lead-paint, unless the compressed air/sandblasting is used in conjunction with an enclosed ventilation system designed to capture the dust particulate created by the compressed air/sandblasting.
- Dry sweeping, shoveling, or other dry cleanup of dust and debris containing lead-paint chips or dust.
- Employee rotation as a means of reducing employee exposure to lead particulates.

5 REGULATIONS

Contractor must comply with the latest requirements and regulations governing lead paint removal and disposal. These regulations include, but are not limited to:

HUD Guidelines	Guideline's for the Evaluation and Control of Lead Based Painted Materials Hazards in Housing 1995
Title X	(Residential Lead-based paint materials Hazard Reduction Act of 1992) of Housing and Community Development Act of 1992
Los Angeles Department of Health Services (DHS)	
Code of Ordinances	Title 11, Division 1, Chapter 11.28.010
California Code of Regulations (CCR)	
8 CCR	Section 1532.1 – Lead in Construction Standard
17 CCR	Division 1, Chapter 8 – Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards
22 CCR	CCR – Hazardous Waste Requirements
Code of Federal Regulations (CFR)	
29 CFR 1910.1025	Lead Standard for General Industry
29 CFR 1910.1200	Hazard Communication
29 CFR 1910.134	Respiratory Protection
29 CFR 1926.62	Construction Industry Lead Standard
40 CFR 260	Hazardous Waste Management Systems: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Generators of Hazardous Waste
40 CFR 263	Transporters of Hazardous Waste
40 CFR 178	Shipping Container Specification

Whenever a conflict or overlap of a federal, state, county, or local rule or regulation occurs, the most stringent provision must apply.

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Contractor warrants that Contractor is familiar with the codes and requirements applicable to lead paint abatement work and must give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work. If the Contractor observes that the Specifications or plans are at variance therewith, he must give written notice to the Client describing such a variance. If the Contractor performs any work contrary to such laws, ordinances, rules, or regulations, he must bear all the costs that arise. The Contractor should pay particular attention to applicable Cal-OSHA regulations found in 8 CCR 1532.1, Federal Construction Industry Lead Standard 29 CFR 1926.62 and the necessity of complying with these regulations during the project. Failure or omission on the part of the Contractor, or any of his representatives, either to discover or to bring to the attention of the Client any deviation from, omission from, or non-compliance with the requirements for lead paint abatement must not be used by the Contractor as defense for failure on his part to fulfill such requirements.

6 LEAD ABATEMENT

NOTIFICATIONS AND PERMITS

The abatement contractor (Contractor) is responsible for securing all necessary permits and notifying all appropriate regulatory agencies in writing at least five (5) working days prior to commencement of abatement activities at the Site or within the period prescribed by applicable laws or regulations. The cost of regulatory interaction and securing all necessary permits is to be included in the bid submittal. Notifications must contain all information required by various regulatory agencies, including but not limited to the following:

- Name and address of Contractor.
- Scheduled starting and completion dates for abatement activities.
- Procedures that will be employed to comply with the regulations.
- Name and address of the waste disposal facility where the waste will be transported.
- Drawings of the Site, decontamination stations, routes of escape, fire extinguishers, etc.

Appropriate regulatory agencies may include, but are not limited to:

- State of California Department of Public Health (CDPH).
- State of California Department of Industrial Relations (DIR) Division of Occupational Safety and Health (DOSH) also known as (Cal-OSHA).
- Local City Building and Safety Department.

Pre-Job Submittals

The Contractor shall provide all of the following submittals to the LACDPW at least five (5) days prior to abatement activities.

- Proof of registration for lead-related work with CDPH.
- Proof of Contractor's license and lead certification from the Contractor Licensing Board.
- Copies of written notifications to the CDPH (Form 8551) and DOSH (as-applicable).
- List of designated authorized personnel to be involved with abatement activities, including competent person(s).

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- Proof of required employee training certifications, medical examination and certification, and respirator fit-test certifications.
- Proof of insurance(s) (e.g., general liability, errors and omission, worker's compensation, etc.) as required by the LACDPW.
- Proof that all required permits have been obtained.
- A written standard operating procedure concerning the selection, fit testing, and use of respiratory protection.
- Proof that all authorized personnel are participating in a medical surveillance program.
- Copies of safety data sheets (SDS) for any chemicals to be used on the abatement project.
- Copies of emergency plans (including fire evacuation), security plans (including means for preventing accidental or unauthorized entry), and contingency plans (including relevant telephone numbers and addressing emergencies, equipment failures, and barrier failures).
- Copies of the project schedules, including critical dates (i.e., start of mobilization, commencement of removal operations, and completion of demobilization).
- A detailed job-specific plan of work procedures to be used in the abatement process including: sketches showing location, size, and details of lead-paint control areas, location and details of change rooms, location of waste container pass-out airlock system, and locations of local exhaust equipment, a disposal plan, types of wetting agent; respirators, protective equipment, and pressure differential monitoring devices, and a detailed description of the method to be employed to control emissions and release of contaminants.
- Submit/file an Electronic/Paper Manifest for approval at the Pre-Construction meeting a completed Hazardous Waste Manifest form (to be filed via the EPA website <https://www.epa.gov/e-manifest/how-submit-hazardous-waste-manifest>). For Waste Manifest purposes the Generator is the facility of the subject work. Obtain necessary information for this purpose from LACDPW
- Documentation that waste haulers and disposal facilities (i.e., landfills) to be used have obtained any necessary federal, state, and local permits and are willing to accept the types of Lead-containing waste that will be generated during the project.

Training and Medical Requirements

The Contractor personnel performing lead abatement work, including personnel who may assess lead work areas for any other purposes, must be appropriately trained on at least the following within the previous twelve (12) months:

- The aspects of lead abatement in accordance with CDPH lead abatement worker training (Title 17, Division 1, Chapter 8) consisting of a 24-hour course that includes hands-on training.
- The appropriate use, maintenance, and limitations of respirators in accordance with Title 8, CCR 5144 (Respiratory Protection Standard), including appropriate respirator fit testing.
- All aspects of lead removal and handling required for the Contractor's designated competent person. Such training must be obtained in a comprehensive course for Contractor Supervisors that meets the criteria of CDPH, and must consist of a 40-hour course that includes hands-on training.

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Before exposure to lead-contaminated dust, provide workers with a comprehensive medical examination as defined in Cal/OSHA's Title 8, Section 1532.1. The Contractor must provide medical examinations for all workers who may encounter an airborne lead concentration of 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) or greater for an 8-hour Time Weighted Average. In the absence of specific airborne lead data, the Contractor must provide medical examinations for all workers who will enter the work area for any reason. Examination must as a minimum meet the Occupation Safety and Health Administration (OSHA) and California Department of Industrial Relations (DIR) requirements as set forth in 29 CFR 1926.62 and CCR Title 8, Section 1532.1.

Worker Protection

The Contractor must do the following as related to worker protection:

- Personnel shall wear and use protective clothing and equipment as specified herein. Eating, smoking, or drinking is not permitted in the lead control area. No one shall be permitted in the lead control area unless they have appropriate training and protective equipment.
- Maintain a copy of the Contractor's Injury and Illness Prevention Program as mandated by the California Labor Code, Section 10.6401.7 at the Site at all times.
- Equip all individuals performing the work with appropriate personal protective equipment (PPE). PPE must consist of full body coveralls, headgear, and eye protection as required by applicable safety regulations. At a minimum, include High Efficiency Particulate Air (HEPA) filter equipped respirators suitable for lead exposure (according to 29 CFR 1910.134 and 1910.1025, CCR Title 8 1532.1 and 5144, and ANSI Standard Z88.2-1980), Tyvek (or equivalent) disposable suits, eye protection, and impermeable disposable gloves.
- Furnish appropriate respirators approved by the National Institute for Occupational Safety and Health (NIOSH), for use in atmospheres containing lead dust. Respirators shall comply with the requirements of 8 CCR 1532.1 and 29 CFR 1910.1025.
- Appropriately train all abatement workers to have sufficient instruction to perform the tasks assigned to them. Contractor must ensure that medical examinations required under lead regulations are current for all employees involved in the lead abatement project.
- All personnel entering the work area must wear an approved respirator and appropriate disposable coveralls, head cover, and footwear (as required). Respirators must be fitted as required by OSHA/DOSH fit test protocols.

Respiratory Protection

The Contractor must instruct and train each worker involved in lead abatement, in proper use of respiratory equipment.

- Each employee required to wear a negative pressure or other appropriate type of respirator, shall perform an initial respirator fit test and thereafter at least every 6 months as required by 8 CCR 1532.1, 5144 and 29 CFR 1910.1025 and 1926.62.
- Establish and implement a respiratory protection program as required by ANSI Z88.2, 29 CFR 1910.134, 29 CFR 1910.1025 and 29 CFR 1926.55 and 62.

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Monitoring (Personal, Area, Clearance)

Air monitoring, testing, and reporting shall be performed by a California Department of Public Health Lead-Related Construction Certified Project Monitor, Inspector/Assessor (third party Consultant such as REMDOX), to verify that the Site building beyond the work area and the outside environment remain uncontaminated and shall be contracted directly by the LACDPW.

- The contractor may provide objective data that ensures worker exposure will not exceed the Action Level (AL) $30 \mu\text{g}/\text{m}^3$. The contractor shall conduct monitoring which is representative of the exposure for each employee in the workplace who is exposed to lead at concentrations above the AL and furnish workers with the proper personal protective equipment (e.g., respirators).
- Area samples will be collected for lead analysis by NIOSH 7082 method.
- Air monitoring will be conducted inside the work area, if only half-face respirators are worn, airborne lead concentrations must be less than the permissible exposure limit (PEL) of $50 \mu\text{g}/\text{m}^3$ inside the work area.
- Area samples will be collected outside the work area during abatement activities. Airborne lead concentrations of less than PEL of $50 \mu\text{g}/\text{m}^3$ must be maintained outside the work area.
- If air samples exceed PEL of $50 \mu\text{g}/\text{m}^3$, immediate corrective action must be taken by the Contractor to reduce airborne lead concentrations to levels below the above-referenced concentrations.

Personnel monitoring of airborne concentrations of lead shall be performed by a competent person such as the Lead supervisor or the Project Monitor and in accordance with 8 CCR 1532.1 and 29 CFR 1910.1025 and as specified herein.

The Contractor must establish an initial exposure assessment (or use a previous negative exposure assessment) to determine the extent of the engineering controls and training that will be required for their personnel. Prior to establishing the initial exposure assessment, the Contractor must have the following items in place:

- During abatement activities, conduct sampling on worker's representative of a full shift, including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level. This must be conducted in accordance with 29 CFR 1926.62 and Title 8 CCR 1532.1.
- Submittal of at least 1 blank cassette (or 10% of samples, whichever is greater). Blanks are to be submitted with each day's samples for analysis.
- Where the contractor has previously monitored for lead exposures, and the data were obtained within the past 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the employer's current operations, the contractor may rely on such earlier monitoring results to satisfy the personnel monitoring requirements.

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Lead Removal

Lead removal shall be performed in accordance with the accepted Contractor's Lead Removal Plan as modified and approved by LACDPW. The lead removal plan shall comply with all applicable regulations noted in this specification. The plan shall address the methods and procedures for the removal and/or stabilization of LBPs/LCPs. Methods that do not generate dust or fume shall be proposed in the Contractor's Lead Removal Plan.

The demolition of intact drywall systems will be done in such a manner to control the spread of dust and liquid waste created during the process. Normal demolition activities that may be utilized by the contractor to demolish the wall systems include, but are not limited to, manual demolition, Bobcat, sawing, etc.

The minimum engineering controls for the removal of paint systems in defective/damaged condition (i.e., loose, flaking, not adhered to the substrate) are as follows:

- Perform work under wet conditions (i.e., mist the paint prior to scraping or removing).
- Use HEPA filter equipped vacuum cleaners to decontaminate the work areas and workers.

Providing that the initial exposure assessment indicates exposure to be below the Action Level of 30 micrograms per cubic meter of air, the above engineering controls are interpreted to be sufficient for the project. If the initial exposure assessment indicates the exposure to be above the Action Level or Permissible Exposure Limit (PEL) of 50 micrograms per cubic meter of air, then training requirements shall increase and engineering controls will become more stringent and in accordance with 8 CCR 1532.1.

The contractor must select paint removal processes to minimize contamination of work areas with lead-contaminated dust or other lead-contaminated debris/waste. The following paint removal is unacceptable:

- A. Gas-fired open-flame burning.
- B. Machine grinding or sanding equipment.
- C. Uncontained water blasting.
- D. Open abrasive blasting.

Work Area Preparation

Following are the minimum requirements for work area preparation for exterior lead abatement. Prior to the start of the removal of lead-based paint from exterior surfaces, the Contractor must prepare the work area using these procedures:

- Establish a regulated area using OSHA Lead danger tape, Lead danger signs, and plastic sheeting/drop cloths a minimum of 10 feet in all directions from the location where the LBP/LCP will be disturbed.
- In addition, all windows and doors located within 20 feet of the work area (as applicable) that are not being used during the abatement process (i.e. egress to/from the work area) should be closed and covered with critical barriers/plastic sheeting.

REMDOX

Personnel Decontamination Unit

At a minimum, establish hygiene facilities to allow for employees to wash their hands and other exposed body parts at the completion of the work shift or whenever the employee leaves the regulated area. The hygiene facility must be contiguous with the regulated area.

The contractor must provide a personnel decontamination unit for cleaning of bagged or containerized lead-paint waste materials passed from the work area.

- Construct a decontamination unit “Decon Unit” of wood or PVC framing of appropriate-size materials and polyethylene sheeting, at least 6-mil in thickness and position so that packaged materials, after being wiped clean, can be passed through the holding room.
- Separate this room from the work area by a single-flap door of 6-mil polyethylene sheeting.
- Provide a drop-cloth layer of plastic on the floor in the Decon Unit for every load-out operation. Roll this drop-cloth layer of plastic from the Decon Unit into the work area after each load out. Provide a minimum of two layers of plastic at all times. Use only clear plastic to cover floors.

The contractor must designate a decontamination area for equipment or materials prior to exiting the work area.

Load-Out Area

The load-out area is the transfer area from the project work area or structure to a truck or dumpster. It may be the clean room of the equipment decontamination unit or an identified designated area.

- During transfer of material from the load-out area, erect primary barriers as necessary to seal the path from load-out area to truck or dumpster.
- Provide a lockable door to secure the work area during non-work hours (as applicable).

Decontamination Sequence

Contractor must take all equipment or materials from the work area through the decontamination unit according to the following procedure:

- Thoroughly wet-clean contaminated equipment or sealed polyethylene bags and pass into washroom/decontamination room as defined in Cal/OSHA’s 1532.1.
- Once inside the washroom/decontamination room, wet-clean the bags and/or equipment.
- When cleaning is complete, pass items through the designated decontamination area or wash room.
- Workers from outside the exterior of the structures will enter the washroom/decontamination room and remove decontaminated equipment and/or containers for disposal. Require those workers to wear full protective clothing and appropriate respiratory protection.
- At the conclusion of this work, protective clothing are to be HEPA vacuumed and stored in a plastic bag. They may be re-used until they are ready to launder and/or the end of the project.

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The contractor may either launder or dispose of the cloth coveralls in accordance with regulatory requirements and these specifications. All other personal protective equipment and personal hygiene practice requirements in these specifications remain applicable.

7 PRODUCTS

LEAD MATERIAL REMOVAL PRODUCTS

- Submit applicable Material Safety Data Sheets for lead removal products used in removal work. Use the least toxic product acceptable to LACDPW. Conform to 29 CFR 1926.57 for ventilation.
- Chemical removers shall not contain methylene chloride. Chemical removers shall be compatible with and not harmful to the substrate to which they are applied. Chemical removers used on masonry surfaces shall contain anti-stain formulation that inhibits discoloration of stone, granite, brick, and other masonry construction
- Impermeable containers that are air- and water-tight and suitable to receive and retain lead waste until disposal at an approved site and properly labeled in accordance with applicable DOSH regulations (CCR Title 8 1532.1).
- Warning labels and signs that comply with applicable DOSH regulations (CCR Title 8 1532.1).

ENCAPSULATING SEALER (WHERE APPLICABLE)

- Shall be a penetrating or bridging type, pollution-free sealer. Shall be L-B-C Lead Encapsulant brand or equivalent. Product shall have the lowest shell thickness for wall restoration work. Submit applicable Safety Data Sheets for seal coating. Use the least toxic product acceptable to LACDPW. Encapsulant must conform with requirements of 29 CFR 1926.57 for ventilation.

8 EQUIPMENT

The Contractor must provide and use the following equipment during abatement:

- Personally issued and marked respiratory equipment approved by NIOSH and meeting the specifications of DOSH for each worker. This respiratory equipment must be suitable for the lead exposure level in the work area according to CCR Title 8 1532.1.
- Furnish personnel who will be exposed to lead-contaminated dust with appropriate disposable protective whole body clothing, head covering, gloves, and foot coverings. Furnish appropriate disposable plastic or rubber gloves to protect hands or clean lead-contaminated work clothing in accordance with CCR Title 1532.1.
- Lead warning signs (as outlined in CCR Title 8, 1532.1) printed in English and Spanish at entrances to work areas.
- If rental equipment is to be used during lead containing material handling and disposal, notify the rental agency in writing concerning the intended use of the equipment. Furnish a copy of the written notification to LACDPW.

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LOCAL EXHAUST SYSTEM

As applicable, the generation of lead dust during non-intact removal of LBP or lead-containing materials must be conducted as follows:

- Use adequate ventilation to control personnel exposure to lead in accordance with 29 CFR 1926.57.
- To the extent feasible and only if applicable, use fixed local exhaust ventilation connected to HEPA filters. Local exhaust ventilation systems shall be designed, constructed, installed, and maintained in accordance with ANSI Z9.2.

9 CLEANUP AND CLEARANCE TESTING AND STANDARDS FOR RE-OCCUPANCY ONLY NOT FOR DEMOLITION

The California Department of Public Health Certified Lead Project Monitor or Inspector/Assessor (e.g., Consultant) will perform a visual inspection of the work area at the end of each day of abatement activity. At the end of each shift, all lead debris must be contained and disturbed lead components encapsulated/stabilized. In addition, the local exhaust system (as applicable) must be operated continuously from the beginning of the lead removal until acceptable clearance samples are obtained. Prior to clearance sampling, a visual inspection of the work area/s will be made by the Project Monitor or Inspector/Assessor. If the visual inspection is not deemed acceptable by the Project Monitor or Inspector/Assessor, the Contractor must correct all deficiencies prior to clearance sampling. Upon completion of the visual inspection (to the satisfaction of the Project Monitor or Inspector/Assessor, the Contractor may encapsulate the area prior to the collection of clearance dust wipe samples. Clearance sampling shall be conducted by the Project Monitor or Inspector/Assessor as follows:

- A minimum of one (1) dust wipe clearance sample collected per work area.
- Clearance samples will be collected for lead in dust analysis by Flame Atomic Absorption Spectrometry (Flame AAS) NIOSH 9100/7082 method.
- In order for an abatement area to be considered “complete,” all of the data recorded within the work area must be below the following current EPA clearance levels:
 - 10 µg/ft² for floors, 100 µg/ft² for window sills including interior non-floor horizontal surfaces and 400 µg/ft² for window troughs and exterior floors and other horizontal surfaces.
- If a work area fails clearance sampling, the Contractor must repeat cleaning of the areas as deemed necessary, and additional clearance samples must be collected and analyzed. This process must be repeated until passing results are achieved.

10 GENERAL LEAD ABATEMENT GUIDELINES

All containers, trucks, and roll-off bins with lead-containing wastes must be individually labeled according to DOT regulations (49 CFR Part 172) including waste type, generator information (i.e., name and location), and disposal site destination. Storage of trucks or roll-off bins containing waste materials on-Site should be minimized. Moreover, waste materials are not to be temporarily stored off Site or taken to a transfer facility. Plastic sheet lining the inside of the truck or roll-off must be torn down at the disposal site and disposed of as lead-contaminated waste.

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The Contractor will be responsible for any and all citations, cleanup, and/or monitoring costs associated with accidents, spills, or improper handling during collection, transport, and/or disposal of the wastes, including but not limited to repeated cleaning associated with unacceptable clearance air sample results. Contractor will indemnify, defend, and hold harmless LACDPW, their officers, partners, employees, and assigns for and from all actions, lawsuits, or claims by government agencies and/or any loss sustained as a result of contamination of any area by Contractor negligence including but not limited to personal injury, lost profits, property damage, loss of property value, and attorney fees.

11 WASTE DISPOSAL

Once paint systems in defective/damaged condition (i.e., loose, flaking, not adhered to the substrate) known to contain lead at concentrations greater than 600 mg/kg have been removed, the remaining adhered paint should be stabilized. The Contractor may use paint or some other coating to stabilize. Once the abatement is complete, all paint chips, lead containing debris must be placed into lined Department of Transportation (DOT) acceptable container for characterization and disposal as required. Once the abatement is complete, the Contractor must accumulate all of the paint debris that has been generated during the abatement into DOT-approved drums for characterization and proper disposal, as required.

The Contractor shall comply with the Federal Environmental Protection Agency (EPA) regulations pertaining to handling and disposal of lead-containing materials as well as the State of California and any local governmental agencies which have been delegated responsibility for the administration and enforcement of federal regulations. The Contractor shall contact the regional EPA, state, and local authorities to determine LBP debris disposal requirements. Resource Conservation and Recovery Act requirements shall be complied with as well as applicable state hazardous waste and solid waste and LAC requirements. During the actual lead abatement, the Contractor shall not leave debris at the facility or nearby property, incinerate debris, dump waste by the road or in an unauthorized dumpster, or introduce lead contaminated water into storm water (will not be flushed down yard inlet or street drain) or sanitary sewers (will not be flushed down toilet or other household drain).

The Contractor must be conduct a “waste characterization analysis” through the Waste Extraction Test (WET) and Toxicity Characteristic Leaching Procedure (TCLP) analysis on all generated lead containing waste. Depending on the WET and TCLP analysis, the waste must be disposed of as a RCRA, non-RCRA (California) or non- hazardous waste as appropriate. Submit written evidence that the hazardous waste treatment, storage, or disposal facility (TSD) is approved for lead disposal by the EPA and state or local regulatory agencies.

12 MANIFESTS

Submit one copy of the completed manifest, signed and dated by the initial transporter in accordance with 40 CFR 262. Payment for disposal of hazardous waste will not be made until a signed copy of the manifest from the treatment or disposal facility certifying the amount of lead-containing materials delivered is returned and a copy is furnished to LACDPW.

13 FINAL SUBMITTALS

At the conclusion of abatement activities, a letter of completion from the Contractor must be received by LACDPW within ten business days after final cleanup activities have been completed. The letter of completion must state, “All identified lead-based paint systems (loose, flaking, not adhered to substrate) have been removed from the designated work areas and disposed of in accordance with these specifications and all applicable federal, state, and local regulations, laws, and statutes.”

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In addition to the previously requested submittals, the Contractor must submit copies of the project log book employee air monitoring results, applicable notifications/permits, and employee work records from this Site to LACDPW within ten business days after completion of abatement activities.

Note that no work will be accepted as “final” until all applicable manifest receipts have been received by LACDPW from the disposal facility acknowledging proper disposal of all generated lead wastes from this project.

14 DEFINITIONS

The following definitions shall apply to these Specifications

Abatement means any measure designed to eliminate lead paint hazards in accordance with established standards and laws. Abatement strategies include: removal of lead-based paint (LBP); enclosure of LBP; encapsulation of LBP (with a product that has been shown to meet established standards for a minimum of twenty years); replacement of building components coated with LBP; removal of lead contaminated dust; removal of covering of lead contaminated soil with a durable covering (not grass or sod, which are considered Interim Controls); as well as all preparation, cleanup, disposal, post-abatement clearance testing, record keeping, and monitoring.

Action Level (AL) employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air ($30 \mu\text{g}/\text{m}^3$) calculated as an 8-hour time-weighted average (TWA).

Area Monitoring sampling of lead concentrations within the lead abatement area and inside the physical boundaries of the regulated area.

Biological Monitoring is the medical evaluation of an individual, including the analysis of a person’s blood to determine the level of lead contamination in the body. Biological monitoring for lead abatement work as described herein shall be directed by a licensed physician

Clean Room is the area of a worker decontamination facility used for donning protective equipment and storing street clothes.

Containment means a system, process, or barrier used to contain lead hazards inside a work area such as described in “Guidelines for the Evaluation and Control of Lead-Based Hazards in Housing” U. S. Department of Housing and Urban Development, June 1995, Chapter 8, “Containment and Barrier Systems” Tables; 8.1, 8.2, and 8.3, or “Guide for Containing Debris Generated During Paint Removal Operations”, Steel Structures Painting Council, SSPC Publication No. 96-12, 1996.

Contractor as used in these Specifications refers to the “Lead Abatement Contractor” who will perform work under contract with LACDPW.

Employee means any person employed or hired by an employer in any lawful employment.

Elevated Blood Lead Level means a blood lead concentration equal to or greater than that which a qualified physician and/or relevant legal requirements deem unsafe or unhealthy.

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Encapsulation means any covering or coating that acts as a barrier between lead-based paint and the environment, the durability of which relies on adhesion and the integrity of the existing bonds between multiple layers of paint and between the paint and the substrate.

High Efficiency Particulate Air (HEPA) Filter means a type of filtering system capable of filtering out particles of 0.3 microns or greater diameter from a body of air at 99.97% efficiency or greater.

Intact Painted Surface means a defect-free surface with no loose, peeling, chipping, or flaking paint. Painted surfaces must be free from crumbling, cracking, or falling materials and/or plaster and must not have holes in them. Intact surfaces are not damaged in any way.

Lead-based refers to paints, glazes, and other surface coatings that contain an amount of lead equal to, or in excess of one milligram per square centimeter (1.0mg/cm²) or more than half of one percent (0.5%) by weight or five thousand parts per million (5000 ppm). Note: Based on the location of the Property in Los Angeles County, the (threshold) setting shall be equal to or greater than 0.7 mg/cm² or more than half of one percent (0.5 percent) by weight of 5,000 parts per million.

Lead-containing refers to surface coatings or materials that contain lead at concentrations in excess of 90 ppm by weight. **Note:** In order to comply with the federal Occupational Health and Safety Administration (OSHA) requirements, lead safe work practices shall be exercised during all construction work, when worker exposure involving paints having any amount of lead exist, as described by Title 29 Code of Federal Regulations (CFR) 1926.62.

Lead Supervisor (LS) means a Department of Health Services (DHS) accredited Lead-Related Construction Supervisor and shall have at least one year's experience on LBP abatement projects.

Permissible Exposure Level (PEL): The maximum concentration of lead in air that an employee can be exposed is fifty micrograms per cubic meter of air (50 µg/m³), averaged over an 8-hour period.

Qualified Lead Abatement Contractor refers to a Contractor capable of providing a properly trained and equipped work force for lead abatement work. The supervisors and workers must be accredited pursuant to Title 17, Code of California Regulations (CCR), Articles 5 and 7 and shall have a minimum of one (1) year of experience, a minimum of three (3) LBP removal projects or abatement work on projects similar in scope and size.

RCRA means Resource Conservation and Recovery Act.

STLC means Soluble Threshold Limit Concentration and is one of the criteria for defining a hazardous waste in California. The STLC for lead is five milligrams per liter (5 mg/l).

Subcontractor refers to a Contractor who performs work directly for the Contractor.

TCLP means Toxicity Characteristic Leachate Procedure, which is the procedure for sample analysis under Federal regulations for determining the hazard characteristic of a generated waste. For lead, the regulatory level is five milligrams per liter (5 mg/l).

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TTLC means Total Threshold Limit Concentration and is one of the criteria for defining a hazardous waste in California. The TTLC for lead is one thousand milligrams per kilogram (1000 mg/kg).

Work Area means an area where lead-based paint or presumed lead-based paint is disturbed, or abatement is conducted.

Attachments

Remdorex

November 4, 2024

Los Angeles County Department of Public Works
Courtney Tossounian, Capital Project Manager
900 South Fremont Ave. 5th Floor
Alhambra, CA 91803

Subject: Limited Asbestos and Lead-Paint Survey Report
Barry J. Nidorf Juvenile Hall – 16350 Filbert Street, Sylmar, CA 91342
Remdorex Project Number 24-115
Inspection Date: October 21, 2024

INTRODUCTION

This letter serves as Remdorex Corp. (Remdorex) report of findings for sampling of suspect asbestos containing materials and lead bearing surface anticipated to be disturb during renovation activities, for the above referenced structure located at the Barry J. Nidorf Juvenile Hall at 16350 Filbert Street, Sylmar, CA 91342. All project scheduling and coordination was organized through Los Angeles County Public Works.

The assessment was performed on October 21, 2024, by Steven McLain a Division of Occupational Safety and Health (DOSH) Certified Asbestos Consultant (CAC) Cert. No. 19-6592 and a California Department of Public Health Lead Related Construction Sampling Technician Cert. 6491 working under the supervision of Steven Perez, a California Department of Public Health Lead Related Construction Inspector/Assessor (LRC I/A) Cert. 5367, 5368, 5369. and a Division of Occupational Safety and Health (DOSH) Certified Asbestos Consultant (CAC) Cert. No. 15-4457. Copies of individual certifications are enclosed.

SCOPE OF SERVICES, SURVEY METHODOLOGY AND REGULATORY REQUIREMENTS

The objectives of the scope of services were to:

- Assess for the possible presence and type of asbestos-containing materials (ACMs), and asbestos-containing construction materials (ACCMs) from building materials that will be impacted by proposed renovation activities. All other areas/materials were excluded from this assessment. Definitions of ACMs and ACCMs are provided below.
- Assess for the possible presence of lead, with lead content equal to or greater than The County of Los Angeles (L.A.) Department of Health Services (DHS), United States Environmental Protection Agency (US-EPA) or The California Occupational Health and Safety Administration (Cal/OSHA) thresholds for suspect lead bearing components anticipated to be impacted by proposed renovation activities. Definitions of surfaces containing lead paints are provided below.
- This inspection included assessing the Dry storage, 2nd floor electrical rooms, and 2nd floor roof. All other areas and materials were excluded from this assessment. Photo collection or the creation of a site diagram was not allowed within this facility for security reasons.

Asbestos – The United States Environmental Protection Agency (USEPA) National Emissions Standards for Hazardous Air Pollutants (NESHAP) and the South Coast Air Quality Management District requires an inspection for asbestos to be performed on all structures (minor exemptions apply to single unit family dwellings) prior to demolition and renovation operations. ACMs are those materials in which asbestos content is greater than one percent (1%) by weight. ACCMs are those materials in which asbestos content is greater than 0.1 %, but less than 1% by weight. Materials found to contain asbestos may need to be removed prior to the start of demolition or renovation operations that may disturb such materials

Lead – Painted surfaces/components in poor condition (e.g., loose, flaking, not adhered to the substrate) known to contain lead may need to be properly stabilized and/or abated and disposed of prior to initiating demolition or renovation operations. The US-EPA, and Title 17, California Code of Regulations, Division 1, Chapter 8, and the California childhood lead-poisoning regulations define “Lead-Based Paint” as paint or coatings containing more than 1.0 milligrams per square centimeters (mg/cm²), 0.5% by weight or 5,000 parts per million (ppm). The Federal Consumer Products Safety Commissions (CPSC) banned the sale of paint with more than 600 ppm for most consumer use (This level was reduced in 2009 to 90 ppm). The State of California Department of Industrial Relations, Division of Occupational Safety and Health (DOSH) commonly known as “Cal-OSHA” title 8 California code of federal regulations (CCR) 1532.1 covers requirements of lead safety in all construction work where employees may be occupationally exposed to any amount of lead. The County of Los Angeles Department of Health Services (DHS) defines “Dangerous levels of lead-bearing substances” as any paint or coatings or structural materials which contains lead in excess of 0.7 milligrams per square centimeters (mg/cm²). California’s Title 17 CCR, Division 1, Chapter 8 requires treating all paint applied to surfaces constructed before 1978 to be “Presumed Lead-Based Paint” and is not limited to residential and public buildings, it includes all structures built before 1978.

SITE DESCRIPTION

The following table provides a limited description of the Structure. Please note that descriptions include information obtained through visual observations during the inspection and were not performed by a building engineer.

Building Description
The two-story structure is comprised of a reinforced concrete structure and brick walls with an exterior concrete and brick façade, and fixed windows, constructed on a slab on grade foundation. No records were available regarding the construction year or the square footage of the structure. There was no obvious fire or structural damage observed during this inspection. At the time of this inspection, all of the building materials suspected of containing asbestos content were found in good condition, painted surfaces/components were found in intact (good) condition.

ANALYTICAL/SAMPLING METHODOLOGY AND RESULTS

ASBESTOS

Twelve (12) bulk samples were collected from the areas of concern and submitted to Patriot Lab, in Fullerton, California, whom can be reached at Tel: 855-968-7522. During analysis twenty-seven (27) individual material layers were identified. Patriot Lab is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) for analysis of asbestos content CA NVLAP lab code: 200358-0.

A visual inspection of the sampling area was conducted to determine representative suspect materials and homogeneous areas that are visually similar in color, texture, general appearance, and that were installed at the same time. For these activities, the inspector listed materials suspected to contain asbestos and gave a general description of their location. The inspector also evaluated the overall condition of the materials and assess whether the materials

were friable or non-friable by touching the material, where practicable. Bulk samples were collected using a clean knife, chisel or other appropriate tool. Each sample was extracted carefully so as not to disturb adjacent materials while still penetrating through all layers of the material sampled. Each sample was sealed in the appropriate sized plastic zip lock bag and the bag was then labeled with a unique identification number. The sample number, description, and location were then recorded on a log and plotted on a floor plan of the Structure or area. Sampling tools were cleaned after collecting each sample. Any excess dust or debris from the sample location was cleaned using a moistened cloth.

The table provided below presents the homogenous materials sampled during this survey and the content of those materials. Homogeneous materials are building materials that are uniform in appearance, color, texture and the date of application. Homogenous areas (HA) are the areas where homogenous materials are located. The rows, which contain bold letters in the table, represent materials in which asbestos was detected and their conditions as encountered during this inspection (as applicable).

Homogenous Material ID and Sample Numbers	Material Description	Locations of Homogenous Materials	Asbestos Content (% weight)	Approximate Material Quantity (Square Foot)	Friability	Condition
A Samples (1-3)	Cinder block and mortar	Dry storage room and electrical room	None Detected	300 SF	---	---
B Samples (4-6)	Cement ceiling	Dry storage	None Detected	300 SF	---	---
C Samples (7-9)	Roofing membrane	Roof	None Detected	600 SF	---	---
D Samples (10-12)	Roofing flashing mastic	Roof	<1% Chrysotile	80 SF	Non-friable	Good

Notes:

- (---) is utilized in the event no ACMs, ACCMs or trace amount of asbestos is identified.
- None Detected = the analyte “asbestos” was not identified
- SF = approximate square footage of materials observed. All of the above quantities are rough approximations (not to be relied upon) and therefore, should be verified by an abatement contractor.
- Friable ACMs are materials that can be crushed or pulverized by hand pressure when dry. Materials can also be rendered friable when subjected to crushing, sanding, sawing, shot blasting, or through demolition or renovation activities.
- Non-friable materials can be rendered friable when subjected to crushing, sanding, sawing, shot blasting, and use of mechanical methods or through other demolition or renovation activities.

LEAD

One (1) paint chip samples were collected for laboratory analysis. Samples were transmitted under proper chain of custody to Patriot Lab, in Fullerton, California, for lead analysis. The paint chip samples were analyzed by Atomic Absorption Spectrophotometry (AAS) for total lead content in accordance with the EPA Test Method SW846-7420. All layers of paint from sampled surfaces/components are included as they cannot be separated during sampling or analysis. The results of the sample(s) are representative of all layers of paint from the representative sampled surface(s) or component(s). For the purpose of this survey, lead-based paint is paint containing an amount of lead equal to or greater than 5,000 parts per million (ppm) or as defined by the USEPA.

The table provided below present the list of samples from identified suspect surface coatings (paints) from the surveyed areas. A single sample was collected from a painted component/surface and used to characterize other similar surface coatings/paints within the surveyed area. The results indicated the following

Sample Number	Material, Component and Sample Location	Lead Content (Part Per Million)	Sampling Surface Size (Sq. Inch)	Condition
LBP-01	Paint on walls dry storage room	290	2" x 2"	Intact

Notes:

LBP = Lead Based Paint = Paint containing lead at a concentration of greater than or equal to 5,000 ppm

LCP = Lead Containing Paint = Paint containing lead at a concentration of greater than 600 ppm

The laboratory report, chain-of-custody form for the samples, Cal/OSHA lead inspection form 8552 are enclosed.

CONCLUSIONS AND RECOMMENDATIONS

ASBESTOS

By federal definition, any substance that contains or presumed to contain more than one percent (>1%) asbestos is classified as an ACM. ACMs are regulated by federal, state, and local agencies. The following materials were considered as containing asbestos above the threshold limit >1% (unless further sampling proves otherwise [i.e., point count]), therefore the following material shall be managed and disposed of as **ACM** if disturbed:

- **Roofing flashing mastic – 80 square feet (Good condition)**

All other materials sampled by Remdiox as part of this limited asbestos building materials survey were reported by the laboratory as "ND" meaning no asbestos fibers were detected. Analytical Laboratory reports and Site photographs are enclosed. Sample locations are identified in the enclosed site map.

LEAD

The results for the sampled surfaces indicated that lead was **below** the US-EPA HUD definition for lead-based paint (5,000 ppm). Furthermore, lead concentrations were also **below** California/OSHA's Lead in Construction Standard threshold of 600 ppm, the level that constitutes a health hazard concern for employees engaged in lead-related construction work. The laboratory report, chain-of-custody form for the samples, Cal/OSHA's lead inspection form 8552 are enclosed.

REGULATORY REQUIREMENTS

ASBESTOS

The following directions are based on regulatory requirements, experience from Remdiox and laboratory results.

- The materials identified as containing asbestos should be treated as such throughout the structure regardless of the sample locations. The contractor should verify all quantities of each asbestos material and their locations. It should be noted that asbestos-containing materials (ACMs) may be concealed by existing building finishes, components or fixtures. All renovation/demolition activities should be halted, prior to the disturbance of newly discovered materials. Concealed suspect materials which have been uncovered, should either be sampled by a qualified person, or presumed to contain asbestos. Whether the suspect material(s) are confirmed, or presumed, to contain asbestos, they must be handled and disposed of in accordance with the appropriate and applicable guidelines and regulations.
- Materials identified with the presence of asbestos content greater 1% and/or presumed to contain asbestos that may be impacted during renovation or demolition activities, by law, must first be abated and properly disposed of by a licensed asbestos abatement contractor prior to such work. Contractors are licensed for asbestos-related work by the California Department of Industrial Relations (DIR) Department of

Occupational Safety and Health (DOSH). A list of contractors with current licenses may be found at: <https://www.dir.ca.gov/databases/doshacru/acrusearch.html>.

- Asbestos abatement should be monitored by an independent third party. Third-party monitoring is conducted to ensure documentation of the abatement activities and to limit the building owner's liability. Monitoring should include development of project specifications; visual inspections during and after the project; and air monitoring prior to, during, and at project completion to verify that the area is safe for re-occupancy. Such abatement monitoring serves to limit the legal liabilities of the building owner.
- Sample results determined to contain less than 10% asbestos by visual estimation (PLM analysis), require the owner or operator of the building to (1) elect to assume the amount to be greater than one percent and treat the material as asbestos-containing material or (2) perform point counting re-analysis. If a result obtained by point counting is different from a result obtained by visual estimation, the point count result will be used. Point counting is available 30 days from the date of sampling at an additional cost.
- This inspection is considered limited to the path of construction (as depicted by the client provided site plans), areas inspected and/or the actual building materials surveyed. Any material(s) not sampled or identified, in lieu of this limited assessment, that may be impacted or uncovered must be presumed to contain asbestos until laboratory analysis of an adequate number of samples proves otherwise. The samples collected represent the areas/materials of concern only.

LEAD

The following directions are based on regulatory requirements, experience from Remdax and laboratory results.

- Lead paint identified in poor condition can create a lead dust hazard. As paint breaks down it releases paint chips and lead dust. Refer to a certified contractor to assist with paint stabilization detail cleaning and application of a protective coating.
- Generated waste that contains lead will need to undergo hazardous waste characterization prior to disposal. If the generated waste contains less than 1,000 ppm lead total concentration, you may not have to dispose of it in a Class I hazardous waste landfill. If your lead contains greater than 50 ppm lead (total concentration), you must determine if the waste is hazardous waste due to the soluble concentration of lead in the waste. Toxic Characteristic Leaching Procedure (TCLP) and Waste Extraction Test (WET) are test methods used in California to determine whether a waste is a toxic hazardous waste. Refer to Title 22, California Code of Regulations.
- In, California waste generators must determine if their waste generated meets the criteria of hazardous waste as defined in 22 CCR section 66261.3. Proper waste classification statutes must be followed.
- The Federal Consumer Products Safety Commissions (CPSC) has limited the lead content that is allowed in paint intended for residential use and similar surface coatings to 90 ppm. Painted surfaces containing concentrations of lead greater than 90 ppm but below 5,000 ppm/1.0 mg/cm², can create a lead dust hazard, when disturbed by abrasion, scraping, or sanding. It is highly recommended that "Lead safe work practices" be utilized prior to renovating, repairing, or components/substrates involving paints having any amount of lead. In order to comply with the federal Occupational Health and Safety Administration (OSHA) requirements, lead safe work practices shall be exercised during all construction work, when worker exposure involving paints having any amount of lead exist, as described in Title 29 Code of Federal Regulations (CFR) 1926.62. Therefore, it is recommended that an EPA or State approved Lead-Safe Certified Renovation Firm be hired when disturbing paints with any amount of Lead.
- In order to comply with the federal Occupational Health and Safety Administration (OSHA) requirements, lead safe work practices shall be exercised during all construction work, when worker exposure involving paints having any amount of lead exist, as described by Title 29 Code of Federal Regulations (CFR)

1926.62. An initial assessment of an employee's exposure to lead must be conducted to determine the employees respiratory protection prior to performing "trigger tasks" on materials found to contain any detectable amount of lead until results of personal air monitoring indicate that workers are not exposed to lead above the action level of 30 microgram per cubic centimeter (ug/m^3) or the permissible exposure level of $50 \text{ ug}/\text{m}^3$ calculated as an 8-hour time-weighted average concentrations per the Cal/OSHA's Lead in Construction Standard Title 8 CCR, Section 1532.1 of the California Code of Regulations. Furthermore, were the employer has previously monitored for lead exposures, and the data was obtained within the past 12 months during closely similar workplace operations and conditions, the employer may rely on the earlier results.

LIMITATIONS/DISCLAIMER

This report has been prepared in accordance with the care and skill generally exercised by reputable professionals, under similar circumstances, in this or similar localities. No other warranty, express or implied, is made as to the professional opinions presented herein. No other party, known or unknown to Remdax is intended as a beneficiary of this work product, its content or information embedded therein. Third parties use this report at their own risk. Changes in site conditions may occur due to variation in rainfall, temperature, water usage, or other factors. Moreover, change in site use may alter the conclusions of this report. Additional information that was not available to the consultant at the time of this investigation or changes that may occur on the site or in the surrounding area may result in modification to the site that would impact the summary and recommendations presented herein. This report is not a legal opinion.

Please note that Remdax Corp. (Remdax) utilized state of the art techniques with the intent to identify and categorize all suspect asbestos containing materials and lead bearing surfaces within the area(s) of concern, however, it is possible that some materials not identified in this report may be concealed and/or at the time of the inspection not readily accessible. Additional materials/paints may be present in other areas within the site which were not part of this limited assessment. Immediately prior to any renovation activities, any additional suspect non-characterized identified building materials/paints should be sampled and analyzed for asbestos and/or lead. Inspection of a limited number of units or spaces within a structure does not demonstrate compliance with the National Emissions Standard for Hazardous Air Pollutants (NESHAPs) "thorough inspection" requirement. Therefore, this inspection, is considered limited to the path of construction and/or the actual building materials/paints surveyed.

Should you have any questions regarding this submittal, please contact the undersigned.

Sincerely,



Prepared By:
Steven Perez, CAC, LRC I/A

Enclosed Documents:

- Individual Certifications
- Test Reports: Lead, Asbestos
- CDPH 8552 Form

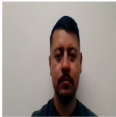




STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH
Certification.pdf



LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:	CERTIFICATE TYPE:	NUMBER:	EXPIRATION DATE:
 Steven Perez	Lead Inspector/Assessor	LRC-00005368	3/1/2025
	Lead Project Monitor	LRC-00005369	3/1/2025
	Lead Supervisor	LRC-00005367	3/1/2025

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification **1 of 1** searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD



DEPARTMENT OF INDUSTRIAL RELATIONS

Division of Occupational Safety and Health-Asbestos Certification

1750 Howe Avenue, Suite 460

Sacramento, CA 95825

(916) 574-2993 Office

<http://www.dir.ca.gov/dosh/asbestos.html> actu@dir.ca.gov

907226592T

450

454

December 11, 2023

Steven E. McLain
41001 Chambord Drive
Lake Elsinore CA 92532

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. To maintain your certification, you must abide by the rules printed on the back of the certification card.

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please contact our office at the above address or email w any changes in your contact/mailling information within 15 days of the change.

Sincerely,

Kevin Graulich
Principal Safety Engineer

Attachment: Certification Card

cc: File

State of California
Division of Occupational Safety and Health
Certified Site Surveillance Technician

Steven E. McLain

Name

Certification No. **19-6592**

Expires on **01/14/25**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7160 et seq. of the Business and Professions Code.





STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH



LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:



Steven McLain

CERTIFICATE TYPE:

Lead Sampling Technician

NUMBER:

LRC-00006491

EXPIRATION DATE:

9/26/2023

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD

Certificate of Analysis
PLM Asbestos Identification

tel - 714-607-5227
free - 855-968-7522
OCLab@patriotlab.com
1041 S. Placentia Avenue, Fullerton, CA 92831

PATRIOT LAB

Remdax Inc.
10020 National Blvd, Suite B
Los Angeles, CA 90034

Report Number: 1061147
Project Number: 24-115
Project Name:
Project Location: 16350 Filbert St
Sylmar CA

Date Collected: 10/21/2024
Date Received: 10/22/2024
Date Analyzed: 10/24/2024
Date Reported: 10/25/2024

Collected By:
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
1061147-001 D5-1	Dry Storage Wall	Cinder Block and Mortar	Beige Grey White	100% Non-Fibrous Material
Total Asbestos	None Detected			
1061147-002 D5-2	Dry Storage Wall	Cinder Block and Mortar	Beige Grey White	100% Non-Fibrous Material
Total Asbestos	None Detected			
1061147-003 D5-3	Electrical Room	Cinder Block and Mortar	Beige Grey White	100% Non-Fibrous Material
Total Asbestos	None Detected			
1061147-004 D5-4	Dry Storage Ceiling	Cement	Grey White	100% Non-Fibrous Material
Total Asbestos	None Detected			
1061147-005 D5-5	Dry Storage Ceiling	Cement	Grey White	100% Non-Fibrous Material
Total Asbestos	None Detected			
1061147-006 D5-6	Dry Storage Ceiling	Cement	Grey White	100% Non-Fibrous Material
Total Asbestos	None Detected			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
1061147-007A R-7	Roof	Roofing System	Black White	100% Non-Fibrous Material
Total Asbestos	None Detected			
1061147-007B R-7	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			
1061147-007C R-7	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			
1061147-007D R-7	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			
1061147-007E R-7	Roof	Roofing Material	Beige	100% Non-Fibrous Material
Total Asbestos	None Detected			

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PO Number:
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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
1061147-007F R-7	Roof	Roofing Material	Beige	30% Non-Fibrous Material 68% Cellulose 2% Glass
Total Asbestos	None Detected			
1061147-008A R-8	Roof	Roofing System	Black White	100% Non-Fibrous Material
Total Asbestos	None Detected			
1061147-008B R-8	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			
1061147-008C R-8	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			
1061147-008D R-8	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
1061147-008E R-8	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			
1061147-008F R-8	Roof	Roofing Material	Beige	100% Non-Fibrous Material
Total Asbestos	None Detected			
1061147-008G R-8	Roof	Roofing Material	Beige	30% Non-Fibrous Material 68% Cellulose 2% Glass
Total Asbestos	None Detected			
1061147-009A R-9	Roof	Roofing System	Black White	100% Non-Fibrous Material
Total Asbestos	None Detected			
1061147-009B R-9	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			

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Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
1061147-009C R-9	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			
1061147-009D R-9	Roof	Roofing Material	Black	90% Non-Fibrous Material 10% Synthetic
Total Asbestos	None Detected			
1061147-009E R-9	Roof	Roofing Material	Beige	30% Non-Fibrous Material 68% Cellulose 2% Glass
Total Asbestos	None Detected			
1061147-010 R-10	Roof	Flashing Mastic	Grey White Black	90% Non-Fibrous Material 10% Cellulose
Chrysotile	<1 %			
Total Asbestos	< 1%			
1061147-011 R-11	Roof	Flashing Mastic	Grey White Black	90% Non-Fibrous Material 10% Cellulose
Chrysotile	<1 %			
Total Asbestos	< 1%			

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Collected By:
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
1061147-012 R-12	Roof	Flashing Mastic	Grey White Black	90% Non-Fibrous Material 10% Cellulose

Chrysotile <1 %
Total Asbestos < 1%

1061147-001 Sample is heavily crushed, unable to differentiate between layers.
1061147-002 Sample is heavily crushed, unable to differentiate between layers.
1061147-003 Sample is heavily crushed, unable to differentiate between layers.



Andrea Pedraza - Analyst



Kwin Sheena Legaspi - Lab Manager - Approved By

Bulk sample(s) submitted was (were) analyzed in accordance with the procedure outlined in the US Federal Register 40 CFR Appendix E to Subpart E of Part 763; EPA-600/R-93/116 (Method for Determination of Asbestos in Building Materials), and EPA-600/M4-82-020 (US EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples). Samples were analyzed using Calibrated Visual Estimations (CVES); therefore, results may not be reliable for samples of low asbestos concentration levels. Samples of wall systems containing discrete and separable layers are analyzed separately and reported as composite unless specifically requested by the customer to report analytical results for individual layers. This report applies only to the items tested. Results are representative of the samples submitted and may not represent the entire material from which the samples were collected. "None Detected" means that no asbestos was observed in the sample. "<1%" (less than one percent) or Trace means that asbestos was observed in the sample but the concentration is below the quantifiable level of 1%. This report was issued by a NIST/NVLAP (Lab Code 200358-0) and CA Water Board ELAP (Cert. No. 2540) accredited laboratory and may not be reproduced, except in full without the expressed written consent of Patriot Environmental Laboratory Services, Inc. This report may not be used to claim product certification, approval or endorsement by NIST, NVLAP, CA-ELAP or any government agency.

ASB_Rep_8.23

REPORT NUMBER (Lab Use Only)

1061147

PATRIOT LAB

FULLERTON | LOS ANGELES | SAN DIEGO | SAN JOSE

Tel: (888)743-0998 Email: laboratory@patriotlab.com

PATRIOT LAB - CHAIN OF CUSTODY

10/24/24 9:30 AM

COMPANY INFORMATION				PROJECT INFORMATION					
Company Name:		Remdax Inc.		Project No.:		24-115			
Contact Person:		Steve Perez		Project Name:					
Company Address:		10020 National Bl. #B Los Angeles, CA. 90034		Project Location:		16350 Filbert St. Sylmar, CA.			
Contact Phone:		323.552.3283		Sample(s) Collected By:		13			
Contact Fax:				Authorized By:					
Contact Email:		service@remdaxcorp.com		Claim # / PO # (circle one):					
Report Method:		(Check One) ☐ Mail ☐ Fax ☒ Email		Special Instructions:					
Turnaround Time (Business Hours/Days)		☐ 1 HR ☐ 3 HR ☐ 6 HR ☐ 24 HR ☐ 48 HR ☒ 72 HR ☐ 5 DAY *Note: 3 HR Turnaround Time available until 2pm PST. Viable fungi samples require minimum 5-7 days Turnaround Time. Bacterial cultures require minimum 30 HR Turnaround Time. STLC/CAL-WET and TCLP require minimum 72 HR Turnaround Time.							
ANALYSIS REQUESTED									
ASBESTOS	☒ PLM (Bulk Asbestos) EPA 600//M4-82-020 ☐ PLM POINT COUNT 400 ☐ PLM POINT COUNT 1000			☐ GRAVIMETRIC REDUCTION *Gravimetric Reduction requires minimum 10 HR TAT ☐ PCM (Fiber Count) NIOSH 7400A			MICROBIOLOGY		
CHEMISTRY	LEAD BY FLAME AA - EPA 3050B/7420mod, NIOSH 7082mod ☒ PAINT ☐ DUST WIPE ☐ SOILS/SOLIDS ☐ AIR ☐ WATER (non-potable) LEAD WASTE PROFILE (by Flame AA) ☐ Check here to perform ALL THREE tests necessary for disposal ☐ TTLC ONLY (Total Threshold by EPA 3050B mod) ☐ STLC/CAL WET ONLY (Title 22 CCR Ch11 Article 5 App 2) ☐ TCLP ONLY (EPA 1331)								
☐ ROTOMETER CALIBRATION Total Rotometers:				☐ pH TESTING (Soils, solids, liquids, misc.) EPA 9045					
Sample ID	Sample Type	Date Sampled	Location Sampled	Description of Sample (Material Type, Dimensions, etc.)	(FOR AIR SAMPLES ONLY!)				
DS-1	Bulk	10.21.24	Dry Storage Wall	Cinder Block + mortar (PLM)	Start Time	Stop Time	Avg. (LPM)	Total Min.	Total Vol.
DS-2	↓	↓	↓	↓					
DS-3	↓	↓	Electrical Rm. ↓	↓					
DS-4	Bulk	↓	Dry Storage ceiling	Cement					
DS-5	↓	↓	↓	↓					
DS-6	↓	↓	↓	↓					
Relinquished By:		(Print) <u>Steven McLain</u>	(Date) <u>10.21.24</u>	Relinquished By:		(Print)	(Date)		
		(Sign) <u>[Signature]</u>	(Time) <u>11:30</u>			(Sign)	(Time)		
Received By:		(Print) <u>Myanna Melendez</u>	(Date) <u>10/21/24</u>	Received By:		(Print)	(Date)		
		(Sign) <u>[Signature]</u>	(Time) <u>11:30 AM</u>			(Sign)	(Time)		
Method of Shipment / Preservation During Shipment:				Condition of Samples: Acceptable -- YES / NO Comments:					

Note: Patriot's holding time for all samples submitted 30 days for solid samples, 7 days for digests, and immediate for lead in air after analytical results are reported. Unless customer provides written instructions to extend holding time, samples will be disposed of in accordance with local, state, and federal laws.

v.6.22.2022

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

FULLERTON | LOS ANGELES | SAN DIEGO | SAN JOSE

Tel: (888)743-0998 **Email:** laboratory@patriotlab.com

PROJECT NAME: 24-115
PROJECT NUMBER: 16350 Filbert St.

PROJECT NUMBER: 14350 Filbert St.

[illegible]

v.09.30.2022

Notes: Patriot's holding time for all samples submitted 30 days for solid samples, 7 days for digests, and immediate for lead in air after analytical results are reported. Unless customer provides written instructions to extend holding time, samples will be disposed of in accordance with local, state, and federal law.

*3 Hour Turnaround Time available until 2pm PST. Gravimetric Reduction requires minimum 10 HR Turnaround Time. Viable fungi samples require minimum 5-7 days Turnaround Time. Bacterial cultures require minimum 30 HR Turnaround Time. STLC/CAL-WET and TCLP require minimum 72 HR Turnaround Time.

Certificate of Analysis

Lead in Paint

SOP IV.6.4c/IV.5c

tel - 714-607-5227
free - 855-968-7522
OCLab@patriotlab.com
1041 S. Placentia Avenue, Fullerton, CA 92831

PATRIOT LAB

Remdax Inc.
10020 National Blvd, Suite B
Los Angeles, CA 90034

Report Number: 1061143
Project Number: 24-115
Project Name:
Project Location: 16350 Filbert St
Sylmar, CA

Date Collected: 10/21/2024
Date Received: 10/21/2024
Date Analyzed: 10/24/2024
Date Reported: 10/24/2024

Collected By:
Claim Number:
PO Number:
Number of Samples: 1

Lab/Client ID	Location	Material Description	Result (ppm)
1061143-001 D5 - A	Dry Storage Wall	Paint	290



Sarah Farias - Analyst



Kwin Sheena Legaspi - Lab Manager - Approved By

Reporting Limit: 20ug or 100ppm for samples weighed >200mg under normal preparatory conditions. Reporting limit may change depending on the amount of material weighed for analysis and/or the final preparatory dilution. EPA Renovation, Repair, and Painting Rule (40CFR745) Guidelines: 0.5% lead by weight of paint or 5000ppm. Condition of samples as received is fair unless otherwise noted. The results reported pertain only to the items tested. Test data are accurate to two significant figures. Data have not been corrected with instrument or process blanks. Unless otherwise noted, the reported test results have passed necessary quality control requirements. Reference Method: EPA 3050B/7420. This report was issued by a CA Water Board ELAP (Lab No.2540) accredited laboratory and may not be reproduced, except in full, without the expressed written consent of Patriot Environmental Laboratory Services, Inc. This report must not be used to claim product certification, approval or endorsement by CA Water Board ELAP or any government agency.

LEAD HAZARD EVALUATION REPORT**Section 1 — Date of Lead Hazard Evaluation** 10/21/2024**Section 2 — Type of Lead Hazard Evaluation (Check one box only)**☒ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☒ Other (specify) Limited**Section 3 — Structure Where Lead Hazard Evaluation Was Conducted**

Address [number, street, apartment (if applicable)]	City	County	Zip Code
16350 Filbert Street	Sylmar	Los Angeles	91342

Construction date (year) of structure	Type of structure	Children living in structure?
NA	☐ Multi-unit building ☐ School or daycare ☐ Single family dwelling ☒ Other Juvenile Hall	☒ Yes ☐ No ☐ Don't Know

Section 4 — Owner of Structure (if business/agency, list contact person)

Name	Telephone number
Courtney Tossounian	(626) 300-3277

Address [number, street, apartment (if applicable)]	City	State	Zip Code
900 South Fremont Avenue, 5th floor	Alhambra	CA	91803

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☒ No lead-based paint detected ☐ Intact lead-based paint detected ☐ Deteriorated lead-based paint detected
☐ No lead hazards detected ☐ Lead-contaminated dust found ☐ Lead-contaminated soil found ☐ Other

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
Steven Perez	(310) 854-5453

Address [number, street, apartment (if applicable)]	City	State	Zip Code
10020 National Blvd.	Los Angeles	CA	90034

CDPH certification number	Signature	Date
5367, 5368, 5369		11/4/2024

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

- A. A foundation diagram or sketch of the structure indicating the specific locations of each lead hazard or presence of lead-based paint;
- B. Each testing method, device, and sampling procedure used;
- C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

SECTION 02 40 00

DEMOLITION

PART 1 - GENERAL

1.01 SUMMARY:

- A. Work In This Section: Division 1 applies to this Section. Perform demolition and removals as indicated, specified, and required.
 - 1. Demolish and remove existing interior improvements, including partitions, ceilings, walls, floor finishes, and other items as indicated or required.
 - 2. Make all necessary arrangements and remove abandoned on-site utilities including capping and sealing underground services at points of connection indicated or directed.
 - 3. Clean up and disposal of demolition and removal debris.
- B. Related Work Specified Elsewhere:
 - 1. Temporary facilities.
 - 2. Clean-up.
 - 3. Earthwork.

1.02 RECORD DRAWINGS:

Provide record drawings as specified in Division 1. Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions. Where required by governing authorities or regulations, provide the County with landfill records for record purposes indicating receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.03 QUALITY ASSURANCE:

- A. Requirements of Regulatory Agencies: Secure and pay for demolition and removal permits required by public agencies having jurisdiction. Give notices and comply with requirements of SCAQMD Rule 1403.
- B. Photographic Documentation: Before starting work of this section, provide one set of digital photographs of existing conditions to be affected by the demolition work. Provide progress photos as the work of demolition progresses, at intervals as approved, illustrating substrates, connections, concealed conditions, and other conditions which will benefit subsequent work.

1.04 DEFINITIONS:

The following terms have the meanings indicated when used in this Section and on related drawings.

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the County's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the County's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to County's designated storage area.
- C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in locations indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during demolition. When permitted by the Architect, items may be removed to a suitable, protected storage location during demolition and then cleaned and reinstalled in their original locations.

1.05 MATERIALS OWNERSHIP:

- A. Except for items or materials indicated to be reused, salvaged, or otherwise indicated to remain the County's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.

1.06 ENVIRONMENTAL CONDITIONS:

- A. Hazardous Materials: Prior to starting work, obtain from the County certification that hazardous materials have been removed. In the event additional material which is suspected to be friable asbestos or other regulated hazardous material is encountered during the demolition work, the Contractor shall stop work in such areas and notify the County. The material will be inspected and tested, if necessary, by the County. If the material is found to be friable asbestos or other hazardous material, the County will provide for its removal or encapsulation without delay at County's expense. After treatment the County will test and certify that the contamination has been removed or controlled to within legal requirements and Contractor will be notified to proceed with the work in writing.
- B. Noise Control: Perform all work in a manner and at times which will keep production of objectionable noise to a minimum amount of noise. Instruct all workers in noise control procedures. Noise that adversely affects adjacent properties will not be tolerated. Such conditions shall be the County's determination.
- C. Dust Control: Take appropriate action to check the spread of dust, and to avoid the creation of a nuisance in the surrounding area. Do not use water if it results in hazardous or objectionable conditions, such as flooding or pollution. Comply with all dust regulations imposed by local air pollution agencies. Remove dust and dirt from work area at least daily or more frequently as needed or directed.

1.07 PROJECT SITE CONDITIONS:

- A. Extent: Perform removals to extent required plus such additional removals as are necessary for completion even though not indicated or specified. More or less of the

existing construction may be removed if such variation will expedite the work and reduce cost to the County, subject to prior approval in each case.

- B. At completion of removal and demolition work, the Contractor shall compare existing conditions with drawings and with new construction to be attached to, aligned with or otherwise influenced by said existing conditions. In all cases where modifications may be required because of differences between existing conditions and assumed conditions shown or not shown on the drawings, the Contractor shall provide detailed information, dimensions, limitations and other documentation to enable the Architect to design the necessary modifications.

1.08 PROTECTION:

- A. Existing Work: Protect existing work which is to remain in place, that is to be reused, or which is to remain the property of the County by temporary covers, shoring, bracing, and supports. Items which are to remain and which are to be salvaged and which are damaged during performance of the work shall be repaired to original condition or replaced with new. Do not overload structural elements. Provide new support or reinforcement for existing construction weakened by demolition or removal work.
- B. Weather Protection: Protect building interior and all materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work have materials and workmen ready to provide adequate and approved temporary covering of exposed areas. Temporary coverings shall be attended, as necessary, to insure effectiveness and to prevent displacement.
- C. Fire Protection: Maintain fully charged fire extinguishers and water hoses readily available during all demolition operations. Test electrical conductors for disconnection prior to removing.
- D. Overloading: Do not overload any part of the structures beyond the safe carrying capacity by placing materials, equipment, tools, machinery, or any other item thereon.

PART 2 - PRODUCTS Not applicable to this Section.

PART 3 - EXECUTION

3.01 EXAMINATION:

Verify that utilities have been disconnected and capped.

3.02 PREPARATION:

Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from County and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

3.03 UTILITIES:

Barry J. Nidorf Secure Youth Track Facility Security and Kitchen Upgrades

County of Los Angeles Probation
16350 Filbert Street, Sylmar, CA 91342

024000 Demolition-3

- A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.
- B. Prior to demolition or in the event unrecorded utilities are encountered, notify County or serving utility companies, as applicable, for work necessary and scheduled to be performed. Coordinate responsibility for limits of utility removals and be responsible for the removal of all utility installations both above and below grade except for those installations the utility companies agree to remove. Use care to protect utility lines to remain in service, repair all damage which does occur, and remove those not to remain in service.
- C. Interruption of Service: In the event existing utility service requires interruption to accomplish the demolition work, obtain written approval by the County for interruption of service. Request approval not less than 7 days prior to proposed scheduled interruption. State the exact services involved and the expected duration. Except in an emergency affecting life and limb, do not cause any interruption of utility service without written authorization from the County.
- D. Provide for protection of utility lines to remain in service. Repair damage done to these facilities as a result of the work of this Section, to the satisfaction of the County. Locations of existing utilities to remain shall be identified on record drawings, and their physical location shall be indicated by tags or stakes as applicable.
- E. Utility observation: Obtain and pay for continuous observation by designated personnel knowledgeable about the location and operation of on-site utility systems, whenever work is being done in proximity to existing utilities. Personnel will be designated by or approved by the County prior to start of work. Duties of observer will be defined or approved by the County. Work requiring observation shall not be done unless an observer is present.
- F. Remove all abandoned piping, conduit, wires, cables, and accessories for same above ceiling spaces, and where accessible in walls.

3.04 WORKMANSHIP:

- A. Lowering material: Use hoists and chutes as required to lower removed material. Throwing, dropping, or permitting the free fall of material and debris from heights which would cause undue noise or nuisance, or excessive dust, is prohibited.
- B. Protection of work to remain: Establish cut-off points between work to be removed and work to remain.
- C. Partial demolition and removal: When portions of pavement, slabs, sidewalks, curbs, curb and gutters and cross-gutters are to be removed, cut with a concrete saw to a minimum of 2" depth along all joint lines before breaking off the portion to be removed.

3.05 REMOVALS TO FACILITATE NEW SECURITY AND ELECTRICAL WORK:

- A. Removals: Carefully remove work to be salvaged or reinstalled and store under cover.

- B. Concrete: Where concrete work is to be removed, and where saw cutting or breaking out is required for passage of new conduits, core drill or saw concrete as applicable. Square, straight edges shall be provided where existing concrete adjoins new work and other locations. Existing steel reinforcement shall be protected where indicated; otherwise, it shall be cut off flush with face of concrete.
1. Core drilling: For small holes in concrete, use core drilling. Use sharp tools to minimize spalling, control water on both sides of the concrete floor or wall. Use minimum of water to avoid damage to adjacent construction.
 2. Saw cutting:
 - a. To avoid overcutting with the saw, drill 3 inch diameter holes at each corner of the cut. Chip out the resulting corner of the cut to the radius of the drilled hole. Sawcut to the holes, stop the saw 3 inches from the corner.
 - b. Cut concrete along straight lines to a depth of not less than 2 inches. Make each cut in walls perpendicular to the face and in alignment with the cut in the opposite face. The remainder of the concrete may be broken out, provided that the broken area is concealed in the finished work, and the remaining concrete is sound.

At locations where the broken face cannot be concealed, it shall be ground smooth or the saw cut shall be made entirely through the concrete. Cut off reinforcing bars, except where bonded into new concrete or masonry, and paint ends with bituminous paint before enclosing.
- C. Masonry: Cut masonry units carefully so as to prevent damage to surfaces to remain and to facilitate the installation of new work. Masonry units to be reinstalled shall be removed, cleaned, and stacked off the ground on wood pallets. Masonry units not reused and damaged units unsuitable for reuse shall be considered as debris and shall be disposed.
- D. Roofing: Remove roofing to effect connections with new flashing or roofing. Cut existing felts and insulation, if any, along straight lines. Remove surfacing from existing roofing felts for a distance of not less than 18 inches back from the cut. Remove roofing and insulation without damaging the roof deck.
- E. Sheet Metal: For areas of roofing requiring patching, remove sheet metal back to joint, lap, or connection. Secure loose or unfastened ends or edges and make watertight.
- F. Glass: Remove broken or damaged glass and clean rebates and stops of setting materials.
- G. Plaster: Cut back to sound plaster on straight lines, and back-bevel edges of remaining plaster. Trim existing lath and prepare for new lath.
- H. Gypsum Wallboard: Cut back on straight lines to undamaged surfaces, with at least two opposite cut edges centered on supports.

- I. Acoustic Tile: Coordinate with installation of electrical and security work. Cut acoustic tiles to be removed are cut on neat straight lines or remove entire tiles and replace with full tiles matching existing as closely as possible, as approved.
- J. Miscellaneous Items: Remove items not mentioned but required to be removed in such manner as minimizes damage to work to remain.

3.06 DEMOLITION OF ELECTRICAL EQUIPMENT AND FIXTURES:

Wiring systems and components shall be removed where indicated or where required to facilitate installation of new electrical work.

3.07 SALVAGE AND DISPOSAL:

- A. General: Existing items County intends to retain are indicated on drawings or will be designated by the County prior to start of work. Contractor shall carefully remove, salvage, box or bundle as approved, and deliver such items to storage as directed.
- B. Disposal: All removed material other than items to be salvaged or reused shall become Contractor's property and be removed from County's property. Clean up and dispose of debris promptly and continuously as the work progresses, and do not allow to accumulate. Sprinkle water on the surface to prevent dust nuisance. Secure and pay for required hauling permits and pay dumping fees and charges.

END OF SECTION

SECTION 03 20 00

CONCRETE REINFORCEMENT

PART 1 – GENERAL Division 0 and 1 shall apply to this section.

1.01 SUMMARY: Provide reinforcing steel bars and mesh, complete.

A. Section Includes:

1. Reinforcing bars and mesh for cast-in-place concrete.

B. Related Work:

1. Cast in place concrete

1.02 REFERENCES: The Work shall conform to the reference standards and specifications of the issues listed below, to requirements indicated and specified, to required fire ratings, and to the pertaining regulatory requirements of authorities having jurisdiction. The specifications, codes, publications, and standards listed, but referred to hereafter by the basic designation only, form a part of this Section to the extent referenced herein:

A. American Concrete Institute (ACI):

- 117- Standard Tolerances for Concrete Construction and Materials.
- 315- Details and Detailing of Concrete Reinforcement.
- 318- Building Code Requirements for Reinforced Concrete.

B. American Society for Testing and Materials (ASTM):

- A82 Specifications for Cold-Drawn Steel Wire for Concrete Reinforcement.
- A185 Specifications for Welded Steel Wire Fabric for Concrete Reinforcement.
- A615 Specifications for Deformed Billet-Steel Bars for Concrete Reinforcement.
- A706 Specification for Low-Alloy Steel Deformed Bars for Concrete Reinforcement.

C. American Welding Society (AWS):

- A2.4 Standard Symbols for Welding, Brazing, and Nondestructive Examination.
- A5.1 Carbon Steel Electrodes for Shielded Metal Arc Welding.
- D1.4 Structural Welding Code - Reinforcing Steel.

D. Concrete Reinforcing Steel Institute (CRSI):

- MSP-2.....Manual of Standard Practice for Reinforced Concrete Construction Recommended Practice for Placing Reinforcing Bars.
- Reinforcing Bar Splices.

- E. Western Concrete Reinforcing Steel Institute (WCRSI):

Manual of Standard Practice for Reinforced Concrete Construction

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

- A. Certificates: Submit copies of current AWS welding certificates for each welder operator performing Work of this Section. If requested by the Architect or Inspector, submit experience record for each welder operator.

1.04 DELIVERY, STORAGE, AND HANDLING:

- A. Storage and Care of Electrodes: Comply with combined recommendations of AWS and the electrode manufacturer. Use of electrodes that have been wetted is prohibited.
- B. Marking and Shipping Reinforcement: Bundle and tag reinforcing bars with suitable identification to facilitate sorting and placing, and transport to and store at the site off the ground to avoid damage to material. Deliver reinforcing materials in timely manner to ensure uninterrupted progress. Store reinforcing materials in a manner with no damage. Provide ready access for inspection and identification. Keep a sufficient supply of tested and approved bars at site to avoid delays.

PART 2 - PRODUCTS

2.01 MATERIALS: Furnish materials meeting test requirements of Article "Source Quality Control" below, as applicable, and following requirements:

Reinforcing bars:	ASTM A615, Grade 60, or as noted. For welding, conform to specified carbon equivalent or use bars conforming to ASTM A706.
Reinforcing mesh:	ASTM A185, mesh size and gage as shown, 60 ksi minimum tensile strength.
Tie wire:	Annealed copper-bearing steel, 16 gage minimum.
Welding electrodes:	AWS A5.1, low hydrogen electrodes, E9018 for Grade 60 steel, E70XX for other bars, all electrodes with minimum 60,000 psi yield strength.
Chairs and supports:	Standard manufactured products conforming to the CRSI Manual of Standard Practice, MSP-2. Use dense precast concrete bar supports with embedded wire ties for reinforcement placed on grade; elsewhere, support the bar reinforcement by wire bar supports of the following classes: Class B or C for concrete exposed in the Work; Class A at other concrete.

2.02 FABRICATION OF REINFORCING BARS:

- A. General: Except as modified by Drawings or specified, conform to the CRSI and WCRSI "Manual of Standard Practice for Reinforced Concrete Construction" for fabrication of reinforcing steel.

- B. Bending and Forming: Fabricate bars of the indicated sizes and bend and form to required shapes and lengths by methods not injurious to materials. Do not heat reinforcement for bending. Bend bars No. 6 size and larger in the shop only. Bars with unscheduled kinks or bends are subject to rejection. Use only tested and approved bar materials.
- C. Welding: Perform welding, where shown or approved, by the direct electric arc process in accordance with AWS D1.4 using specified low-hydrogen electrodes. Preheat 6" each side of joint. Protect joints from drafts during the cooling process; accelerated cooling is prohibited. Do not tack weld bars. Clean metal surfaces to be welded of all loose scale and foreign material. Clean welds each time electrode is changed and chip burned edges before placing welds. When wire brushed, the completed welds must exhibit uniform section, smooth welded metal, feather edges without undercuts or overlays, freedom from porosity and clinkers, and good fusion and penetration into the base metal. Cut out welds or parts of welds found defective and replace with proper welding. Employ only experienced and certified welding operators. Prequalification of welds shall be in accordance with Code. Conform welding details to AWS D1.4, Figures 3.1, 3.5, 3.8.3, and 3.8.4 unless otherwise indicated. All reinforcing bars to be welded shall have a tested and certified maximum 0.75 carbon equivalent or conform to ASTM A706.
- D. Tolerances: reinforcing fabrication shall conform to requirements of CRSI "Placing Reinforcing Bars" and CRSI and WCRSI "Manual of Standard Practice for Reinforced Concrete Construction".

2.03 SOURCE QUALITY CONTROL: Refer to Section 01450 for general requirements and to following paragraphs for specific procedures. The Testing Laboratory shall perform the following conformance testing and select test samples of bars, ties, and stirrups from material at the site or from place of distribution, each sampling including at least two 18" long pieces, and perform the following tests according to ASTM A615 or ASTM A706, as applicable.

- A. Identified Bars: Contractor shall obtain mill reports for all types and sizes of reinforcing steel; the reports shall contain steel source, description, heat number, yield point, ultimate tensile strength, elongation percentage, bend test, and chemical analysis. For steel made in USA, no testing will be required if the reports show that material is satisfactory. No foreign steel is acceptable. Certification from any other sources will not be acceptable. The Contractor shall ensure that material delivered for use is that represented by mill reports and obtain copies of the mill reports, examine them, certify whether material represented complies with requirements specified, and make distribution of reports as required. Report chemical composition of each heat, as determined by ladle analysis.
- B. Unidentified Bars: When positive identification of any reinforcing bars cannot be made and when random samples are obtained, perform the tests for each 5 tons or fraction thereof, one tensile and one bend test from each size of the unidentified bars. The full section of the bars as rolled shall be used for the tests; machined or reduced sections as specified in Section 9, "Test Specimens", of ASTM A615 are not acceptable. Include at least two samples, of sufficient length to allow tests to be made on the as-rolled bar.

PART 3 - EXECUTION

- 3.01 INSTALLATION OF REINFORCING: Provide additional reinforcing bars at wall and slab openings as required. Before placing bars, and again before placing concrete, clean bars of loose mill scale, oil, or any other coating that might destroy or reduce the bond. Conform to ACI 318, CRSI and WCRSI "Manual of Standard Practice for Reinforced Concrete Construction", CRSI "Recommended Practices for Placing Bar Supports", and the following.
- A. Spacing of Reinforcement: Space reinforcement to maintain proper distance and clearance between parallel bars and between bars and forms. Provide metal spreaders and spacers to hold horizontal steel in position in beams and girders, and elsewhere as necessary. Support steel at proper height on precast concrete members, galvanized "S" chairs, or "Support Bars" and galvanized "S" chairs, or with hangers, or in other manner, as necessary. Where "Support Bars" are used to hold the slab reinforcement in place, space chairs under the support bars not to exceed the distances specified below. Support slab reinforcement as follows:
 - 1. #3 bars at 2'-0" o.c. maximum.
 - 2. #4 bars at 3'-0" o.c. maximum.
 - 3. #5 bars at 4'-0" o.c. maximum.
 - B. Splices: Do not splice reinforcing bars except where indicated. Make bar laps in contact unless indicated otherwise at lapped splices (except for slab reinforcement) and firmly wire together before placing concrete. Lap the bars as indicated or, if not indicated, lap as noted on the typical details. Stagger the splices in horizontal wall reinforcement at least 10-feet longitudinally in alternate bars of opposite tiers. Extend stubs and dowels required to receive and engage subsequent Work a sufficient length to develop the strength of the bar. Place dowel and stub bars in forms and secure against displacement during placing of concrete.
 - C. Securing in Place: Accurately place bars and wire tie in precise position where the bars cross. Bend ends of wire ties away from forms. Wire tie bars to corners of ties and stirrups. Use approved accessories and chairs. Use precast concrete cubes with embedded wire ties to support the reinforcing bars in concrete placed on grade and in footings. Tie stirrups to bars at both top and bottom.
 - D. Exposed Concrete Surfaces: Provide stainless steel or exterior quality vinyl plastic tipped chairs, bolsters, and accessories where exposed on exterior or interior concrete surfaces not to be painted or permanently covered.
 - E. Clearances: Maintain minimum clear distances between reinforcing bars and between bars and face of concrete as indicated or directed.
 - F. Field Welding of Bars: As specified for fabrication in Part 2.
 - G. Maintaining Bars In Position: Assign a competent ironworker mechanic at every concrete placing location to inspect reinforcement and maintain all bars in the correct positions.

- H. Fabric Reinforcement: Roll out, straighten, cut to required size, and lay reasonably flat in place. Lap fabric 6" or one full mesh plus 2", whichever is more, at joints and securely wire tie together and to other reinforcement at nominal 12" centers. Extend fabric to within 1" of expansion and contraction joints. Lift the fabric as concrete is placed to ensure proper embedment in concrete at the position or level indicated.
 - I. Floor System Reinforcement: Do not place until concrete in walls and columns is placed, concrete shrinkage has occurred, and forms and projecting steel have been thoroughly cleaned.
 - J. Tolerances: Comply with ACI 117 except for references to pre-stressing steel and ducts.
- 3.02 MISCELLANEOUS CONCRETE WORK: Provide reinforcing bars and mesh for concrete pits, equipment bases, areaways, cast-in-place concrete valve boxes, splash blocks, and other miscellaneous concrete as shown and required to complete all Work. Conform to applicable requirements herein.
- 3.03 FIELD QUALITY CONTROL: Refer to Section 01400.
- A. Inspection: Obtain inspection and approval of reinforcing by Inspector before concrete is placed.
 - B. Welding Inspection. Whether welding is performed in the shop or at the site, perform welding of reinforcing bars under inspection of the Testing Laboratory Welding Inspector.

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 – GENERAL Division 0 and 1 shall apply to this section.

1.01 SUMMARY: Provide the cast-in-place concrete as indicated and specified, complete.

A. Work Included:

1. Furnishing, placing, patching, and initial curing of cast-in-place concrete, unless otherwise specified.
2. Grout and dry pack, except as otherwise specified.
3. Placing of embedded anchor bolts and inserts.
4. Vapor barrier under building floor slabs on grade.

B. Related Work:

1. Preparation and grading of earth sub-grade under concrete.
2. Furnishing and placing reinforcing for cast-in-place concrete.
3. Finishing and final curing of cast-in-place concrete.

1.02 REFERENCES: The Work shall conform to the reference standards and specifications of the issues listed below, to requirements indicated and specified, to required fire ratings, and to the pertaining regulatory requirements of authorities having jurisdiction. The specifications, codes, publications, and standards listed, but referred to hereafter by the basic designation only, form a part of this Section to the extent referenced herein:

A. American Concrete Institute (ACI):

- 116R-90..... Cement and Concrete Terminology.
- 117-90(R90) Standard Tolerances for Concrete Construction and Materials.
- 201.2R-92..... Guide to Durable Concrete.
- 211.1-91 Recommended Practice for Selecting Proportions for Normal Weight Concrete.
- 212.3R-91..... Chemical Admixtures for Concrete.
- 212.4R-93..... Guide for Use of High-Range Water-Reducing Admixtures (Super plasticizers) in Concrete.
- 214-77(89)..... Recommended Practice for Evaluation of Strength Test Results of Field Concrete.
- 301-96 Specifications for Structural Concrete for Buildings.
- 302.1R-89..... Guide for Concrete Floor and Slab Construction.
- 303R-91..... Guide to Cast-in-Place Architectural Concrete Practice.
- 304R-89..... Guide for Measuring, Mixing, Transporting and Placing Concrete.
- 304.2R-91..... Placing Concrete by Pumping Methods.
- 305R-91..... Hot Weather Concreting.
- 306.1-90 Cold Weather Concreting.
- 308-92 Standard Practice for Curing Concrete.

American Concrete Institute (ACI) - Continued:

- 309-87 Guide for Consolidation of Concrete.
- 309.1R-93..... Behavior of Fresh Concrete During Vibration.
- 309.3R-92..... Guide to Consolidation of Concrete in Congested Areas.
- 311.1R-92..... Guide for Concrete Inspection.
- 311.5R-88..... Batch Plant Inspection and Field Testing of Ready-Mixed Concrete.
- 318-95 Building Code Requirements for Structural Concrete.
- 323.2R-96..... Use of Fly Ash in Concrete.

B. American Society for Testing and Materials (ASTM):

- C31-96..... Standard Method of Making and Curing Concrete Test Specimens in the Field.
- C33-97 Specifications for Concrete Aggregates.
- C39-96..... Standard Method of Testing for Compressive Strength of Cylindrical Concrete Specimens.
- C40-97 Test Method for Organic Impurities in Fine Aggregates for Concrete.
- C42-94..... Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
- C88-90..... Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.
- C94-98..... Specifications for Ready-Mixed Concrete.
- C117-95..... Test Method for Material Finer Than 75-um (No. 200) Sieve in Mineral Aggregates by Washing.
- C125-97 Terminology Relating to Concrete and Concrete Aggregates.
- C131-96..... Test Method for Resistance to Degradation of Small-Size Coarse Aggregate and Impact in the Los Angeles Machine.
- C136-96a..... Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- C138-92..... Unit Weight, Yield and Air Content (Gravimetric) of Concrete.
- C143-97 Slump of Portland Cement Concrete.
- C150-97a..... Portland Cement.
- C157-93..... Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete.
- C172-97 Sampling Fresh Concrete.
- C192-95..... Practice for Making and Curing Concrete Test Specimens in the Laboratory.
- C227-97a..... Test Method for Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method).
- C230-97 Specification for Flow Table for Use in Tests of Hydraulic Cement.
- C231-97 Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
- C260-97 Air-Entraining Admixtures for Concrete.
- C289-94..... Test Method for Potential Alkali-Silica Reactivity of Aggregates (Chemical Method).
- C309-97 Liquid Membrane-Forming Compounds for Curing Concrete.
- C342-97 Test Method for Potential Volume Change of Cement-Aggregate Combinations.

American Society for Testing and Materials (ASTM) - Continued:

C404-97	Aggregates for Masonry Grout.
C494-98	Chemical Admixtures for Concrete.
C618-98	Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.
C881-90	Specification for Epoxy-Resin-Base Bonding System for Concrete.
C989-98b	Specification for Ground Iron Blast-Furnace Slag for Use in Concrete and Mortars.
C1017-97	Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
C1064-86(93)	Test Method for Temperature of Freshly Mixed Portland Cement Concrete.
D75-97	Practice for Sampling Aggregates.
D1751-83(97)	Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
E11-95	Wire-Cloth Sieves for Testing Purposes.
E329-98	Specifications for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

- A. Product Data: Submit copies of manufacturer's latest published literature for materials specified herein for approval; obtain approval before materials are delivered to the site. Include waterproofing joint filler manufacturer's detailed preparation and installation instructions, with manufacturer's standard detail sheets covering each condition required for the Work.
- B. Samples:
- C. Mix Design Report Submittal: Submit the Testing Laboratory concrete mix designs and test reports, with standard deviation analyses, required curves, and sieve analyses of fine and coarse aggregates at least 10 working days before the initial placement of concrete occurs. Mix designs shall be signed and sealed by a California registered civil engineer. See Drawings for additional requirements.
- D. Certifications: Submit the following:
 - 1. Submit a certificate attesting concrete material samples submitted to Testing Laboratory are representative of the materials to be furnished for concrete for the Work.
 - 2. Submit certification of conformance of admixtures and the chloride ion content of admixtures from each admixture manufacturer prior to mix designs.
- E. Non-corrosive, Non-chloride Accelerator: Submit admixture manufacturer's long term non-corrosive test data from independent testing laboratory using an acceptable accelerated corrosion test method (electrical potential measures).

- F. Concrete Uniformity: Submit evidence from the ready-mix concrete producer of the uniformity of its concrete, as determined by the coefficient of variation established for the plant by a recognized agency.
- G. Other Submittals: As specified elsewhere in this Section.

1.04 QUALITY ASSURANCE:

- A. Concrete Manufacturer: Furnish concrete from licensed commercial ready-mix concrete plants conforming to ASTM C94 and approved by Building Official. Requirements herein govern when exceeding ASTM C94.
- B. Inspection: Site and batch plant inspection during construction will be performed by Inspector as specified in Section 01450 or by Testing Laboratory. Cooperate with Inspector and the Testing Laboratory during the Work, including handling of test cylinders.

1.05 CONCRETE MIX DESIGNS: Testing Laboratory and cost of Testing Laboratory services, which shall govern except as modified herein. Contractor shall be fully responsible for design of concrete mixes and for maintaining strength and consistency of concrete used in the Work. Review of Testing Laboratory's reports and data by Architect and Structural Engineer will not relieve the Contractor from its responsibility for providing concrete in accordance with requirements indicated and specified.

- A. Reports: In each mix design report, Testing Laboratory shall show results of sieve analysis, complete mix design information including the proportions of all materials, and results of compressive strength and shrinkage tests. Make test specimens from at least 3 batches of each mix design. In the test reports, include test results showing the concrete covered by the mix designs meets the drying shrinkage test requirements specified herein or include certified test reports showing conformance as furnished by the ready-mix concrete manufacturer.
- B. Costs: The Contractor shall bear all costs for concrete mix designs and related testing, including concrete shrinkage testing, performed by the Testing Laboratory.
- C. Admixtures: Admixtures shall be included in the concrete mix designs as follows:
 - 1. Normal weight concrete shall contain a water reducing admixture.
 - 2. Concrete slabs placed at an air temperature below 50°F shall contain a non-corrosive, non-chloride accelerator.
 - 3. Air-entraining agent may be used in normal weight concrete to improve concrete workability. Total calculated air content shall conform to Table 4.6.1 of ACI 318, volume determined by direct measurement or by ASTM C138.
 - 4. Where hardener finish is required for floor slabs, the maximum air content shall be 3%.
 - 5. Retarding and/or accelerating admixture may be used for cold or hot weather concreting.

- D. **Strength Requirements:** Design mixes for structural concrete for minimum 28-day compressive strengths required by the Drawings and specified. The trial batch strength for each mix shall exceed the indicated or specified strength by 750 psi or a lesser amount based on standard deviations of strength test records according to ACI 318.
- E. **Normal Weight Concrete:**
1. **Basis:** Design all concrete mixes for workability and durability. Control the design mixes in accordance with Section 4.2 through 4.6 of ACI 318. Make adjustments in the cement content as necessary for required concrete strengths at expense of the Contractor. Do not exceed 0.50 absolute water-cement ratio by weight.
 2. **Maximum Aggregate Sizes:** Not exceeding $\frac{3}{4}$ of the minimum clear space between bars and between bars and forms, nor larger than $\frac{1}{5}$ of least dimensions between the forms. Design mixes for normal weight concrete with 1" maximum size except maximum 1-1/2" size for foundations and maximum 3/8" size aggregate at congested reinforcing or thin sections.
 3. **Admixture:** Normal weight concrete shall contain water-reducing agent and may contain an air-entraining agent producing air content of 3.5% to 6.5% by volume and adjusted for weather conditions. Do not use calcium chloride. Other admixtures containing any material releasing nitrates in solution are limited to a maximum 0.06% by weight for chloride ion.
- F. **Pumped Concrete:** For concrete to be placed by the pumping method, Testing Laboratory shall prepare the mix designs specifically for pump placement without increasing the proportion of fine aggregate or increasing drying shrinkage.
- G. **Concrete Shrinkage Tests:** As part of mix design procedures, the Testing Laboratory shall perform shrinkage tests for all structural and slab concrete. Prepare a trial batch of each applicable mix design, using the same aggregates, cement, and admixtures (if any) proposed for use in the Work. Prepare at least 3 specimens for determining the "drying shrinkage" of each mix design.
1. **Test Specimens:** Drying shrinkage specimens shall be 4" by 4" by 11" prisms, made, cured, dried, and measured as specified in ASTM C157. Measure and report separately for 7, 14, 21 and 28 days of drying, following 7 days of moist curing; use 10" effective specimen gage length.
 2. **Test Results:** Average drying shrinkage after 28 days of drying shall not exceed 0.05% for all tested concrete specimens.
- H. **High Early Strength Concrete:** Intent to use high early strength concrete (Type I or II portland cement plus non-corrosive and non-chloride accelerator or Type III cement) shall be submitted for consideration prior to submission of mix designs.
- 1.06 **DELIVERY, STORAGE AND HANDLING:** Materials shall be delivered to the site in original unopened containers, clearly indicating manufacturer's name, brand name, model or lot number, and other identifying information. Replace damaged materials and equipment at no cost to extra Owner. Protect and store concrete materials in accordance with ACI 301, Section 2.5. Store materials in a dry location, off the ground, and in such a manner to prevent damage or intrusion of foreign matter.

1.07 PROJECT/SITE CONDITIONS:

- A. Environmental Conditions: Do not place concrete during rain or adverse weather conditions without means to prevent all damage. Conform to ACI 305 for hot weather concreting and ACI 306 for cold weather concreting as required; do not use calcium chloride or any type of accelerator. When strong winds occur, set up temporary wind screens to prevent too rapid drying of freshly placed or green concrete slabs.
- B. Coordination: Examine Drawings and other Sections to ensure completeness of the Work required under this Section. Provide supplementary Work required to complete the concrete, though not specifically shown on Drawings or specified herein. Verify measurements and dimensions at the site, and cooperate in the coordination and scheduling of the Work of this Section with the Work of related trades, with particular attention given to the installation of items embedded in concrete so as not to delay job progress.

PART 2 - PRODUCTS

2.01 BASIC MATERIALS: Furnish materials meeting the requirements of Article "Source Quality Control" below, as applicable, and following requirements:

- Portland cement: ASTM C150, Type II, low alkali, for general use; Type III or Type I or II with a non-corrosive non-chloride accelerator for High Early Strength. Do not change the brand without prior approval.
- Stone aggregates: ASTM C33 and ACI 301, Sections 2.4.1, 2.4.3, and Section 3.6, Para. (a), Maximum Size Coarse Aggregate, aggregate sizes conforming to concrete mix designs, from approved pits, free of vegetable matter, opaline, feldspar. or siliceous magnesium substances.
- Fine: Hard strong durable natural sand, containing maximum 1% by weight of clay, shale, mica, coated grains, coal, or other lightweight matter. passing a 3/8" mesh sieve, uniformly graded from coarse to fine, with not less than 95% passing No. 4 sieve, and not to exceed 2% passing a No. 200 sieve. If the sieve analysis shows a deficiency of fines or gradation non-uniformity, use combination of the fine aggregates and sand in proportions to produce the required results.
- Coarse: Clean, hard, fine-grained, sound gravel or crushed stone containing a maximum of 0.5% by weight of clay, shale, mica, coal, or other lightweight material, and a maximum of 5% by weight of flat, thin, elongated, friable, or laminated pieces. If one dimension exceeds 2-1/2 times its average thickness, the pieces are considered flat or elongated. Furnish coarse aggregates in two gradations, measured separately and introduced into the mix.
- Fiber reinforcement: Collated and fibrillated polypropylene fibers for the secondary reinforcement of concrete, "Fiber Mesh" by Fibermesh Inc., "Forta CR" by Forta Corp.

Pozzolan:	ASTM C618, Class N natural pozzolan, Class F Fly Ash, 100 pounds maximum per cubic yard; use pozzolan only in concrete for foundation walls and columns.
Air entraining admix:	ASTM C260, one of the following: -- Air Mix by The Euclid Chemical Co. -- NIBVR by Master Builders, Inc. -- Darex AEA by W.R. Grace & Co. -- Sika AER by Sika Chemical Corp.
Admixtures:	ASTM C494, containing not over 0.05% chloride ions.
Water reducing:	-- Eucon WR-75 by Euclid Chemical Co.
	-- Pozzolith 200N by Master Builders, Inc.
	-- PlastoCrete 160 by Sika Chemical Corp.
	-- WRDA Hycol by W.R. Grace & Co.
Water reducing and Retarding	-- Eucon Retarder 75 by Euclid Chemical Co.
	-- Pozzolith 100XR by Master Builders, Inc.
	-- Plastiment by Sika Chemical Corp.
	-- Darataro by W.R. Grace & Co.
High range water reducing--	Eucon 37 by Euclid Chemical Co.
(Superplasticizer)--	WDRA 19 or Daracem by W.R. Grace & Co.
	-- Sikament by Sika Chemical Corp.
	-- Rheo Build by Master Builders, Inc.
Accelerator:--	Accelguard 80 by The Euclid Chemical Co.
	-- Pozzolith High Early by Master Builders, Inc.
	-- Daraset by W.R. Grace & Co.
Prohibited:	Admixtures containing calcium chloride, thiocyanates, or admixtures containing more than 0.05% chloride ions.
Reinforced paper:	Two-ply with asphaltic adhesive, one of following: -- Sisalkraft SK10 by St. Regis Laminated and Coated Products Div., St. Regis Paper Company. -- Grade A by Glas Kraft, Inc. -- Tuff-Champ by Ludlow Corp.
Water:	From potable domestic source.
Joint filler:	ASTM D1751, and D1752 Type I, as specified.
Joint sealant;	As specified in Section 07920, including all accessory materials.
Curing compound:	ASTM C309, fugitive dye self-dissipating type.
Curing sheet:	ASTM C171, non-staining white types.
Evaporation retardant and finishing aid:	Master Builders "Confilm".
Non-shrink grout:	Conforming to U.S. Army CE CRD-C 621, non-gas-forming type grout free of oxidizing catalysts and inorganic accelerators, non-staining non-rusting type in exposed areas. For drypack and grout, use one of the following, subject to above usage requirements: -- Masterflow 713 or Embeco 153 by Master Builders. -- Five Star Grout by U.S. Grout Corp. -- Fondag Nonshrink Grout by Specrete Products, Ltd. -- Firmix or Euco NS by the Euclid Chemical Co. -- Ferrolith GDS or SonogROUT by Sonneborn.

- Vibrofoil or Horngrout by A.C. Horn.
- Vapor barrier:.....ASTM D2103 or NBS Voluntary Product Standard PS 17-69, polyethylene sheeting, 8 mil thickness, with minimum 2" wide waterproof plastic self-adhering tape, one of the following:
 - Polyfilm by Dow Chemical Co.
 - Zendel Natural by Union Carbide Corp.
 - Visqueen by Ethyl Corp.
- Waterproofing joint filler: Cetco "Waterstop-RX", complete with manufacturer's adhesive and accessory materials.
- Bonding compound: Polyvinyl acetate rewettable type, one of the following:
 - Euco-Weld by the Euclid Chemical Co.
 - Weldcrete" by The Larsen Company.
- Epoxy adhesive: Two-component, 100% solids, 100% reactive compound, for use on dry or damp surfaces, one of the following:
 - Euco Epoxy #463 or #615 by the Euclid Chemical Co.
 --- Thiopoxy by W.R. Grace & Co.
 --- Sikadur Hi-Mod by Sika Chemical Corp.
- Epoxy bonding agent: For topping slabs and applied cement finish, ASTM C881 and ACI 503; 2-component, 100% solids, 100% reactive, moisture insensitive, for use on dry or damp surfaces, viscosity grades and pot life best suited for intended use, one of the following:
 - Euco 462 Epoxy System or "Eucopoxy LPL by Euclid Chemical.
 - Sikadur 35 Hi-Mod, Sikadur 32 Hi-Mod LPL, by Sika Chemical.
- Patching mortar: One of the following:
 - Euco Thin Coat by the Euclid Chemical Co.
 - Sikatop 121 by Sika Chemical Corp.

2.02 CONCRETE MIXING: Furnish ready-mixed concrete from approved commercial off-site ready-mix concrete plant equipped with automatic batching and recording devices for all ingredients. Use transit mixer trucks equipped with automatic devices for recording number of revolutions of the drum. Conform mixing and delivery to this Section and the applicable Building Code requirements. If referenced specifications, this Section, or Building Code conflict, comply with the most restrictive requirement. Measure and mix concrete in accordance with ACI 304, except as modified herein. For ready-mix concrete, Sections 1 through 10 of ASTM C94 apply. Ready-mix concrete shall conform to materials, testing, and mix design requirements specified herein.

- A. Proportioning: For each batch, weigh the fine and coarse aggregate separately, measure the cement and water separately, and introduce separately into the mix so the proportions are accurately controlled and easily checked.
- B. Changing Proportions: Do not change concrete proportions established by mix designs without written approval.
 - 1. Cement: If any concrete mix develops less than the required minimum 28-day compressive strength, adjust mix proportions and increase amount of cement as necessary, at no extra cost to the Owner.

2. Water: Do not exceed predetermined amount of mix water because of slowness of discharge from the mixer or for any other reason, but reduce water to minimum necessary to produce concrete that will work readily into corners and angles of forms and around reinforcements, without segregation of materials and without free water collecting on the surface.
 3. Aggregates: Reasonable variations in grading will be allowed by the Structural Engineer because of the characteristics of available materials and the need for workability and strength.
- C. Limitation of Mix Water: Do not deliver ready-mixed concrete to the site with total amount of mixing water included. Withhold 1-1/2 gallons of water per cubic yard at the plant, then add to mix before concrete is discharged from the mixer truck under supervision of Inspector. Each mixer truck shall arrive at the site with full water tank; if the tank is not full and concrete tests to a slump greater than specified, entire load is subject to rejection.
- D. Slump: Adjust quantity of water so concrete at time of placing does not exceed the following slumps when tested according to ASTM C143. Slumps may be increased when concrete contains superplasticizing admixture, subject to prior approval of the Structural Engineer. Use minimum water needed for workability required by part of structure being cast.
- E. Batch Tickets: Furnish a bonded weighmaster's certified batch ticket with each transit mixer truck of concrete delivered to the site stating quantities of each material placed in the mixer as listed below, time water is added to mix, and certifying these quantities conform to the applicable mix design. Deliver batch tickets to Inspector at the site at time concrete is delivered. The batch delivery tickets shall show:
1. Source of concrete (name of batch plant).
 2. Cubic yards of concrete delivered.
 3. Pounds of cement per cubic yard of concrete.
 4. Weights of cement, sand, and stone/gravel per truckload.
 5. Gallons of water added or to be added.
 6. Admixtures and amount of same.
 7. Time and date of delivery, and time of first mixing, truck numbers and Inspector's name.
- F. Charging: Remove water remaining in the ready-mix truck drum completely before ingredients for the following loads are introduced into drum.
- G. Re-tempered Concrete: Do not use concrete not been placed 30 minutes after leaving the mixer, or concrete not placed within 60 minutes after water is added to the mix. Re-tempering of concrete will not be allowed.
- 2.03 SOURCE QUALITY CONTROL: Refer to Section 01450 for general requirements and to following paragraphs for specific procedures. Testing Laboratory shall perform following conformance testing. Concrete materials which, by previous tests or actual service, have shown conformance may be used without testing when so approved by Architect, Structural Engineer, and Building Official. Testing Laboratory shall perform following conformance testing.

- A. Portland Cement: The cement mill laboratory will be acceptable as the testing laboratory for this purpose when approved by public authorities having jurisdiction. Submit evidence to show that cement mill laboratory is qualified to perform tests. Laboratory shall make tests for every 500 barrels or fraction thereof of cement used in accordance with ASTM C150. Perform tensile strength test at 7 days. Tag the cement for identification at the location of sampling. A representative of the testing laboratory shall certify that materials being used are taken from the lots sampled and tested for this report. If the cement mill laboratory is not approved, Testing Laboratory specified in Section 01450 will test each 250 barrels of cement and perform identification tagging.
- B. Aggregate For Normal Weight Concrete: Test the aggregate before and after concrete mix is designed, whenever the character of aggregate varies or source of material is changed, but not less than one test per each 500 cubic yards of concrete. Include a sieve analysis. Obtain samples of aggregates at source of supply or at ready-mix concrete plant in accordance with ASTM D75 and perform tests for the following properties:

Definitions: ASTM C125.
 Sieve analysis: ASTM C136; sieves conforming to ASTM E11.
 Organic impurities: ASTM C40, fine aggregate color not darker than reference standard color.
 Soundness: ASTM C88, loss after 5 cycles not exceeding 8% of coarse aggregate or 10% of fine aggregate.
 Abrasion: ASTM C131, weight loss not more than 10-1/2% after 100 and 42% after 500 revolutions.
 Deleterious materials: ASTM C33.
 Materials finer than
 No. 200 sieve: ASTM C117, not over 1% for gravel and 1.5% for crushed aggregate, per ASTM C33.
 Reactivity potential: ASTM C227, C289, and C342, silica released to reduction in alkalinity ratio not over 1.0; include full report for evaluation by the Architect.
 Sand equivalent: ASTM D2419, Calif. Sand Equivalent values not below 80%.

PART 3 - EXECUTION

- 3.01 EXAMINATION: Report to Owner in writing all conditions that interfere with or prevent correct installation of Work of this Section. Do not proceed with installation of concrete in the affected areas until the adverse conditions are eliminated or corrected. Examine conditions at the job site where Work of this Section is to be performed to ensure proper arrangement and fit of the Work. Start of Work of this Section implies acceptance of job site conditions.
- 3.02 PREPARATION FOR CONCRETE PLACING: Remove all free water from forms before concrete is deposited. Remove hardened concrete, debris, and foreign materials from forms and from surfaces of mixing and conveying equipment.
 - A. Wetting: Wet wood forms sufficiently to tighten up any cracks. Wet other materials sufficiently to reduce suction and maintain concrete workability.

- B. Earth Subgrade: Lightly dampen 24 hours before placing concrete but do not muddy. Re-roll where necessary for smoothness and remove loose material.
 - C. Vapor Barrier: Spread a 2" even layer of sand under interior floor slabs on grade and install vapor barrier. Lap joints 6" in the direction of concrete spreading and tape seal. Seal the joints at walls and around penetrations with tape. Cover barrier with a second 2" layer of clean sand.
 - D. Screeds: Set screeds at walls and maximum 8-foot centers between. Set to provide level floor. Check with an instrument level, transit, or laser during placing operation to maintain level floor.
 - E. Screeds Over Vapor Barrier: Use weighted pad or cradle type screeds and do not drive stakes through the vapor barrier. Check with an instrument level, transit, or laser.
 - F. Anchors: Set embedded bolts for the materials and equipment attached to concrete to template, layouts, and the Shop Drawings of related trades. Verify size, length, and location of electric conduit at equipment supports.
 - G. Waterproofing Joint Filler: Install the filler in vertical and horizontal construction joints of waterproofed walls and slabs. Coordinate location of grooves and rebates to receive joint filler with form construction. Conform installation of joint filler to manufacturer's instructions including preparation of surfaces, application of primer and/or adhesive, and placement of joint filler material.
- 3.03 CONCRETE PLACING: Conform to applicable provisions of ACI 214. Protect the waterproofed surfaces from damage. Do not place concrete when the ambient temperature is above 85°F or below 40°F at time of concrete placing, or if it is likely to go above 85°F or below 40°F before the concrete has taken initial set unless special precautions are taken.
- A. Joints In Concrete: Locate joints only where approved, and obtain prior approval for points of stoppage of any pour. Clean and roughen the surface of construction joints by removing the entire surface and exposing 1/4" amplitude of clean aggregate solidly embedded in mortar matrix by sandblasting, chipping, use of an approved surface retarder, or equivalent method. Water and keep the hardened concrete wet for not less than 24 hours and slush with portland cement slurry just before placing the joining concrete. Cover horizontal surfaces of existing or previously placed and hardened concrete with 2" thick layer of fresh concrete less 50% of coarse aggregate just before balance of concrete is placed.
 - B. Construction Joints: Except where indicated, locate construction joints to least impair strength and appearance of structure. Obtain approval of layout showing proposed location of construction joints before proceeding. Conform to approved submittal. Place concrete continuously for each piece of the Work. If interruptions are necessary, leave the concrete in an uneven rough condition or provide a construction joint. Before starting new Work, where no construction joint is provided, roughen the concrete with chipping pick, then wash thoroughly and apply a bonding compound. Place new concrete after the bonding compound has dried.

1. Joints in Walls: Not applicable.
 2. Joints in Slabs: Follow existing slab control joints pattern when patching existing concrete floor slab on grade. Allow a proper time lapse in placing of floor sections adjoining prior placings, as approved.
- C. Conveying and Placing: Do not place concrete until the backfill compaction, vapor barrier and reinforcing steel, have been approved by Inspector and other authorities having jurisdiction. Do not use aluminum tubing or any aluminum equipment for pumping, chuting, or placing concrete. Do not allow concrete to free fall from point of release at mixer, hoppers, tremies, or conveying equipment more than 6 feet for concealed concrete and 3 feet for exposed concrete. Provide tremies or plastic elephant trunks with hopper heads spaced at no more than 10 foot centers for the entire length of wall being placed in any one day. Deposit concrete so that the surface is kept level throughout, a minimum being permitted to flow from one portion to another. Place concrete in horizontal layers not more than 18" thick within 60 minutes after water is first added to the batch. Place concrete by methods that prevent segregation of materials. Do not use the reinforcing or forms to support conveying and placing equipment.
- E. Pumping Concrete: Intent to place concrete by pumping shall be indicated in writing and the proposed design mix, as well as method of pumping, shall be submitted for approval before any pumping will be permitted. The pump must be suitable for pumping concrete at a maximum slump of 8" with the high range water reducing admixture (super plasticizer). The design mix, as previously specified, shall have a slump (at the nozzle) not in excess of that specified for normally placed concrete. Grout used to lubricate piping prior to pumping shall not be placed in the Work without prior approval. Water used to clean out pipes shall not be allowed to run into the forms or contact freshly placed concrete. Pumped concrete may contain one of the specified high range water reducing admixtures (super plasticizer). The mix design shall not be modified without approval.
1. Pumping shall be done only with equipment that is in good condition and by methods which are considered good practice. Excessive stoppage due to breakdown of equipment or plugged lines, or need to frequently adjust mix water, will be considered just causes for the Architect or Inspector to direct that the pumping be stopped and other methods of placement be used.
 2. The use of aluminum pipes and equipment for conveying pumped concrete is prohibited.
 3. Pumping shall conform to ACI 304 (Chapter 9).
 4. Use pump equipment having a demonstrated capacity to deliver at least 22 cubic yards of concrete per hour to the forms of the mix designs required and at the required slumps.
 5. Support equipment and hoses and do not allow to bear on the forms, reinforcing, or subgrade.
 6. Frequently check slump at both pump and point of discharge; conform to a maximum 1" slump difference with discharge slump governing.
 7. Maintain standby pumping equipment at the site or available within a 30 minute delivery time in event of primary pumping equipment failure.
- F. Slabs: Strike off excess concrete with manual or powered screed to bring surface to required plane. Move screeds across the concrete in a sawing motion as the screed is advanced. Use wood bull floats or darbies following screeding to eliminate high or low

areas. Compact and tamp concrete and to bring 1/8" to 3/16" of coarse mortar to the surface; avoid tamping that brings up an excess of fines. Wood float to straightedges and screeds at the required planes. Do not use steel or plastic floats of any kind for the initial screeding and floating operations. Do not apply slab finish until surface water disappears and surface is sufficiently hardened. Remove bleed water and laitance as it appears. Check the level with an instrument level, laser, or transit during concrete placing to maintain a level slab.

G. Slab Joints:

1. On-Grade Slabs: Place with maximum 12-foot edge dimension. Generally locate joints on column lines, exact locations as shown, directed, or approved.
2. On-Grade Slab Construction and Contraction Joints: Use standard types equal to "Key-Kold" construction joint at column lines, "Kwik-Joint" contraction joint at intermediate spacings. Machine saw cut 1/8" by 1" deep intermediate joints where indicated or approved. Conform to approved submittal.
3. Expansion Joints: Conform to details and approved submittal. Provide expansion joint filler finished flush with slab surface except for those joints shown to be sealed with sealant. Use rubber type expansion joint filler where sealant sealed joints occur. Conform to Section 07920 for sealant sealed joints are shown or specified, including the polymer joint filler, backing, and bond breaker. Thickness of filler shall exceed joint width by at least 25% and shall fill joint. Where sealing compound is required, install filler up to depth required for the compound used.

3.04 SLAB FINISHING AND CURING: As specified in Section 03350.

3.05 GROUTING AND DRYPACKING: Install as indicated or required except for the items grouted by other trades.

- A. Mixing: Mix the approved non-shrink grout material with sufficient water per manufacturers recommendations, so it flows under its own weight for grout, and to just moisten and bind the material together for drypack.
- B. Placing and Curing: Install drypack by forcing and rodding to fill voids and provide complete bearing under plates. Place fluid grout from one side only and puddle, chain, or pump for complete filling of voids; do not remove the dams or forms until grout attains initial set. Finish exposed surfaces smooth and damp cure for at least 3 days.

3.06 MISCELLANEOUS CONCRETE WORK: Provide areaways, cast-in-place valve boxes, pits, splash blocks, bases, and other miscellaneous concrete as indicated and required to complete all Work. Conform to applicable requirements herein.

3.07 FIELD QUALITY CONTROL:

- A. Supervision: Perform Work of this Section under supervision of a capable concrete superintendent.
- B. Level of Floors: Continuously monitor concrete placing to maintain level floors by the use of an instrument level, transit, or laser.

- C. Field Facilities: Contractor shall provide and maintain for use by the Testing Laboratory adequate facilities for safe storage and proper field curing of concrete test cylinders on site as required by ASTM C31.
 - D. Testing of Concrete: Testing Laboratory will perform following tests:
 - 1. Compressive Strength Tests: Cast one set of three or more cylinders from each day's placing and each 150 cubic yards, or fraction thereof, of each strength of structural concrete. Date cylinders, assign record number, and tag showing the location from which sample was taken. Also record slump test result of sample. Do not make more than two series of tests from any one location or batch of concrete.
 - 2. Test Cylinders: Cast cylinders according to ASTM C31; 24 hours later, store cylinders under moist curing conditions at about 70°F. Test according to ASTM C39 at 7 and 28 day ages.
 - 3. Control Test Cylinders: Cast a set of two or more cylinders for each day's placing of concrete for slabs supported on shoring or steel decking. Set test cylinders on slabs represented by the cylinders and cure the same as slabs.
 - E. Shrinkage Tests: Testing Laboratory will take drying shrinkage specimens of each class of concrete during construction to ensure the continued compliance with the requirements of this Section, at least one set of 3 specimens from each 500 cubic yards of concrete placed and taken from the same concrete used for preparing compression test specimens. Testing shall be as specified above for the mix design process.
 - F. Quality Assurance During Placing: Testing Laboratory will perform check sieve analysis of the aggregate being used, check compliance with mix design and the cement being used against mix design; check that water has been removed from the drum before adding mix ingredients for the following load, and witness the loading of mixing trucks. Testing Laboratory will send a written report of each inspection to Architect indicating compliance with this Section.
 - G. Core Tests: If tests show the compressive strength of any concrete falls below the required minimum, additional testing of concrete which unsatisfactory tests represent may be required. Make core tests according to ASTM C42. Fill core holes with drypack concrete of strength required for concrete. Contractor shall bear cost of tests for below-strength concrete even if such tests indicate concrete has attained required minimum compressive strength, and all costs for required corrections.
- 3.08 CLEANING: Clean up and remove from the site all waste, debris, surplus materials, and disused equipment and supplies resulting from Work of this Section, and remove all equipment as soon as no longer needed for the Work. Clean up and remove all soil contaminated with concrete or by the washing out of transit mixer trucks.

END OF SECTION

SECTION 05 15 20

STRUCTURAL STEEL AND METAL FABRICATIONS

PART 1 - GENERAL

1.01 DESCRIPTION: Division 1 applies to this Section. Provide structural steel and metal fabrications, complete.

A. Work In This Section: Principal items include:

1. Repair of structural steel and metal fabrications which are cut into, removed, damaged or displaced during the work.
2. Steel supports for new ceiling mounted equipment.
3. Supports for above-ceiling anchorage of new equipment.
4. Welding pertinent to this section.
5. Shop priming and field touch-up to extent specified.
6. All other structural and miscellaneous metal fabrications indicated or required to complete the work.

B. Related Work Specified in Other Sections:

1. Reinforcing steel.
2. Field painting except as specified herein.

1.02 REFERENCES:

A. AISC Standards: Code of Standard Practice for Steel Buildings and Bridges; Specification for the Design, Fabrication and Erection of Structural Steel for Buildings; and Steel Construction Manual; as amended by local ordinance.

B. AWS Standards: AWS D1.1, Structural Welding Code.

1.03 SUBMITTALS:

- A. Shop Drawings: Submit covering structural steel and metal fabrications, including welding, accessories, and fastenings. Fully detail minor connections and fastenings not shown or specified to meet required conditions.
- B. Product Data: Submit manufacturer's product data for all manufactured items, including bolts, nuts, anchors, washers, and welding electrodes.
- C. Weld Procedures: Submit weld procedures, indicating joint details and tolerances, preheat and interpass temperature, postheat treatment, single or multiple pass, electrode type and size, welding current, polarity and amperes and root treatment.
- D. Welder's Certificates: Submit Manufacturer's Certificates, certifying welders employed on the Work, verifying AWS qualification within the previous 6 months.

- E. Test Reports: Submit reports of tests conducted on shop and field welded and bolted connections. Include data on type of tests conducted and test results.

1.04 JOB CONDITIONS:

Verify field measurements prior to fabrication of items. Use caution to protect concrete floor surfaces and adjacent work from damage.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Structural steel: ASTM A 36 for channels, angles and plates, except where other grade steel may be called for on the drawings.
- B. Hollow steel sections: ASTM A500, Grade B, or A 501, Grade B.
- C. Structural steel pipe: ASTM A53, Grade B.
- D. Unfinished threaded fasteners: ASTM A 307, Grade A, regular low carbon bolts and nuts.
- E. Primer: Lead free metal primer, Tnemec 10-99 or Rust-Oleum X-60.
- F. Welding electrodes: AWS D1.1, Series as indicated on drawings, and as required for the intended use.
- G. Epoxy for bolt setting.

2.02 FABRICATION:

Conform to approved submittals, Article "Quality Assurance" above as applicable to the work, and requirements herein. Fabricate and form the Work to meet actual installation conditions as verified at the site.

- A. Steel shall be well formed to shape and size, with sharp lines or angles, and shall be welded or bolted, and furnished complete with proper anchorage, as detailed.
- B. Welding: Conform to AWS D1.1, as modified by referenced AISC Standards, and as indicated or noted on drawings. Unless otherwise indicated or specified, weld joints by shielded electric-arc method. Grind exposed welds subject to contact to smooth surfaces free of holes, slag, or other defects, flush with adjoining surfaces. No finishing treatment is required for concealed welds and other exposed welds except as specified. Cut out defective welding and replace.
- C. Shop Priming: Clean surfaces according to AISC Specifications. Apply shop coat of metal primer to minimum 1.0 mil dry film thickness. Work primer into joints. Do not prime galvanized items, or items embedded in concrete or masonry. Shop prime all ferrous items not to be galvanized unless otherwise indicated or specified.

- D. Make threaded connections up tight so threads are entirely concealed.

PART 3 - EXECUTION

3.01 INSTALLATION:

Brace and secure posts until permanent connections are completed. Provide accessories and fasteners to secure steel in place as shown and required.

- A. Shop Prime Coat Repair: Do not apply metal primer in wet weather unless steel is protected from dampness and is dry. Clean field welds, field bolts, and all damaged shop primer after erection and apply a spot coat of the same primer used for the shop coat.
- B. Fasteners: Provide fasteners and connectors of approved types as required for the installations, whether or not indicated. Provide galvanized fasteners for galvanized items and for exterior use. Fasten metal work to solid masonry with expansion bolts and to hollow masonry with toggle bolts. Provide screws threaded full length to screw head.
- C. Set work accurately, in alignment and where shown, plumb, level, free of rack and twist, and set parallel or perpendicular as required to line and plane of surface.

END OF SECTION

SECTION 06 10 10

ROUGH CARPENTRY

PART 1 – GENERAL Division 0 and 1 shall apply to this section

1.01 DESCRIPTION: Provide rough carpentry as indicated and specified, complete.

A. Work In This Section: Principal items include:

1. Rough construction wood and plywood framing.
2. Wood blocking, grounds, backing, stripping, cants, and nailers as indicated, specified, or required for securing other Work, except for those items specified to be furnished by other trades.
3. Provide rough hardware incidental to Work of this Section and install steel non-standard framing connectors furnished under Division 5.
4. Wood preservative treatment.

B. Related Work Not In This Section:

1. Concrete forms.
2. Finish carpentry and millwork.
3. Casework and cabinet work.
4. Insulation.
5. Furnishing of steel non-standard wood framing connectors.

1.02 QUALITY ASSURANCE:

- A. Requirements of Regulatory Agencies: Conform to Code for construction, nailing, and connections except as exceeded by requirements on the Drawings or specified.
- B. Supervision: Perform rough carpentry work under the direction of capable experienced foremen.

1.03 PRODUCT DELIVERY AND STORAGE: Store lumber materials, plywood, and metal items off the ground, protected from rain and dampness.

1.04 JOB CONDITIONS: Coordinate with related trades and plan the framing and furring to accommodate structural members, finish materials, piping, conduits, ductwork, mechanical and electrical equipment, accessories, and fixtures.

PART 2 - PRODUCTS

2.01 LUMBER: Douglas fir and Larch, S4S unless otherwise shown or specified, manufactured, graded, and bearing grade mark of WCLIB Standard Grading Rules 16 or WWPA Grading Rules, moisture content at time of installation not over 19% or less than 7%.

- A. Grades: Use lumber grades as scheduled or required by Code.

1. Miscellaneous: For blocking, nailers, and other non-stressed lumber, WCLIB "Economy", equivalent WWPB grade, or as scheduled for studs.
- C. Lumber and Plywood Treatments: Cut wood and plywood to sizes required for installation prior to pressure treating.
1. Pressure Preservative Treatment: Pressure treat all wood and plywood resting on or embedded in concrete or masonry, and blocking and nailers for roof flashings, in accordance with American Wood Preservers Association Standard C2 and C9, water borne preservative, retention per AWPB Recommended Retention Standard. Each piece of treated lumber and plywood shall bear the approved quality mark by an accredited ALSC third-party inspection agency. Do not use creosote. Re-dry as necessary to maximum 19% moisture content.
 2. Fire-Retardant Pressure Treatment: Required for wood blocking, wood nailers, and plywood in metal framed walls, partitions, and ceilings, and where required by Building Code. All lumber species shall comply with UL surface-burning characteristics "FR-S" classification and bear the UL identification showing "FR-S" classification and type of retardant. Pressure treat in accordance with American Wood Preservers Association Standard C20 and C27, Interior Type A, to flame spread rating of 25 or less and fuel contribution of 30 or less when tested per ASTM E84, each piece bearing UL label of conformance. Kiln dry after treatment to maximum moisture contents of 19% for lumber and 18% for plywood.
- C. Plywood: Douglas fir plywood conforming to PS 1-83, Group I, "Exterior" type, grade marked, grades as noted on the Structural Drawings, fire-retardant treated at roof and where shown or required.
- D. Wood Grounds: Milled to size and profile shown or required by thickness of lath and plaster, all of heart redwood, pressure preservative treated Douglas fir, or equal.
- 2.02 ROUGH HARDWARE: Provide rough hardware required to complete Work shown and specified. Rough hardware includes bolts, nuts, nails, washers, lag screws, washers, plates, post and beam anchors, framing hangers, wood connectors, and similar hardware used for construction of the rough wood framing. Non-standard steel framing connectors are specified in Division 5 and installed under this Section.
- A. Nails: Provide common wire nails, sizes as indicated. Provide ring-shank nails for plywood on floors and roof.
 - B. Adhesive: Elastomeric adhesive conforming to American Plywood Association Specification AFG-01 for "APA Glued Floor System".
 - C. Bolts and Nuts: ASTM A307, galvanized for exterior or exposed use.
 - D. Washers: Cut steel or as noted on the Drawings, galvanized for exterior or exposed use and for use with galvanized bolts and nuts.

- E. Stock Framing Connectors: By "Simpson", "Newton", "Timfast", "Teco", or equal, types shown or required, galvanized, nails furnished by manufacturer of anchors used. Fully drive nails in all holes in anchors. If other than Simpson connectors are proposed for use, submit Code approval catalog data with proposed substitutions circled.

PART 3 - EXECUTION

- 3.01 GENERAL INSTALLATION REQUIREMENTS: Fabricate, size, install, connect and fasten, bore, notch, and cut wood and plywood framing with joints true, tight, and well-nailed, screwed, or bolted as required, all members with solid bearing without being shimmed. Set horizontal members subject to bending with crown up. Install framing plumb, square, true, and cut for full bearing. Splices are not permitted between bearings. Use full lengths except as detailed. The notching, drilling, splicing, or cutting of any structural member is not permitted without prior approval. Reinforce or replace wood framing members damaged by erroneous cutting as directed. Perform cutting for other trades under direction of trade involved. Wherever necessary to avoid splitting, sub-drill for nails and screws with diameter of hole smaller than that of nails or screws.
- 3.02 NAILING: Use nails or spikes of such lengths that penetration into second piece of wood is not less than one-half nail or spike length, except 16d nails may connect pieces of 2" nominal thickness. Set nails no closer together than one-half nail length, nor closer to wood edges than one-fourth the nail length. Sub-drill holes where necessary to prevent splitting. Demonstrate satisfactory installation of machine nailing at the site and obtain approval by Architect or Structural Engineer before using machine-applied nails; such approval is subject to continued satisfactory performance.
- 3.03 LAG SCREWS: Place by screwing; do not hammer drive into place. Install screws with anchorage embedment into piece lagged of not less than 60% of screw length or 8 diameters. Provide standard malleable iron or steel plate washers under heads. Bore a hole of same diameter and depth as the shank. For threaded portion of screw, bore the hole with a bit not larger than base of thread.
- 3.04 BOLTS: Clamp wood members together and bore holes true to line and 1/32" larger than the bolt diameter. Provide standard malleable iron or steel washers under heads and nuts when bearing on wood. Draw nuts up tight as installed and again just prior to being enclosed with other materials or at completion.
- 3.05 SILLS ON CONCRETE OR MASONRY: Anchor as indicated or required by Code. Tighten with washers and nuts to level bearing. Use pressure treated lumber or approved redwood.
- 3.06 WOOD STUD WALLS, PARTITIONS, AND FURRING: Stud sizes and spacings shown, single plate at bottom and doubled plate at top unless otherwise shown. Stagger joints in double members of top plate at least 4-feet. Provide diagonal bracing as indicated or required by Code.
 - A. Blocking: Provide one horizontal row of nominal 2" thick blocking of same width as stud, fitted snugly and spiked into studs at midheight of partitions or walls over 7-feet high.

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- B. Fire Stops: Provide nominal 2" thick wood firestops at all furred spaces, same width as the furred space, installed at the ceiling line and midheight of partitions other than at free-standing partitions. If width of opening requires more than one piece of lumber, provide two thicknesses of nominal 1" thick wood material across the opening, placed and nailed with offset joints in the layers. Provide vertical and horizontal firestops on maximum 8'-0" centers.
 - C. Angles and Openings: Form angles at corners, and wherever stud partitions and wood vertical furring meet, of blocked triple studs or as indicated. Form openings in wood stud partitions with doubled studs at each vertical side, and doubled headers across the top resting on short studs at each end. Set doubled headers on edge and truss above.
- 3.07 ROOF AND CEILING FRAMING: Provide rafters, joists, and purlins as shown; place with crowning edge up. Frame for vents and openings as shown or required. Conform to the following requirements unless otherwise indicated or specified.
- A. Bridging: Provide nominal 2" thick solid wood blocking, cut in between joists for the same depth as joists. Metal cross-bridging may be used for cross bridging, spacing the same as for wood bridging.
 - B. Roof Sheathing / patching: Provide plywood roof sheathing of thickness and nailing shown. Install panels with close joints and nail at each support as indicated. Provide cant strips and saddles where shown or necessary to pitch water to drain outlets.
 - 1. Plywood Joints: Provide solid wood blocking for joints not located on supports. In lieu of solid wood blocking, use "Plycleats", C-C Exterior, 3/4" by 2-5/8" size, each bundle of the cleats grade stamped by an approved testing agency. Span cleats between the framing members with maximum 1/4" clearance at ends. Fasten cleats to each sheet of plywood with #10 by 1-1/4" flat head wood screws spaced the same as indicated nail spacing. Add two extra nails at edges of plywood on supports, spaced not over 2" apart, with balance of edge and field nailing as indicated.
 - 2. Metal Joint Clips: Provide approved H-shaped galvanized steel clips midway between framing members at unsupported edges of plywood where members are spaced at 24" centers, Champion "Plyclips", Simpson "Panel Clips", or equal.
- 3.08 NAILING STRIPS AND PLATES: Provide wood blocking, nailing strips, plates, and the like as shown or required, securely nailed or screw fastened in place. Bolt wood strips and plates to metal. Use treated lumber for wood on concrete or masonry.
- 3.09 WOOD BACKING: Provide to receive mechanical or electrical equipment and fixtures, bases, cabinets, door stops, wall plates, toilet accessories, toilet partitions, and other fixed equipment, as indicated or required, securely nailed or screw fastened to framework. Coordinate locations with related trades.

- 3.10 SOUND INSULATED WALLS AND PARTITIONS: Embed floor tracks with two beads of acoustical sealant or two runs of compressed tape seal. Install top track in the same manner for full-height insulated walls. Where wall ends abut concrete, masonry, or steel, use unpunched track sections for end studs, set in two beads of acoustical sealant or two tape seals and secure at 4-foot centers vertically.
- 3.11 If painting of fire retardant treated wood is required, do not paint over the seals indicating the wood is fire retardant treated.

END OF SECTION

SECTION 07 92 00

JOINT SEALANTS

PART 1 - GENERAL

- 1.01 SUMMARY: Division 1 applies to this Section. This Section covers caulking of the openings and joints indicated, specified, and required to make Work weatherproof and watertight, covers caulking requirements for the entire Work, and pertains to any Section requiring caulking, unless specified otherwise.
- 1.02 QUALITY ASSURANCE: Application of caulking and sealant shall be executed by a specialist caulking contractor with a minimum of 5 years' experience.
- 1.03 WARRANTY: Furnish a written warranty against defects in sealant application and sealant materials for 20 years for silicones and 10 years for urethanes covering, without limitation, loss of adhesion or cohesion, leaking, deterioration, color changes, and other defects.

PART 2 - PRODUCTS

- 2.01 MATERIALS: Sealants shall be properly cured, non-staining, maintain color fastness (resistance to color change), and durable when subjected to intense actinic (ultraviolet) radiation. Furnish products of only one manufacturer. Sealant colors shall match adjoining surfaces; special colors may be required.
 - A. Sealant and Primer: Non-sagging 1-part sealant conforming to Fed Spec TT-S-00230C(2), "Sealing Compound; Elastomeric Type, Single Component", or Fed Spec TT-S-001543A, "Sealing Compound, Silicone Rubber Base", with sealant manufacturer's recommended primer. Non-silicone self-leveling sealant may be furnished for joints in horizontal surfaces.
 - B. Joint Backing: Shall be of type approved by sealant manufacturer as both physically and chemically compatible with primer and sealant. Oakum, jute, cotton tape, and vegetable base materials are not acceptable. Use uncoated untreated fibrous glass rope or polyethylene, vinyl, silicone, urethane type polymer sponge, tubing of medium to firm density, not containing oil, butyl, asphalt loading, or neoprene. Use polyethylene film or tape, or aluminum foil for bond breaker.

PART 3 - EXECUTION

- 3.01 PREPARATION AND PROTECTION: Conform to sealant manufacturer's directions and apply materials to clean dry surfaces free of grease, oils, waxes, or other matter that destroys or impairs adhesion. Remove lacquer coatings on aluminum contacting sealants. Protect all adjoining surfaces and apply temporary masking tape on both sides of joints where surface staining may occur. Fill joints with joint backing material until the joint depth does not exceed 50% of joint width. Provide bond breaker to prevent bonding of sealant to backing material wherever joints exceed 1/2" width, or joint width is shown or required to exceed depth. Prime surfaces as required by manufacturer's instructions.

- 3.02 APPLICATION: Maximum 3/8" sealant depth unless otherwise shown. Minimum joint width is 1/8" for metal to metal joints and maximum 3/4" width elsewhere unless otherwise shown. Apply sealant under sufficient pressure to fill voids. Finish exposed joints smooth and flush with adjoining surface unless recessed joints are shown. Remove temporary masking as soon as joint is completed.
- 3.03 CLEANING: Conform to Section 01790. Clean material from surfaces not to receive sealant and restore finish as required. If surfaces adjoining joints are stained and cleaning is not acceptable, remove the affected Work and provide new Work as directed and approved, at no extra cost to Owner.

END OF SECTION

SECTION 09 90 00

PAINTING

PART 1 – GENERAL Division 1 shall apply to this section.

1.01 SUMMARY: Provide and perform painting, complete.

A. Work Included:

1. Preparation of surfaces.
2. Painting of all interior surfaces, except as otherwise specified (existing and new).
3. Paint factory primed and/or finished items as indicated.
4. Paint ceilings and access panels (if applicable).

B. Related Work Not In This Section:

1. Shop prime coats and factory finishes.
2. Painting specified as Work of other Sections.
3. Sealants and caulking.
4. Water repellent sealer.
5. Video wall screen paint.

C. Surfaces Not To Be Painted:

1. Non-ferrous metal work (other than zinc-coated surfaces) and plated metal, unless particular items are specified to be painted.
2. Exterior walls and surfaces except where applicable.
3. Surfaces concealed in walls and above solid ceilings.
4. Non-metallic walking surfaces unless specifically shown or specified to be painted.
5. Factory finished surfaces.
6. Ceramic tile and plastic surfaces.
7. Resilient flooring and base.
8. Surfaces indicated not to be painted.
9. Surfaces specified to be finish painted under other Sections.

1.02 AQMD RULES: Furnish paint materials that conform to the current rules and regulations of all governing Air Quality Management Districts and other public environmental control and protection agencies having jurisdiction. If any paint materials specified herein do not conform to said rules and regulations, the paint manufacturer of proposed paint materials shall prepare a list of non-conforming specified painting materials and proposed substitute conforming paint materials; Contractor shall deliver the list to the Design-Build Architect for review.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

- A. List of Paint Materials: Prior to submittal of Samples, submit a complete list of proposed paint materials that identifies each material by manufacturer's name, product name and number, including primers, thinners, and coloring agents, together with manufacturers' catalog data fully describing each material as to contents, recommended usage, and preparation and application methods. Identify surfaces to receive various paint materials. Do not deviate from approved list.
- B. Color Samples: Prior to submittal of Samples obtain the Architect's color and gloss selections and instructions. Using materials from approved list, prepare and submit 8-1/2" by 11" Samples of each complete opaque paint finish.
- C. Natural or Stain Finish Samples: Prepare these Samples on 12" squares of the same species and appearance of wood as used in the Work.

1.04 PROJECT CONDITIONS:

- A. Protection: Protect all painting while in progress and cover and protect adjoining surfaces and property of others from damage. Exercise care to prevent paint contacting surfaces not to be painted. During painting of exterior work, cover windows, doors, concrete, and other surfaces not to be painted.
- B. Weather Conditions: Apply paint to clean, dry, prepared surfaces. Do not apply exterior paint during rainy, damp, foggy, or excessively hot and/or windy weather. Arrange for temporary heat and ventilation for interior painting.
- C. Precaution: Place oily rags and waste in self-closing metal container and remove from site at the end of each day. Do not let rags and waste accumulate.

PART 2 - PRODUCTS

- 2.01 MATERIALS: Use the paint products of only one paint manufacturer unless otherwise specified or approved. In any case, primers, intermediate, and finish coats in each painting system must all be the products of the same manufacturer, including thinners and coloring agents, except for materials furnished with shop prime coat by other trades. To the maximum extent feasible, factory mix paint materials to proper color, gloss, and consistency for application.
- A. Dunn Edwards: Products specified herein designate intended types and qualities. Furnish equals from other manufacturers.

PART 3 – EXECUTION

- 3.01 EXAMINATION: Examine all surfaces to be finished under this Section and verify satisfactory condition. Report to Architect in writing all those conditions that prevent or interfere with correct preparation and application of Work of this Section. Do not proceed with painting and finishing on involved surfaces until all reported conditions are corrected. Application of the first coat of any finishing system constitutes acceptance of the surface by Painting Subcontractor. This does not relieve the Contractor from proper preparation of surfaces.
- 3.02 WORKMANSHIP: Apply paint materials in accordance with the manufacturer's instructions by brush or roller; spray painting is not allowed without specific approval in each case. Apply each coat at the proper consistency, free of brush or roller marks, sags, runs, or other evidence of poor workmanship. Do not lap paint on glass, hardware, and other surfaces not to be painted; apply masking as required. Sand between enamel coats.
- 3.03 PREPARATION: Properly prepare surfaces to receive finishes.
- A. Concrete: Fill all cracks, holes and other blemishes with portland cement patching plaster or a stiff paste mixed of finish paint and fine sand, finished to match adjoining surfaces. Remove surface glaze by sanding, wire brushing, or light brush-off sandblasting. Neutralize all alkali conditions according to the paint manufacturer's directions. Dry surfaces to receive a breathing type latex paint at least two weeks, free of visible moisture, and dry surfaces to receive oil, alkyd, or epoxy based paint until the moisture content does not exceed 8% when tested with an electronic moisture-measuring instrument.
 - B. Interior Plaster: Fill small non-moving cracks with a spackling compound and sand patches smooth. Test plaster to receive an oil or alkyd base paint and verify plaster is adequately dry.
 - C. Gypsum Wallboard: Touch-up minor defects with spackle and sand smooth and flush. Report other defects for correction by the Contractor as specified.
 - D. Shop Coated Metal: Degrease and clean of foreign matter. Clean and spot paint field connections, welds, soldered joints, burns, or abraded portions with same material used in the shop coat. After complete hardening, sand entire surfaces for coat to follow.
 - E. Uncoated Ferrous Metal: Degrease and clean of dirt, rust, mill scale, and all other foreign matter using rotary brushes, solvent, or sandblasting. Remove pits and welding slag, and clean surfaces to bright metal before priming. Apply metal primer not more than three hours after preparation.
 - F. Galvanized Metal: Degrease and clean of foreign matter. Apply the specified pretreatment and immediately apply primer paint as soon as pretreatment is dry.

- G. Fixtures, Equipment, and Hardware Items: Cooperate with other trades and coordinate removal of fixtures, equipment, and hardware as required to perform the painting. Items to be removed include, without limitation: signs and graphics; switch and receptacle plates; escutcheons and like plates; all surface-mounted equipment; free-standing equipment blocking access; grilles and louvers at ducts opening into finished spaces; and other items as required and directed.
 - H. Clean and prepare steel as recommended by the paint manufacturer.
 - I. Surfaces Not Mentioned: Prepare surfaces according to recommendations of the paint manufacturer and as approved.
 - J. Primers, paint coatings, clear sealers, clear finishes, and industrial coatings must be applied to manufactures recommendations. Refer to manufactures technical data sheets.
- 3.04 COATS AND COLORS: The number of paint coats specified to be applied are the minimum. Ensure acceptable paint finishes of uniform color, free from cloudy or mottled areas and evident thinness on arris. "Spot" or undercoat surfaces as necessary to produce such results. Tint each coat a slightly different shade of finish color to permit identification. Conform to the approved Samples. Obtain approval of each coat before applying the next coat; otherwise, apply an additional coat over the entire surface involved at no additional cost to the Owner.
- 3.05 EXTERIOR PAINTING:
- A. Cement Plaster - 100% Acrylic Flat (New)

1st Coat:	EFF- STOP Masonry Primer (ESPR00)
2nd Coat:	EVSH10 Evershield Exterior Flat Paint
3rd Coat:	EVSH10 Evershield Exterior Flat Paint
 - B. Metal - Galvanized: Sheet Metal (New and Existing), Doors and Door Frames:

Pretreatment:	Supreme Chemical Metal Etch and Cleaner (SC ME-01) New Metal
1st Coat:	Ultrashield Galvanized Metal Primer (ULGM00)
2nd Coat:	Evershield Semi Gloss Enamel (EVSH50)
3rd Coat:	Evershield Semi Gloss Enamel (EVSH50)

 - 1. Exception: On roof and wall flashings, wall louvers, and other sheet metal flashings to be painted and visible on building exterior surfaces, apply two coats of EVSH10 Evershield in lieu of the 2nd and 3rd Coat above (total of four coats in addition to vinyl wash primer).
- 3.06 INTERIOR PAINTING: Provide paint finishes as scheduled on the Drawings or directed, gloss of finishes as scheduled or, where not scheduled, as designated by the Design-Build Architect.

- A. Enamel Finishes: Of following glosses:
1. Gloss 100% Acrylic Enamel (non-blocking for doors and trim).....Evershield Gloss EVSH60
 2. Semigloss 100% Acrylic Enamel (non-blocking for doors and trim).....Evershield Semi Gloss EVSH50
 3. Semi Gloss Acrylic Co-Polymer Enamel (for walls).....Everest Eggshell EVER30
 4. Eggshell Acrylic Co-Polymer Enamel (for walls).....Everest Flat EVER10
- B. Enamel - Drywall: (New and Existing)
- | | |
|-----------|--|
| 1st Coat: | Ultra-Grip Select Primer Zero VOC (UGSL00) |
| 2nd Coat: | Enamel, gloss as scheduled or designated |
| 3rd Coat: | Enamel, gloss as scheduled or designated |
- C. Enamel - Concrete and Plaster: (New and Existing)
- | | |
|-----------|--|
| 1st Coat: | EFF-STOP Masonry Primer (ESPR00) |
| 2nd Coat: | Enamel, gloss as scheduled or designated |
| 3rd Coat: | Enamel, gloss as scheduled or designated |
- D. Enamel - Wood:
- | | |
|-----------|--|
| 1st Coat: | Ultra-Grip Select Primer Zero VOC (UGSL00) |
| 2nd Coat: | Enamel, gloss as scheduled or designated |
| 3rd Coat: | Enamel, gloss as scheduled or designated |
- E. Enamel Metal Galvanized: Doors and door Frames (New and Existing)
- | | |
|---------------|---|
| Pretreatment: | Supreme Chemical Metal Etch and Cleaner (SC ME-01)
New Metal |
| 1st Coat: | Ultrashield Galvanized Metal Primer (ULGM00) |
| 2nd Coat: | Evershield Semi Gloss Enamel (EVSH50) |
| 3rd Coat: | Evershield Semi Gloss Enamel (EVSH50) |

3.07 MISCELLANEOUS PAINTING:

- A. Color Coding: In mechanical and electrical equipment rooms, paint ducts, piping, conduit, equipment, and machinery, except such items having a complete factory finish, as specified for interior metal, colors as directed. Not more than 8 colors will be required.
- B. Mechanical and Electrical Work: Carefully review Divisions 13, 15, and 16 of this Project Manual regarding painting performed under those Divisions and other painting required to be performed under this Section. Perform painting of mechanical and electrical equipment and materials not expressly specified to be painted as part of Work of Divisions 15, or 16, including required identification and color code painting, stenciling, and paint banding.

- C. Miscellaneous: For any items not specifically indicated or specified that require a paint finish, apply 3 coats of paint as directed.
- 3.08 CLEANING AND TOUCH-UP WORK: Conform to Section 01700. Make a detailed inspection of paint finishes after all painting is completed, remove splatterings of paint from the adjoining surfaces, and make good all damage caused by cleaning. Carefully touch-up all abraded, stained, or otherwise disfigured painting, as approved, and leave entire painting in first-class acceptable condition.

END OF SECTION

SECTION 10 44 16

PORTABLE FIRE EXTINGUISHERS

1.00 GENERAL

1.01 SUMMARY

- A. Provide hand-portable fire extinguishers where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting Work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 SUBMITTALS

- A. Comply with pertinent provisions of Sections in Division 1 of these Specifications.
- B. Product data: Within 60 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications, catalog cuts, and other data needed to demonstrate compliance with the specified requirements;
 - 3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the Work of this Section.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Comply with pertinent provisions of Section 01635.

2.00 PRODUCTS

2.01 FIRE EXTINGUISHERS

- A. At each location where shown on the Drawings, provide one multi-purpose chemical fire extinguisher with UL rating of 2A-10 B:C, "Potter-Roemer Model 3005," or equal approved in advance by the Architect.

- B. Except where indicated, to be mounted, within cabinets, provide the manufacturer's standard wall-mounting bracket for each fire extinguisher.
- C. Service, charge, and tag each fire extinguisher not more than five calendar days, prior to the Date of Substantial Completion of the Work as that Date is established by the Architect.

3.00 EXECUTION

3.01 SURFACE CONDITIONS

- A. Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 INSTALLATION

- A. Install the Work of this Section in strict accordance with the manufacturer's recommendation as approved by the Architect, anchoring all components firmly into position for long life under hard use.

END OF SECTION

SECTION 10 81 13

BIRD CONTROL DEVICES (BARRIER NETTING)

PART 1 GENERAL Division 0 and 1 shall apply to this section.

1.1 SYSTEM DESCRIPTION:

- A. K-Net HT Bird Netting is constructed of black & stone (tan) high density polyethylene (HDPE) that is abrasion, flame, rot and UV resistant. K-Net HT has a 3/4" (1.9cm) square mesh to keep out all but the smallest of pest birds. All K-Net netting pieces are both seamless and borderless for clean edges and easier perimeter fastening.
- B. Bird Netting Hardware fastens the bird netting to all types of surface shapes and materials. A variety of netting installation tools and accessories are available to make the netting installation an efficient process.
- C. Surface Cleaning System: surface disinfectants and deodorizers to neutralize potentially hazardous bird and/or animal wastes and properly prepare the surface for installation.

1.2 QUALITY ASSURANCE

- A. Installer must be completely familiar with the proper installation procedures for the K-Net HT Bird Exclusion Netting and the specified mounting system.
- B. Installer must obtain and record accurate and complete dimensions that define the areas specified for enclosure by the K-Net HT Bird Exclusion Netting. Accurate dimensions drive the bird netting and net hardware quantities. Accurate dimensions ensure accurate quotations and material orders.
- C. Installer should contact manufacturer for any updated or newly developed planning or procedural information that may be pertinent to the K-Net HT installation.
- D. Installer to ensure that bird netting meets or exceeds ISO 9001 2000 Quality Management Standards.

1.3 SUBMITTALS

- A. Manufacturer's literature including K-Net HT Bird Exclusion Netting brochures and installation guidelines. All guides for installing the specified bird netting hardware system and the specified surface cleaning system.
- B. Sample of the K-Net HT Bird Exclusion Netting, in the specified color (black or stone) Sample to be not less than 4" square (10.16 cm. square).
- C. Contractor to complete estimate worksheet detailing the scope of the netting enclosure, and the mounting hardware type, location and spacing.

1.4 STORAGE & HANDLING

- A. Provide storage to keep all K-Net HT Bird Exclusion Netting system boxes dry, clean and undamaged. Do not stack or place other packaging or objects on the bird netting

shipping boxes.

- B. Keep the K-Net HT Bird Exclusion Netting system in original packaging until needed for installation.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

- A. Nixalite of America Inc
1025 16th Avenue, PO Box 727, Dept. NI, East Moline, Illinois 61244; U.S.A. P: 800.624.1189 or 309.755.8771 - F: 800.624.1196 or 309.755.0077
E: birdcontrol@nixalite.com or planning@nixalite.com www.nixalite.com
- B. ABC Advanced Bird Control – A division of Nixalite of America Inc. PO Box 727, Dept. NI, East Moline, Illinois 61244, U.S.A.
P: 888.212.8682 or 309.755.4708 - F: 309.755.1865
E: info@abcbirdcontrol.com www.abcbirdcontrol.com

2.2 K-NET HT BIRD NETTING

- A. Material: High density polyethylene (HDPE) that is abrasion, UV, flame and rot resistant. Netting to be water proof. Resulting K-Net HT Bird Exclusion Netting is ideal for all bird exclusion applications.
- B. Color: Black.
- C. Construction: Knotted 3/4" (1.9 cm) square mesh netting. Netting comprised of 12 ply (4 x 3) strands with 75 pounds (33.9 kg) knotted breaking strength. All K-Net netting pieces are both seamless and borderless for clean edges and easier perimeter fastening.
- D. Standards: Must meet ISO 9001 2000 Quality Management Standards.
- E. Mesh size: 3/4" (1.9 cm) square mesh keeps out all but the smallest of birds.
- F. Netting Sizes:
Widths: 25' (7.6 m), 50' (15.2 m).
Lengths: 25' (7.6 m), 50' (15.2 m) and 100' (30.4 m).
- G. Warranties:
Black K-Net HT has a 15 year limited warranty.
- H. Thermal & Physical Properties: Softening point: 250 F⁰ (122⁰ C). Melting point: 293 F⁰ (145⁰ C). Flash point: 660 F⁰ (349⁰ C).
Remains flexible at very low temperatures.
Specific gravity: 0.96 (it floats). K-Net HT will not absorb water. Chemically inert.
Resistant to acids and alkalis at room temperature.

2.3 BIRD NETTING HARDWARE

- A. Installer to contact manufacturer for up-to-date information recommendations for bird

netting hardware applications, item combinations as well as new items and procedures.

- B. Available in Tensioned Cable Hardware system, the Poly Hardware system or hybrid system that combines methods from different fastening procedures. Choose the hardware system that best suits the netting installation and conditions.
- C. Tensioned Perimeter and Support Cable Hardware System: Choose the Connection, Corner, Cable Guide and Finishing hardware that best suits the installation surface. Net Hardware can be mixed to suit changing surface materials and conditions.
- D. Net Cable & Connection Hardware:
 - a) Net Cable: Aircraft grade, all stainless steel, 7 x 7 (49 strand), 3/32" (2.2 mm) diameter cable with 900 lb. (407 kg) breaking strength. Net Cable comes in 250' (76.2 m) and 500' (152.4 m) spools.
 - b) Turnbuckles: Stainless steel, hook & eye turnbuckles. The size of the turnbuckle is determined by the maximum continuous cable length of any one cable run. For one Small Turnbuckle the max continuous cable length is 25 ft. (7.6 m). For one Medium Turnbuckle the max continuous cable length: 50 ft. (15.2 m). For one Large Turnbuckle the max continuous cable length: 75 ft. (22.9 m).
 - c) Net Ferrules: Zinc plated copper core crush ferrules for 3/32" (2.2 mm) dia. cable. Acceptable connection when the max continuous cable length is 25 ft. (7.6 m) OR LESS. Always use at least 2 ferrules per cable loop connection. Always use Nixalite's Cable Swaging Tool to crush the ferrules onto the cable at all loop connections. Always use a Cable Thimble with Net Ferrules.
 - d) Wire Rope Clamps: Galvanized or stainless steel wire rope clamps for 3/32" (2.2 mm) diameter cable. Mandatory for all loop connections on cable runs of 25' (7.6 m) OR MORE. Always use 2 clamps per cable loop connection or more. Always use a Net Cable Thimble with wire rope clamps. Use the appropriate wrench or hex driver to tighten the Wire Rope Clamp around the Net Cable at all loop connections.
 - e) Cable Thimble: Forged stainless steel Cable Thimble for 3/32" (2.2 mm) diameter cable. The Thimble prevents cable fraying and creasing when creating loop connections and/or tensioning the Net Cable after installation. One Thimble is required for each loop connection.
- E. Corner Hardware (Anchoring):
 - a) Eyebolts: Use as corner hardware in steel, thick sheet steel, cast iron, masonry and stone (with Machine Screw Anchors). Extreme duty stainless steel eyebolt, 2" (51 mm) long, 9/16" I.D. (14.3 mm) with 1/4-20 NC threads and stainless steel hex nut. Maximum distance between eyebolts: 50' (15.2 m).

To fasten to Steel: If back of steel is accessible, drill clearance hole for stem, apply adhesive in hole, install eyebolt and use 1/4 - 20 NC hex nut to secure. If back of steel is not accessible, drill then tap the hole for 1/4 - 20 NC thread. Apply adhesive into hole, apply thread locker on eyebolt threads. Install the eyebolt.

To fasten to Masonry: Drill the recommended hole diameter and depth in the masonry surface to receive the Machine Screw Anchors. Apply adhesive/sealer in the hole. Push Machine Screw Anchor into the hole and seat it properly with the

Setting Tool. Thread eyebolt into the anchor threads until tight.

- b) Screw Eyes: Use as corner hardware in wood and wood core surfaces. Extreme duty stainless steel screw eyes 2" (51 mm) long, 17/32" I.D. (13.5mm). Pilot holes recommended. Apply adhesive sealer into pilot holes before installing the Screw Eyes. Maximum spacing between screw eyes: 50' (15.2 m).
- c) Machine Screw Anchor: Zinc plated anchor – 1/2" (12.7mm) diameter x 1" (25.4mm) deep with 1/4-20 threads inside. Setting tool included with anchors.

F. Cable Guide Hardware:

- a) Small Screw Eyes: Use to keep cable close to the installation surface. Use on wood, sheet metal and wood core surfaces. Heavy duty, stainless steel, 1-3/16" long x 7/32" I.D. (31 mm long x 5.3 mm I.D.). Maximum spacing: 24" (61 cm) on center pilot holes recommended. Apply adhesive/sealer in all pilot holes before installing the Screw Eyes.
- b) Small Eyebolts: Use to keep cable close to the installation surface. Use on steel, thick sheet metal and masonry surfaces. Heavy duty, stainless steel, 1 3/8" long x 9/32" I.D. (35 mm long x 7.1 mm I.D.) with stainless steel hex nut. Maximum spacing: 24" (61 cm) O. C.

To fasten to Steel: If back of steel is accessible, drill clearance hole for stem, apply adhesive in hole, install eyebolt and use 10 - 24 NC hex nut to secure. If back of steel is not accessible, drill then tap the hole for 10-24 NC thread. Apply adhesive into hole, apply thread locker on eyebolt threads and install the eyebolt.

To fasten to Masonry: Drill the recommended hole diameter and depth in the masonry surface to receive the Machine Screw Anchors. Apply adhesive/sealer in the hole. Push Machine Screw Anchor into the hole and seat it properly with the Setting Tool. Thread eyebolt into the anchor threads until tight.

- c) Sidewinders: for heavy gauge sheet metal, structural steel up to 1/2" thick and masonry surfaces. Maximum spacing: 24" (61 cm) O. C. All Sidewinders to be installed with the Sammy Socket. No substitutions. Sidewinders for steel are self-drill, self-tap items, no pilot hole is required. Sidewinders for concrete require 1/4" (6.35 mm) diameter and 2" (50.8 mm) deep drilled holes. Apply adhesive/sealer into the drilled holes and install the Sidewinder Sammy Socket Driver.
- d) E-Z Clip: Use to keep cable close to the installation surface. Stainless steel bracket holds cable very tight to surface. Used on all types of installation surfaces. E-Z Clip has mounting hole(s) for 1/8" shank screws or nails (not supplied).
- e) Hammer-On Flange Clips: Used to keep cable close to the installation surface. Hammer-On Flange Clips are available in block oxide coated spring steel or stainless steel. Hammer-On Flange Clips routes the Net Cable parallel to the outer edges of beams or other structural steel flanges. Contact manufacturer for installation guidelines.

- f) **Stainless Steel Angle Bracket:** Used to keep the Net Cable close to the installation surface. A 90° stainless steel angle bracket with two (2) holes – one for mounting the other for the cable. Fasten with the appropriate fastener (not supplied). Use stainless steel screws or nails. Apply adhesive/sealer over head of installed hardware.
- g) **HD Stainless Steel Cable Clamp:** Used to keep the Net Cable close to the installation surface. A heavy duty saw-tooth edge clamp that fits up to ¾" (19.0 mm) thick steel. Routes the Net Cable parallel to the outer edges of beams, plates and other structural steel flanges. Contact manufacturer for installation guidelines.
- h) **Stainless Steel J-Clamp:** Used to keep the Net Cable close to the installation surface. A J-shaped strap of stainless steel with mounting and cable guide holes. Fasten with the appropriate fastener (not supplied). Use stainless steel screws or nails. Apply adhesive/sealer over head of installed hardware.
- i) **Stainless Steel Lag Screw w/eyelet:** Used to keep the Net Cable close to the installation surface. Fastens to wood, composite, wood core products. Drill pilot hole, apply adhesive/sealant in pilot, install Lag Screw so eyelet is no more than ½" (12.7 mm) above the installation surface.

G: Finishing Hardware:

- a) **Net Rings:** Three (3) styles of stainless steel net rings used to attach the netting mesh to the cables, to close openings in the netting mesh and to fasten the Net Zippers to the netting.
 Net ring quantity requirements per attachment:
 Netting to Cable: 16 net rings per foot (each netting mesh).
 Lapped Seams: 32 net rings per foot (1 ring per mesh on each side of seam). Net Zipper Installation: 32 net rings per foot (1 ring per mesh on each side of zipper).
- b) **Net Zipper:** Allows for access to areas behind the bird netting installation. Available in both black and stone (tan) and in 2 ft. (61 cm), 4 ft. (122 cm), 6 ft. (183 cm) and 8 ft. (244 cm) lengths. Heavy duty, marine-grade, black and tan Net Zipper with ¾" (1.9 cm) heavy fabric tape, open top and auto lock slider.

Poly Hardware: All poly hardware is made from UV stabilized black polypropylene. While it can be used to install the K-Net HT Bird Netting, it is more commonly used with the PollyNet line of bird exclusion netting. Poly Hardware combinations can be mixed to suit changing surface materials and conditions.

- a) **Poly Clip:** Perimeter fastening. The Poly Clip can be fastened to the cable of a tensioned perimeter cable system or it can be snapped shut over the outer edges of the bird netting. Secure to the installation surface with the appropriate fastener (not supplied). Maximum spacing: 12" (30.5cm) O.C.
- b) **Net Ties:** Multi-purpose fastener. Quickly fastens the netting fabric to all types of objects. Use to prevent netting sag or loose fitting nets by securing the netting to objects above or behind netting installation. Three sizes to choose from.
- c) **Poly Cord:** Multi-purpose fastener. Reinforce seams, patch tears, close circular openings, use for overhead support. NOT for perimeter fastening.

2.4 SURFACE DISINFECTANTS

- A. Steri-Fab: Surface disinfectant and bactericide designed to neutralize bird waste, making it safe for removal. Steri-Fab quickly kills disease causing bacteria, parasites, fungi, insects, etc. This is a non-residual product. It becomes completely inert after it dries. Do not use with Microcide-SQ on the same surface at the same time.
- B. Microcide-SQ: A broad spectrum disinfectant, cleaner and deodorizer used to sanitize hard surfaces as well as fabrics and clothing. Use to kill a wide spectrum of organisms and disease causing bacteria. Do not use with Steri-Fab on the same surface at the same time.
- C. Microsan: Anti-microbial personal protection products to help prevent disease transmittal before, during and after working on and around surfaces contaminated with bird and animal wastes. Use to compliment personal protection equipment standards (PPE).
- D. Safety Equipment: Nixalite offers personal protection equipment (PPE) to protect personnel from the hazards related to pest bird and animal waste materials.

PART 3 EXECUTION

A. INSPECTION

- B. Visually inspect the surfaces that will receive the netting hardware and all areas that will end up behind or inside the netting installation. Note damaged surfaces or incomplete construction that could compromise the bird netting installation.
- C. Note all areas, surfaces or objects that may require maintenance or periodic replacement after the bird netting is installed (i.e. lights, electrical equipment, etc.). Use the appropriate netting accessories to allow access behind the installed netting system.
- D. Note any objects or conditions that could damage the installed bird netting. Install the K-Net HT in such a manner as to avoid these conditions.

3.2 PREPARATION

- A. Field Measurements: Verify the dimensions for each area specified for enclosure with the K-Net HT Bird Exclusion Netting. Use manufacturers Planning Guides and Estimate Worksheets to verify that sufficient quantities of bird netting and net hardware will be installed at each location specified for bird netting.
- B. Make sure all installation surface finishing requirements have been accomplished before installing the K-Net HT Bird Enclosure Netting. Bird Exclusion Netting is to be the last item installed on each specified surface. DO NOT apply any surface coating or treatment (paint, sealer, etc.) over or on the installed K-Net HT Bird Exclusion Netting or the mounting hardware.

3.3 SURFACE CLEANING

- A. All surfaces to be clean, dry and free of obstructions before the K-Net HT Bird Exclusion Netting is installed.
- B. If Bird Waste Is Present:
Treat, neutralize and safely remove all bird waste from installation surfaces. Installer

must follow all municipal, state and federal regulations regarding the proper removal and disposal of bird droppings and waste materials such as nests and dead birds.

- C. Use Nixalite's surface cleaning products to neutralize any bird droppings, nests and related waste materials that may be present. Allow all surfaces to air dry completely, and then reapply to sanitize and deodorize the surface before proceeding. Strictly follow treatment instructions provided with Nixalite's surface cleaning products.
- D. Use Nixalite anti-microbial and anti-bacterial personal protection products to help prevent disease transmittal when working around surfaces contaminated with bird droppings.

3.4 INSTALLATION

- A. Make sure the installation surfaces are clean, dry and free of any debris or obstructions.
- B. Install the bird netting hardware as recommended by manufacturer. General order of installation is to install all the Corner hardware, cable guides and connection hardware. Run the Net Cable through the net hardware. Leave the turnbuckles loose.
- C. Install K-Net HT as recommended by the manufacturer. If necessary cut the K-Net HT to fit the area. If multiple pieces are needed, join the pieces together with the recommended Net Ring hardware. Use the Net Rings to fasten the netting mesh to the perimeter and support cables. Tighten the turnbuckles to eliminate any wrinkles in the netting.
- D. Install K-Net HT to avoid contact with machinery, vehicles, extreme heat, tree branches, etc. Make necessary adjustments to keep netting a sufficient distance from these objects or conditions.
- E. Finished K-Net HT installation to be taught, free of wrinkles, gaps and openings.

3.5 ADJUSTMENTS / CLEANING

- A. Remove net or cable hardware debris and waste from project site. Inspect finished installation. Make any adjustments needed to conform to Nixalite's bird netting installation guidelines.
- B. K-Net HT Bird Exclusion Netting is a physical and passive barrier. It relies on optimal placement and proper installation. Exclusion netting must block off or seal up all routes and paths that pest birds follow to their preferred roosts. Periodic inspections are recommended to make sure the bird netting stays in good condition.
- C. Note any holes, gaps or openings in the bird net installation that birds can use to bypass or get around the netting barrier. Correct these conditions immediately.

END OF SECTION

SECTION 23 05 00

COMMON WORK RESULTS FOR MECHANICAL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Requirements of Division 0 and 1 apply to work of this section.

1.2 RELATED SECTIONS

- A. This section applies to sections of Division 23, except as may be otherwise modified in each section.

1.3 FEES, PERMITS AND PAYMENTS

- A. Fees, Permits and Payments: Contractor shall secure permits and inspections and pay full cost of same.

1.4 RELATED WORK SPECIFIED ELSEWHERE

- A. Excavation and backfill, Division 2; Section, "Earthwork.
- B. Concrete, Division 3.
- C. Access doors, Division 8 Section, "Access Panels."
- D. Finish painting, except as specified or indicated otherwise, is specified under Division 9. Equipment furnished under this section shall be factory finished. If the factory finish is damaged during shipment, installation, etc., it shall be repainted by the Contractor subject to the [Architect's] [Engineer's] approval.
- E. For louvers not connected to sheet metal plenums or ductwork, see Division 10.
- F. Electrical connections for motors, line voltage wiring and conduit, and low voltage wiring and conduit, see Division 26.
- G. Individual motor controllers except when furnished as integral parts of packaged equipment, (See Division 26).
- H. Motor Control Centers, (See Division 26).

1.5 EQUIPMENT RESTRICTIONS

- A. The proprietary name, and/or model indicated on the drawings, or the first listed for each category in the specifications is the make and/or model used as the basis for design. Bids shall be based on the use of the products of the selected manufacturers. Substitutions will be considered as outlined in General Conditions and Division 1; Section, "Substitutions.

- B. Choice of Equipment: Equipment has been chosen, which will properly fit into the physical spaces provided and indicated, allowing ample room for access, serving, removal and replacement of parts, etc. Adequate space shall be allowed for clearance in accordance with the code requirements and the requirements of the local inspection Department. Physical dimensions and arrangements of equipment to be installed shall be subject to the Owner's approval. Submit shop drawings of equipment layout for approval where equipment space does not comply with drawings. Changes in piping, motors, wiring, controls, structural or installation procedures required by the substituted product or equipment shall be made at no additional cost to the Owner, and with no reduction in scope.
- C. Space Requirements:
1. In the preparation of drawings, a reasonable effort has been made to include equipment manufacturers' recommendations. Since space requirements and equipment arrangement vary according to manufacturer, the responsibility for initial access and proper fit rests with the Contractor. The final arrangement of the equipment and service connections shall allow the unit to be serviced. This shall include space to pull motors, filters, coils, tubes, etc. Make changes in piping and ductwork to suit actual installed equipment without further instructions or additional cost.
 2. If the installation of the particular product or equipment, the Contractor has submitted, requires changes in material or size from that required in the contract drawings and specifications, such changes shall be submitted as shop drawings.
 3. Contractor shall pay the costs of design (3.0 X direct payroll) and installation of changes resulting from substitution of alternate products. Acceptance of alternate products by Architect does not change this requirement.
 4. Contractor shall be aware that some equipment in the mechanical room must be in place before walls and/or roof is installed and shall schedule the installation of equipment accordingly.

1.6 QUALITY ASSURANCE

A. Installers' Qualifications:

1. For the actual fabrication, installation and testing of work under this section, use only thoroughly trained and experienced workmen completely familiar with the items required and the manufacturers' current recommended methods of installation.
2. In acceptance or rejection of the finished installation, no allowance will be made for lack of skill on the part of the installers.

- B. Certificates: Execute on behalf of the Owner and deliver to the Owner manufacturers' warranty certificates and instructions, etc. required to assure that the manufacturers' warranties are properly documented and in full effect for the warranty period.

1.7 CODES, ORDINANCES, REGULATIONS AND DEFINITIONS

- A. Work and materials shall be in full accordance with the latest rules and regulations of the following Agencies and Codes, the Safety Orders of the Division of Industrial Safety; the California Mechanical Code; the Uniform Building Code; the Uniform Mechanical Code, the Uniform Plumbing Code; Uniform Fire Code; the California Plumbing Code; the California Building Code; Title 24 State Code of Regulations; city ordinances and other applicable laws or regulations.
- B. Nothing in the drawings or specifications is to be constructed to permit work not conforming to these codes. Drawings and specifications shall take precedence when work and materials called for exceed code requirements.
- C. References to Code Specifications shall mean editions in effect at date of proposals.
- D. Reference to technical societies, trade organizations, governmental agencies are made in Mechanical Sections in accordance with the following abbreviations:

AABC	<i>Associated Air Balance Council National Standards for Field Measurement and Instrumentation, Total System Balance</i>
AGA	<i>American Gas Association</i>
AMCA	<i>Air Moving and Conditioning Association</i>
ANSI	<i>American National Standards Institute</i>
ARI	<i>Air Conditioning and Refrigeration Institute</i>
ASHRAE	<i>American Society of Heating, Refrigerating, and Air Conditioning Engineers</i>
ASTM	<i>American Society of Testing and Materials</i>
AWWA	<i>American Water Works Association</i>
CCR	<i>California Code of Regulations</i>
CISPI	<i>Cast Iron Soil Pipe Institute</i>
DSA	<i>Division of the State Architect</i>
ETL	<i>Electrical Testing Laboratory</i>
FM	<i>Factory Mutual</i>
IRI	<i>Industrial Risk Insurers</i>
ISO	<i>Insurance Service Organization</i>
NEBB	<i>National Environmental Balancing Bureau Procedural Standards for Testing, Balancing and Adjusting of Environmental Systems</i>
NEC	<i>National Electrical Code</i>
NFC	<i>National Fire Codes</i>
NFPA	<i>National Fire Protection Association</i>
NRCA	<i>National Roofing Contractor's Association</i>
OSHA	<i>Occupational Safety and Health Administration</i>
PDI	<i>Plumbing and Drainage Institute</i>
SMACNA	<i>Sheet Metal and Air Conditioning</i>
UL	<i>Underwriter's Laboratories, Inc.</i>

- E. Fees, Permits, Licenses and Payments: Contractor shall secure permits and inspections and pay full cost of same.

F. Definitions:

APPROVED	<i>As approved by Owner's Representative.</i>
ARCHITECT / ENGINEER	<i>The Architect or Engineer of record for this project. The Architect or Engineer is the Owner's representative regarding preparation, revisions and interpretation of the contract documents.</i>
AS DIRECT	<i>As directed by the Owner's Representative.</i>
AS REQUIRED	<i>As required by applicable Code requirements; by good business practice; by the conditions prevailing; by the Contract Documents; by Owner, or by Owner's Representative.</i>
AS SELECTED	<i>As selected by Owner's Representative.</i>
BATTERY	<i>A "battery" of fixtures is two or more fixtures served from same branch.</i>
BY OTHERS	<i>Work on this Project that is outside the Scope of Work to be performed by the Contractor under this Contract, but that will be performed by Owner, other Contractors or other means.</i>
CERTIFIED TEST REPORTS	<i>Test Reports signed by an authorized official stating that tests were performed in accordance with the test method specified that the results reported are accurate, and that items tested either meet or fail to meet the stated minimum requirements. These Test Reports include those performed by Factory Mutual, Underwriters Laboratories, Inc., and others.</i>
CERTIFIED INSPECTION REPORTS	<i>Reports signed by approved Inspectors attesting that the items inspected meet the Specification requirements other than any exceptions included in the report.</i>
CONCEALED	<i>Means embedded in masonry, concrete or other construction, installed within furred spaces, or in enclosures.</i>
EQUAL	<i>The Contract documents are based upon the manufacturer and model number indicated on the drawings or specifications. Bidder may propose alternative product but will be considered only if the bidder has submitted a base Bid, which is in accordance with the specified product. Alternate proposal shall include complete technical data and itemized price adjustments. Bidder shall assume the responsibility that the alternate product meets the physical, mechanical, electrical, structural, acoustical and architectural requirements of the specified product. Acceptance of an</i>

alternate product does not entitle the Contractor to a Change Order to modify architectural, structural, mechanical, electrical, control or any other systems necessary to accommodate the alternate product. The Owner or his representative may reject any or all-alternate products.

EXPOSED	<i>Means not installed underground or not concealed as defined above.</i>
FIELD TESTS	<i>Tests or analysis made at, or in the vicinity of the job site in connection with the actual construction.</i>
FURNISH	<i>Supply and deliver to the Project site only, not install (unless required to be installed elsewhere in the Contract Documents). Product must be delivered ready for installation and in operable condition.</i>
INSTALL	<i>Install (services or labor) only, not furnish (unless required to be furnished elsewhere in the Contract Documents). Install means to place in final position, complete, anchored, connected and ready to operate.</i>
MAIN	<i>A "main" of any system of continuous piping is the principal artery of the system, to which branches may be connected.</i>
MANUFACTURER'S DIRECTIONS, INSTRUCTIONS, RECOMMENDATIONS, SPECIFICATIONS	<i>Manufacturer's written directions, instructions, recommendations, specifications.</i>
PRODUCT	<i>Means all materials, systems, equipment and fixtures.</i>
MANUFACTURER'S CERTIFICATE CONFORMANCE	<i>A certificate signed by an authorized manufacturer's official attesting that the material or equipment delivered meets the specification requirements. Manufacturer's representative certificate is not acceptable.</i>
MUST; SHALL; TO; WILL	<i>When used as a directive to the Contractor, these items indicate a mandatory action.</i>
NECESSARY	<i>Essential to completion of work.</i>
OWNER-FURNISHED, CONTRACTOR-INSTALLED PROVIDE	<i>To be furnished by the Owner at its cost and installed by the Contractor as part of the work.</i> <i>Shall include "Furnish and install" which means supply, fabricate, deliver, place and connect, complete in place, ready for operational use. When neither furnish, install or provide is stated, "provide" is implied.</i>

REMOVE	<i>Means to remove item completely including attachments, frames, anchors, fittings, bases, pipes, conduits and supports, capping behind finished surfaces and repairing floors, bases and walls to match color and texture and be smooth with existing adjacent surfaces.</i>
RISER	<i>A "riser" is vertical waterline supplying two or more fixtures, or batteries of fixtures located in different rooms.</i>
SHOWN	<i>As indicated on the Drawings.</i>
SPECIFIED	<i>As written in the Contract Documents.</i>
SUBMIT	<i>Submit to Owner's Representative.</i>
TESTING LABORATORY	<i>The term "testing laboratory" means any person or organization whose functions include testing, analyzing or inspecting products and/or evaluating the designs or specifications of such products according to the requirements of applicable standards.</i>
WORK	<i>Work of the Contractor or Subcontractor includes labor or materials (including, without limitation, without equipment and appliance) or both, incorporated in, or to be incorporated in the construction covered by the complete Contract.</i>

1.8 SUBMITTALS

A. General: Refer to Division 1.

B. Project Drawings:

1. The drawings are diagrammatic and indicate the general layout of the equipment
2. The exact location shall be field determined, after shop drawing review for the installation in available space at the job site.

C. Equipment and Shop Drawings Submittals:

1. Copies: Submit six copies of data as specified hereafter and in individual sections.
2. Manufacturer's Data: Give name of manufacturer, brand name, and catalog number of each item. Submit complete submittals, at one time, having items arranged in numerical sequence with each item identified by section and article of the specifications. Listing items "as specified" without both name and model or type designation is not acceptable, except pipe and fitting not specified by brand names may be listed "as specified" without manufacturer's name, provided proposed materials comply with specification requirements.

3. Descriptive Data: Send copies of complete description, information and performance data covering materials and equipment, which are specified. Brochures submitted to the Architect shall be published by the manufacturers and shall contain complete and detailed engineering and dimensional information. Brochures not compiled in the following manner shall be returned for re-submittal. Brochures submitted shall contain only information relevant to the particular equipment or materials to be furnished. The Contractor shall not submit catalogs, which describe several different items other than those items to be used unless irrelevant information is marked out, or unless relevant information is clearly marked. Brochures from each manufacturer shall be identified.
4. Miscellaneous: Prior to installation, submit to Construction Supervisor on the job site, two copies of the following:
 - a. Shop drawings of equipment layouts.
 - b. Installation instructions for each piece of mechanical equipment furnished.
 - c. Dimension drawings for mechanical equipment pads and curbs including bolt sizes and locations.
5. Submittal Data: Submittal shall be based on manufacturer's catalog cuts or brochures for items indicated on each section. Pages shall be clearly marked for the particular series, model, configuration, accessories, etc., which apply.
6. Submittals required by these specifications, including drawings, calculations, brochures, samples, etc. shall be submitted as one package. Partial submittals will be returned unprocessed.
7. Substituted Products:
 - a. Comply with Division 1, Substitution.
 - b. The contract drawings indicate the installation of the products or equipment of selected manufacturers. Other acceptable manufacturers are named in these specifications.
 - c. If the installation of the particular product or equipment the Contractor has submitted requires changes in material or size from that required in the contract drawings and specifications, such changes shall be submitted as shop drawings.
 - d. Changes in piping, motors, wiring, controls, structural or installation procedures required by the substituted product or equipment shall be made at no additional cost to the Owner, and with no reduction in scope.
8. Shop Drawings: Refer to Divisions 0 and 1. Provide additional data as specified in Governing Specification Section.

1.9 QUALITY ASSURANCE

- A. Work and materials shall be in full accordance with the latest rules and regulations of the following agencies and codes: The California Administration Code, [Division of the State Architect], the Safety Orders of the Division of Industrial Safety; the California Mechanical Code; the Uniform Building Code, the Uniform Mechanical Code, the Uniform Plumbing Code; Uniform Fire Code; NFPA No. 13 Standard for the installation of sprinkler systems, the California Plumbing Code, the California Building Code; Title 24 California Code of Regulations; city ordinances and other applicable laws or regulations.
- B. Nothing in the drawings or specifications is to be constructed to permit work not conforming to these codes. Drawings and specifications shall take precedence when work and materials called for exceed code requirements.
- C. References to Code Specifications shall mean editions in effect at date of proposals.
- D. Welders Qualifications.
 - 1. No pre-qualified welding procedures are allowed. Contractor shall qualify the welding procedures and welders by tests prescribed in accordance with ASME-17, notwithstanding
 - 2. Pressure Vessels Qualifications:
 - a. Qualification documents WPS, BPS or PQR and WPQ or PQ shall be in accordance with ASME-17.
 - 3. Piping Qualifications:
 - a. High Pressure Piping: Qualification documents for 125 psig or above, WPS, BPS or PQR and WPQ or BPQ shall be in accordance with ASME-17.
 - b. Low Pressure Piping:
 - 1) Refrigeration Piping: Qualification documents for below 125 psig, WPS, BPS or PQR and WPQ or BPQ for "Refrigeration Piping" shall be in accordance with ASME B31.5.
 - 2) Other Low Pressure Piping: Qualification documents, PQR and WPQ or BPQ shall be in accordance with ASME-17.
- E. HVAC: HVAC work shall be performed by a state licensed HVAC.
- F. Plumbing: Plumbing work shall be performed by a state licensed plumbing.

1.10 WELDING PROCEDURES

- A. General: Piping shall comply with the provisions and latest revisions of the applicable sections of the ASME Code for Pressure Piping, ANSI/ASME B31.9, "Building Service Piping."
- B. Before welding is performed, Contractor shall submit to the Architect and Owner, a copy of his Welding Operator Qualification Tests as required by Section IX of the ASME Boiler and Pressure Vessel Code.
- C. Welding Procedure: Carbon steel piping (chilled water, condenser water, and hot water) shall be welded in accordance with the National Certified Pipe Welding Bureau (NCPWB) Welding Procedure Specification No. 1-12-1 which requires root pass weld with SMAW using E6010 electrode; second and third pass welds using E7018 electrodes.
- D. Contractor shall be responsible for the quality of welding done by this organization and shall repair work not in accordance with these specifications.

1.11 EXPLANATION AND PRECEDENCE OF DRAWINGS

- A. For purpose of clearness and legibility, the drawings are essentially diagrammatic although size and location of equipment is drawn to scale wherever possible. The Contractor shall make use of data in contract documents and shall verify this information at building site.
- B. Attention is called to the inclusion of flow diagrams and riser diagrams. These diagrams are not for the purpose of giving physical dimensions or locations, but rather to make clear the interconnections, by the piping, of the various units of the process.
- C. Other drawings of the contract set are hereby made a part of these specifications and shall be consulted by the Contractor and his work adjusted to meet the conditions shown thereon.
- D. Drawings indicate required size and termination of pipes and ducts and suggest proper routes of piping and duct to conform to the structure, to avoid obstructions and to preserve clearance. However, it is not the intention to indicate necessary offsets and it shall be the responsibility of the Contractor, under this section, to install ductwork and piping in such a manner as to conform to structure, avoid obstructions, preserve headroom, keeping openings and passageways clear, and make equipment requiring inspection, maintenance and repair accessible without further instructions or extra cost to the Owner.
- E. Changes in location on all piping, apparatus and equipment as indicated on the drawings shall be made to meet the architectural and structural conditions as required and acceptable to the Architect. Any change in work which has not been installed shall be made by Contractor without additional compensation, except changes which are caused by architectural and structural changes which increase the lengths of pipe or duct runs.

- F. Contractor shall coordinate with all other trades so that no interferences shall occur, as no extras will be allowed for changes made necessary by interferences with the work between trades.
- G. CAD files plots and reproductions for this project are the property and instruments of service of dHA+CALPEC. dHA+CALPEC reserves and retains all copyright authority, privileges and rights.
 - 1. Upon request and subject to some limitations dHA+CALPEC with their client's approval, may allow contractors and/or vendors to acquire and use copies of the electronic media file data for preparation of:
 - a. Fabrication of shop drawings for this project.
 - b. Submittals pertaining to this project.
 - c. Record documents.
 - 2. Applicable limitations include:
 - a. The Contractor or vendor acquiring these files agrees to hold harmless dHA+CALPEC the Architect and Owner from all liability and/or damages resulting from their use.
 - b. The Contractor or vendor acquiring these data files assumes full responsibility for their use and for the correctness of any information or features contained therein.
 - c. dHA+CALPEC does not warranty, (explicit or implied) the accuracy of the building backgrounds, or any dimensions or features contained therein.
 - d. Usage is limited to this specific project and the specific acquirer.
 - e. The files are released solely for the convenience of the contractor or vendor acquiring same and CAD files may not be transferred to third parties without written prior approval.
 - f. dHA+CALPEC shall remove all seals, proprietary identification, etc.

1.12 COMPLETE PERFORMANCE OF WORK

- A. Practices of the Trades: Work shall be executed in strict accordance with the best practice of the trades by competent workmen.
- B. Complete Functioning of Work: Labor, materials, apparatus, and appliances essential to the complete functioning of the systems described and/or indicated, or which may be reasonably implied as essential, whether mentioned in these contract documents or not, shall be furnished and installed by the Contractor. In cases of doubt as to the work intended, or in the event of need for explanation thereof, the Contractor shall call upon the Architect for supplemental instructions.

1.13 CONTROL AND OBSERVATION

- A. The Architect and Owner shall have the right to reject materials or workmanship, which in their opinion are not in accordance with this contract, to interpret contract provisions and the meaning of the drawings and specifications. The above named parties shall be allowed access to the work for observation.
- B. Defective work or work contrary to the contract documents may be rejected without regard to state of completion, even though said work has been accepted as a result of a previous observation.

1.14 APPROVALS

- A. Electrical equipment shall meet the listing requirements and bear a minimum of one of the following agency labels:
 - 1. Underwriter's Laboratories (UL)
 - 2. Electrical Testing Laboratories (ETL)
- B. No equipment will be accepted on the jobsite without prior written approval.

1.15 GUARANTEES

- A. In addition to specific guarantee mentioned in these specifications, the Contractor shall leave the entire installation in complete working order and free from defects in materials, workmanship or finish. Contractor shall repair or replace at his own expense a part that may develop defects due to faulty material or workmanship during the tests and within a period of one year after the work is accepted by the Owner. Contractor shall guarantee also to repair or replace with like materials existing work of the building or equipment, which is damaged during the repairing of such defective apparatus, materials or workmanship. The signing of the contract for his work covered by these specifications and of which they shall become a part, shall become a written guarantee on the part of the Contractor to carry out the provisions of this section of these specifications.

1.16 RECORD DRAWINGS AND OPERATING AND MAINTENANCE BOOKS

- A. Record Drawings (Refer to Division 1): On completion of work, furnish the Owner through the Architect, with a complete set of reproducible sepia transparency record drawings and shop drawings which properly reflect the locations of equipment, fixtures, piping, ductwork, diffusers, mixing boxes, controls, etc., as actually installed. Where necessary to locate concealed equipment, dimensions, shall be included on these drawings. Maintain a separate set of drawings at the job site for such marking of "As-Built" locations. This set shall be updated as the installation work progresses and shall be available to the [Architect] [Engineer] at job visits. The Contractor shall indicate on the "Record Drawings As-Built" deletions in green. Additions, relocations, rerouting and modifications shall be indicated in red.
- B. As a condition of Architect's partial and final review of payment requests, the general contractor shall prepare and maintain record drawings in electronic format. The record drawings model space shall be updated monthly.

- C. The format shall be AutoCad or Revit release 2024 or later. A diskette with the electronic model will be supplied to the successful bidder for this purpose. Changes to the drawings shall be made on a layer named "record" and the color shall be green. A copy of the model on CD with "as-built" changes shall be submitted to the Architect along with payment applications.
- D. At the end of the project, the Contractor shall take "record" drawings and make corrections, modifying the electronic drawing files to show changes, modification or additions made during construction. These drawings will become Record Drawings to be delivered to the Architect.
- E. Final record drawings shall include legends, schedules, plans, sections and details.
- F. Record drawings shall be marked on the lower right corner with the following:
1. Name of Contractor
 2. Record Drawings
 3. Date
 4. Building Permit Number
- G. Letter shall be bold and print 1/4 inches high minimum.
- H. Contractor shall submit to the Architect, Record Drawings as follows:
1. Four (4) diskettes or USB Drives (AutoCad or Revit 2024 or later)
 2. Four prints
- I. The Architect will distribute the final record drawings as follows:
- | | OWNER | ARCHITECT | ENGINEER |
|--------|--------------|------------------|-----------------|
| CD | 1 | 1 | 1 |
| Prints | 1 | 1 | 1 |
- J. Delivery of complete set of Record Drawings is one condition for the release of Contractor's final payment under the Contract.
- K. Operating and Maintenance Books (Refer to Division 1): Provide the Owner through the Architect, operating instructions and maintenance data books for equipment and materials furnished under this Division.
- L. Submit five copies of operating and maintenance data books to the [Architect] [Engineer] for review two weeks before final inspection of the project. Assemble data in a single complete indexed volume and identify the size, model and features indicated for each item, as follows:
1. Identification readable from the outside of the cover, stating "Heating, Ventilating and Air Conditioning and/or Plumbing and/or Fire Protection Installation. Owner,

by (name of company).”

2. Neatly typewritten index near the front of the manual, furnishing immediate information as to location in the manual of emergency data regarding the installation.
3. Complete instructions regarding the operation and maintenance of equipment involved.
4. Complete nomenclature of replaceable parts, their part numbers, current cost and name and address of the nearest vendor of replacement parts.
5. Valve identification table keyed to valve I.D. number (e.g. V-1) on brass tag attached to each valve. Table shall indicate type of valve, product or service (e.g. domestic cold water), and function (e.g. shut-off, balancing, etc.).
6. Copy of guarantees and warranties issued on the installation showing dates of expiration.
7. Copy of the Air and Water Balancing Reports.

1.17 DAMAGE BY LEAKS

- A. During the time period from the date of contract until termination date of this guarantee, the Contractor shall be responsible for damages to the ground, walls, roads, building, piping systems, electrical systems, heating, ventilating and air conditioning systems, building equipment, furniture and other building contents caused by leaks in the piping systems or equipment being installed or having been installed by him. Repair work shall be done as directed by, in a manner satisfactory to the Owner at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Standard of Quality: Materials and equipment shall be new and in good condition. The commercially standard items of equipment and the specific names mentioned in sections of Division 23 are intended to establish the standards of quality and performance necessary for the proper functioning of the mechanical work.
- B. Variations: Since manufacturing methods vary, reasonable minor equipment variations are expected; however, performance and material requirements are minimum. The Architect retains the right to judge equality of equipment that deviates from the specifications.
- C. Symbols are for identification. Symbols, capacities, sizes, and electrical characteristics are indicated on the drawings. Contractor shall make necessary provisions for installation of his equipment and for attaching or connecting his work to other trades.

2.2 FLASHINGS

- A. Make pipes and vents passing through roof or outside wall waterproof with flashings and storm collars or counter flashings.
- B. Except as otherwise noted or required, extend vent pipes passing through roof at least 12 inches above finished roofline.
- C. Furnish and install on each pipe passing through the roof a galvanized sheet metal flashing assembly with eight-inch skirt.
- D. Ductwork-penetrating roof or exterior walls shall be flashed and counter flashed with galvanized sheet metal.
- E. Furnish and install on each pipe passing through the roof a six-pound seamless lead flashing assembly with eight-inch skirt. Flashing shall have steel reinforced conical boot and be complete with open top cast iron counter flashing and permaseal waterproofing compound. For sanitary vent, provide a hood with a minimum 2 to 1 free area to vent pipe size.
- F. Ductwork-penetrating roof or exterior walls shall be flashed and counter flashed with galvanized sheet metal.

2.3 PIPE SLEEVES

- A. Provide pipe sleeves for mechanical piping.
- B. Size pipe sleeves to permit placing pipe and specified isolation material for pipes passing through concrete or masonry walls or concrete slabs.
- C. Sleeve for pipes through floor slabs standard weight black steel pipe with top of sleeve projecting 3" above finished floor. For waterproof sleeves, use J.R. Smith Fig. 172 or equivalent by Zurn or Josam.
- D. Sleeves for pipes through walls shall standard weight black steel Schedule 40 pipe with ends flush with wall surfaces.
- E. Seal pipes passing through fire rated walls or floors. Use Dow Corning 3-6548 Silicone RTV Foam in the annular space between pipes and sleeves. Sealant through fire rated walls shall be rated with the same fire rating as the wall.
- F. Insulated pipe shall be insulated in sleeves, caulked and sealed as above. Use type CS-CW inserts as manufactured by Pipe Shields, Inc.
- G. Pipes passing through exterior walls and concrete walls shall be sealed watertight with "Linkseal" as manufactured by Thunderline Corp. Method of installation as recommended by the manufacturer.

2.4 PIPE ISOLATORS AND COVERING PROTECTION

- A. Pipe isolators: Provide each hanger or clamp for uninsulated piping with an isolation material, having metal backing, to isolate sound vibration and electrolysis. Provide Elcen "Isolator or appeared equal." Isolator not required for fire protection automatic sprinkler piping, waste, vent and natural gas piping.

2.5 ELECTRIC MOTORS

- A. Horizontal mounted fan and pump motors (close coupled excepted) shall be of the "Premium" efficiency type. Provide General Electric "Energy Saver," Westinghouse "Tee 11", U.S. Motors,"XB", Baldor "Super E", "Lincoln" "Ultimate EI" motors or approved equal unless otherwise specified. Guaranteed minimum full load efficiencies shall be certified in accordance with Institute of Electrical and Electronic Engineers (IEEE) Standard 112 Test Method B, National Electric Manufacturers' Association (NEMA) MG-1-12.53a, and shall meet or exceed the following minimum criteria:

GUARANTEED MINIMUM FULL-LOAD NOMINAL EFFICIENCY						
MOTOR HORSEPOWER	OPEN MOTORS			ENCLOSED MOTORS		
	1,200 rpm	1,800 rpm	3,600 rpm	1,200 rpm	1,800 rpm	3,600 rpm
1	80.0	82.5	--	80.0	82.5	75.5
1.5	84.0	84.0	82.5	85.5	84.0	82.5
2	85.5	84.0	84.0	86.5	84.0	84.0
3	86.5	86.5	84.0	87.5	87.5	85.5
5	87.5	87.5	87.5	87.5	87.5	87.5
7.5	88.5	88.5	87.5	89.5	89.5	88.5
10	90.2	89.5	88.5	89.5	89.5	89.5
15	90.2	91.0	89.5	90.2	91.0	90.2
20	91.0	91.0	90.2	90.2	91.0	90.2
25	91.7	91.7	91.0	91.7	92.4	91.0
30	92.4	92.4	91.0	91.7	92.4	91.0
40	93.0	93.0	91.7	93.0	93.0	91.7
50	93.0	93.0	92.4	93.0	93.0	92.4
60	93.6	93.6	93.0	93.6	93.6	93.0
75	93.6	94.1	93.0	93.6	94.1	93.0
100	94.1	94.1	93.0	94.1	94.5	93.6
125	94.1	94.5	93.6	94.1	94.5	94.5
150	94.5	95.0	93.6	95.0	95.0	94.5
200	94.5	95.0	94.5	95.0	95.0	95.0

1. 1/2 HP and Larger: 208 Volt 3 phase, 60 Hertz.
2. Smaller than 1/2 HP: 115 Volt, 1 phase, 60 Hertz.

B. General:

1. Motors shall be started across the line unless otherwise specified. Motors shall be selected with low starting current and shall be designed for continuous duty to

provide the running torque and pull-in-torque required to suit the load. Unless otherwise specified, motors shall be single speed –1750 rpm.

2. Motors shall have standard drip-proof enclosure unless otherwise specified.
 3. Motors exposed to weather shall be of the totally enclosed fan-cooled type.
 4. Motors shall have at least 1.15 service factor. Motors shall be selected to operate at design conditions without exceeding nameplate ratings without operating using the service factor.
 5. Motors shall be sealed or field-lubricated in which case the latter shall be provided with grease fittings.
 6. Pump motors shall be selected to drive the pump through its characteristic curve, from zero to 25% above the design flow, without exceeding rated full load nameplate horsepower. Pump motor nameplate rating shall not be exceeded in pump operation anywhere in the pump curve.
- C. Three-Phase: Three-phase motors 10 horsepower and smaller shall have cast iron or steel housings and shall be of the squirrel cage induction type. Three-phase motors 15 horsepower and larger shall have cast iron housings and shall be of the squirrel cage induction type.
- D. Single Phase: Single phase motors shall be capacitor-start type having internal thermal overload protection and with starting, pull-in and running characteristics to suit the load.
- E. Where motor is an integral part of equipment, motor manufacturer shall be as recommended by the equipment manufacturer. However, other items shall comply with these specifications.
- F. Nameplate: A motor nameplate shall be securely affixed to each motor and shall clearly indicate the class of insulation and the service factor in addition to the usual electrical data.
- G. Special Requirements: Refer to various sections of this Division for special requirement for specific items of equipment requiring motors.
- H. Submittals: Manufacturer's data for equipment requiring motors shall be submitted for review. Indicate the motor manufacturer, motor horsepower, voltage, speed, efficiency, special torque requirements, enclosure and other special requirements.

2.6 MOTOR CONTROLLERS

- A. Where required: In general, motor controllers for motors shall be furnished and installed under Division 16 unless indicated or specified otherwise. Motor controller that is not an integral part of a piece of equipment shall be furnished under this Division and shall be installed in accordance with the following specifications.
- B. General: The motor controller shall be steel mounted. Controllers shall be front wired and terminals shall be accessible for wiring directly from the front. No slate or ebony

asbestos shall be permitted on a controller from size 00 through size 8. Contacts shall be solid silver cadmium oxide alloy. Bare copper or silver flashed contacts shall not be permitted. Operating coils shall be pressure molded and so designed that if accidentally connected to excessive voltage, they will not expand, bubble or melt. When a coil fails under over-voltage condition, the motor controller shall definitely drop and not freeze the contacts in the "on" position.

- C. Overload Relays: Overload relays shall be furnished for each of the three phases and shall be of the hand-reset variety so that blocking the reset mechanism in the reset position will not prevent the starter from dropping out if the motor is overloaded. This specifically excludes those overload relays which change to automatic reset from hand-reset when the reset mechanism is blocked unless the automatic reset feature can be removed or voided. Accidental depressing of the reset button or mechanism shall not shut off the motor. Overload relays shall not be field convertible from hand to automatic reset type.
- D. Interlocks: Provide space to field-add one or more extra N.O. or N.C. interlocks to (except size 00) motor controllers without removing existing wiring or removing the controller from its enclosure.
- E. Bulletin Numbers: Full voltage magnetic motor controller to be furnished under this Division shall be similar and approved equal to Allen-Bradley (AB) Bulletin Numbers as follows:
 - 1. Individual three phase motor controller – AB Bul. 709.
 - 2. Individual single phase motor controller – AB Bul. 709SP.
 - 3. Combination three phase motor controller with fusible or nonfusible disconnect switch –AB Bul. 712.
 - 4. Combination three motor controller with circuit breaker –AB Bu. 713.
 - 5. Individual three multi-speed motor controller for two speed, single or two winding motors –AB Bul. 716.
 - 6. Combination three phase multi-speed controller with circuit breakers for two speed, single or two winding motors –AB Bul. 717.
- F. NEMA Type: In general, motor controller enclosures shall be NEMA Type 1 general purpose unless exposed to the weather or otherwise indicated on the drawings. Motor controller, including variable frequency drives, exposed to the weather shall have NEMA Type 3R watertight enclosure.
- G. Holding Coils: General holding coils in full voltage magnetic motor controllers shall be suitable for use on 120 Volt A.C. control voltage.
- H. Overload Protection: Three phase full voltage magnetic motor controller shall be suitable for use on 120 Volt A.C. control voltage.

- I. Manual Controllers: Manual motor controllers where indicated on the drawings, required and/or specified shall be similar and equal to Allen Bradley Bul. 600 in NEMA Type 1 enclosure or otherwise required for the location of the installation.
- J. Accessories: Motor controllers shall be provided with accessories such as control power transformers, push buttons, selector switches, pilot lights, etc., as indicated on the drawings and as specified herein. In general, most motor controllers shall include a maintain-contract start-stop button or run switch.
- K. Manufacturer: Allen-Bradley or approved equal.

2.7 BELT DRIVES AND GUARDS

- A. Belt Driven Equipment: Provide with V-belt type, adjustable-pitch driving sheaves for up through 25 HP motors. 30 HP and above shall have fixed pitch. Provide additional drive changes for motors when necessary to meet specified CFM for final air balance (one change minimum) at no additional cost to owner.
- B. Drives: Minimum HP rating of 1.5 times motor nameplate HP.
- C. Sheaves: Cast iron, machined and balanced and keyed to shaft and locked with Allen type set screws.
- D. Pitch Diameters: Minimum 3.0 inches for A section belts, minimum 5.0 inches for B section belts.
- E. Guards: Provide belt drives with guards per OSHA requirements, metal construction, with angle iron framework with 1/2 inch expanded metal front panels and removable section held in place with studs and wing nuts for easy replacement of belts. Provide openings at shaft ends for tachometer readings.

2.8 ESCUTCHEONS

- A. Provide heavy chrome-plated or nickel plated plates or approved pattern on pipe passing through floors, walls and ceilings in finished areas. Escutcheons shall be chrome-plated steel plates with concealed hinges and setscrew. Pattern shall be approved by the Architect.

2.9 CORROSION PROTECTION

- A. Prior to delivery to the job site, wrap buried steel and copper piping with corrosion protective wrap of pressure sensitive polyvinyl chloride or polyethylene tape applied after pipe has been thoroughly cleaned. Tape shall be nominal thickness of 20 mils consisting of one layer of 20 mil tape or two separate layers of 10 mil tape. Apply with suitable primer adhesive recommended by manufacturer.
- B. Tightly apply tapes with 1/2 inch minimum uniform lap, free from wrinkles and voids. Use approved wrapping machines and experienced operators.

- C. Tapes: "Chasekote" No. 775, Plicoflex No. 340-25, Polyker 922 and 923, "Scotchwrap" No. 51 or equal. Apply tape after pipe is cleaned as recommended by the tape manufacturer.
- D. Cover filed joints and fittings by wrapping polyethylene or polyvinyl tape specified for wrapping piping, except use two layers of 10 mil thick tape. Wrap joints to provide minimum of six-inches over adjacent pipe covering. Where fittings are wrapped, width of tape shall not exceed two inches. Apply adequate tension so tape will conform tightly to contours of fittings. Use putty tape insulation compounds such as "Scotchfil" or equal to fill voids and provide smooth even surface for application of tape wrap.
- E. Alternate: In lieu of tape wrap, factory applied plastic coating on steel pipe will be acceptable. Use tapes for field joints, fittings and valves same as specified above. Pipe Coating: "X-Tru Coat" (20 mil thick) as manufactured by Standard Pipe Protection, Republic, Pipe Line Service Corp., Scotchkote 202 (12 mil thick) as manufactured by 3M Company, or equal, with "X-Tru-Tape", or equal, for joints and valves.
- F. Test wrapped or coated pipe, fittings and field joints on job site, after assembly, with approved high voltage holiday detector Tinker and Rasor, or equal, with positive signaling device to indicate flaws, holes or breaks in wrapping. Set peak voltage to 10,000 volts. If Scotchkote 202 is used, set peak voltage to 1,000 volts. Place piping on temporary blocks to allow testing to run along underside of pipe. Repair defects before covering. Conduct testing in presence of [Architect] [Engineer] or his representative.
- G. No special precautions are required for plastic piping below grade.
- H. Special wrapping is required for contact with concrete such as thrust blocks or floor slabs. Piping shall be wrapped with minimum 8 mil thick polyethylene plastic sheets.

2.10 ACCESS COVER AND ACCESS DOORS

- A. Provide access covers over underfloor buried mechanical valves, controls, cleanouts, located in interior and exterior floor and grade areas.
- B. Provide access door over concealed mechanical valves, controls, duct coils, dampers, fire dampers, pipe chases, concealed mechanical equipment through fire rated walls and ceilings.
- C. Provide fire rated doors for access to mechanical equipment valves.
- D. Access covers – Interior concrete floors:
 - 1. Type: Square or rectangular frame with hinged and secured cover.
 - 2. Size: Nominal 10" x 10".
 - 3. Construction: Aluminum alloy frame and hinged score rated XH cover with lifting device. Secure with vandal proof screws.
 - 4. Marking: Cast cover with words "CLEANOUT", "GAS SHUT-OFF" or "WATER SHUT-OFF" when used for these services.

5. Acceptable manufacturers: Smith No. 4915, Zurn, Josam.
- E. Access Covers – Interior vinyl/asbestos tile floors:
1. Type: Square or rectangular frame with recessed cover.
 2. Size: Nominal 10" x 10".
 3. Construction: Aluminum alloy frame and tile recess XH cover with lifting device. Secure with vandal proof screws at each corner.
 4. Acceptable manufacturers: Smith No. 4920, Zurn, Josam.
- F. Access Doors – Walls and ceilings:
1. Type: Flush or recessed panel.
 2. Size: Minimum 12" x 12" nominal door for hand access, minimum 16" x 20" nominal door for personal access.
 3. Location and style:

Masonry/concrete walls	Milcor "M" Standard
Gypsum wallboard walls and ceilings	Milcor "M" Standard
Plastered surfaces (except toilet and kitchen walls)	Milcor "K" Standard
Tile/terrazzo/kitchen/toilet room walls (with casing bead stainless)	Milcor "M" Standard
Acoustical tile (check type of ceiling system)	Milcor "A"
General areas	Milcor "M" Standard
Fire rated shafts, rated walls and ceilings	Milcor "B" Standard
 4. Material:
 - a. Stainless Steel, No. 302 with No. 4 finish.
 - b. Standard manufacturer's standard construction and finish for type specified.
 5. Locking:
 - a. Screwdriver: Flush screwdriver operated with case hardened cam.
 6. Acceptable Manufacturers Milcor, Zurn, Miami, Carey, Potter-Roemer.

PART 3 - EXECUTION

3.1 SUPERVISION

- A. The Contractor shall furnish the services of a Superintendent experienced in the work of each section who shall be constantly in charge of the progress of the work, together with

the necessary journeymen, helpers and laborers required to properly unload, erect, connect, adjust, start, operate and test the work involved.

3.2 PROTECTION, CARE AND CLEANING

- A. The premises shall be maintained as required by Division 1.
- B. Materials and Equipment:
 - 1. Effectively protect materials and equipment to be installed on a project against moisture, dirt and damage during the construction period, to the entire satisfaction of the Owner. Special care shall be taken to provide protective and similar equipment that are particularly vulnerable to grit and dirt.
 - 2. Keep interior of ductwork free of dirt, grit, dust, installation and other foreign materials. Do not operate air distribution equipment until building is cleaned and air filters installed in order to prevent soiling of diffusers, ducts, air handling equipment, and buildings. Provide new set of filters after final acceptance of air distribution systems.
 - 3. Drain and flush piping to remove grease and foreign matter. Thoroughly clean out valves, traps, strainers, and demonstrate the cleanliness to the Owner.

3.3 EXISTING UTILITIES AND SERVICES

- A. Location and character of principal existing utilities, including dimensions, as shown on the drawings for convenience only, are believed complete and correct, but shall be subject to verification by the Contractor, as the Government assumes no responsibility for their correctness.

3.4 INTERRUPTION OF EXISTING UTILITIES OR SERVICES

- A. Refer to Divisions 0 or 1.
- B. Submit for appraisal to the contracting officer a written schedule for the shutdown, removal, installation and connection of materials. Shutdown of the existing utility services shall be coordinated as specified or advised.

3.5 EXISTING FACILITIES TO BE REMOVED

- A. Utilities and related equipment: Remove existing equipment and utilities, indicated and cap or plug utility line air/water tight in a manner approved by the Contracting Officer. Remove equipment and deliver to a location in accordance with instructions of the Contracting Officer. If utility lines are encountered that are not shown on the drawings, contact the Contracting Officer for further instructions.
- B. Concrete Pads: Saw cut and remove concrete pads as indicated.
- C. Patching: Where removals leave holes on damaged surfaces exposed in the finished work, patch and repair those holes and damaged surfaces to match adjacent surfaces. Where new work is to be applied to existing surfaces, perform removals and patching in

a manner to produce surfaces suitable for receiving a new work. Finished surfaces of patched area shall be flush with the adjacent existing surface as possible as to texture and finish.

3.6 DISPOSITION OF MATERIALS

- A. Refer to Divisions 1 and 2.

3.7 CLEAN-UP

- A. Debris and Rubbish: Remove and transport debris and rubbish in a manner that will prevent spillage on pavement, streets, or adjacent areas. Limits to 3/4 cubic yard capacity buggies or other conveyances used roofs and within the building to transport removed debris. Clean up spillage from pavement, streets and adjacent areas.

3.8 INSTALLATION

- A. General: Inspect the architectural, structural, plumbing, fire protection, special systems and HVAC drawings and specifications to become familiar with the building construction and to coordinate with the work of others.
- B. Piping: Install in strict accordance with manufacturer's written installation instructions and recommendations. Install in a manner that permits expansion and contraction caused by changes in temperature and pressure. Provide additional support as required. Run pipes straight and true, parallel to or at right angles to the building walls. Springing or forcing piping into place will not be permitted.
- C. Fixtures and Equipment: Install in strict accordance with manufacturer's written installation instructions and recommendations. Fixtures (except for handicapped) shall be roughed in only from fixture manufacturer's certified "Rough-In Measurement Drawings" which shall be submitted to the Architect (Engineer) for approval. Handicapped fixtures shall be installed in accordance with Title 24 California Administrative Code rough-in measurements adjusted from manufacturer's certified drawings.

3.9 STAGING AND HOISTING

- A. Provide hoisting equipment, staging scaffold, ladders, barricades, shores or similar facilities required to properly carry out this work in accordance with safety regulations.

3.10 EXCAVATION AND BACKFILL

- A. The Contractor shall perform necessary excavations and backfill for the installation of work included in his contract.
- B. Excavation: Bury piping outside the building to a depth of not less than 3'-0" below finish grade unless otherwise noted.
- C. Excavations shall be as narrow as possible and shall be braced and supported as prescribed by the State Industrial Safety Commission. Excavations shall be cleared of

roots and other organic substances and debris. Debris and surplus earth shall be removed from the site. Excavations shall be free of water.

- D. Backfill shall not be more than six-inch thick layers of properly dampened and solidly iron tamped approved earth or backfill material to a density of 90% compaction. Compacting by pudding will not be permitted.

3.11 ENCLOSURES AND BARRICADES

- A. The Contractor shall provide, install and maintain for the duration of the work as required, lawful and necessary barricades and railings, lights, warning signs and signals and shall take other precautions as may be required to safeguard persons, the site and adjoining property, including improvements thereon, against injuries and damages of every nature whatsoever. This requirement applies continuously (24 hours, 7 days a week) for the duration of this contract and is not limited only to regular working hours.

3.12 CONTROL AND INSPECTION

- A. The Architect or Owner shall have the right to reject materials or workmanship which in his opinion are not in accordance with this contract, to interpret contract provisions and the meaning of the drawings and specifications.
- B. The above named parties shall be allowed access to the work for observation.
- C. Defective work in anyway contrary to the contract documents may be rejected without regard to state of completion, even though said work has not been rejected as a result of a previous observation.

3.13 SLEEVES, CUTTING AND PATCHING

- A. The Contractor shall be responsible for the sizing and timely placing of sleeves of piping and insulation material passing through walls, partitions, beams, floors and roof while same are under construction. If a pipe is insulated, its pipe sleeve shall be larger than the outside diameter of the insulation around the pipe. Sleeves set in concrete floor construction shall be 20 gauge galvanized steel. If holes and/or sleeves are not properly installed and cutting and patching becomes necessary, it shall be done at no expense to the Owner by parties approved by the [Architect] [Engineer]. Openings into existing masonry shall be core drilled or saw cut. The Contractor shall undertake no cutting or patching without first securing the [Architect's] [Engineer's] written approval. Where a pipe passes through a sleeve, no joint of the pipe (or its insulation) shall touch the sleeve. Caulk around such pipe with sufficient layers of 1/8 inch neoprene and seal off opening between pipe and sleeve with non-hardening mastic. Caulking in fire walls or floors shall be made using a UL listed, fire-rated material. Do not continue insulation material through fire rated wall or floor.

3.14 ANCHOR BOLTS

- A. Furnish and install anchor bolts for equipment placed on concrete equipment pads or on concrete slabs. Bolts shall be of the size and number recommended by the manufacturer of the equipment and shall be located by means of suitable templates. When equipment is placed on vibration isolators, the equipment shall be secured to the

isolator and the isolator to the floor, pad, or support as recommended by the vibration isolation Manufacturer.

3.15 LUBRICATION

- A. Where Necessary: Provide means for lubricating bearings and other machine parts. If a part requiring lubrication is concealed or inaccessible, extend a lubrication tube with suitable fitting to an accessible location and identify it.
- B. After Installation: Properly lubricate parts requiring lubrication and keep them adequately lubricated until final acceptance by Owner.

3.16 INSTALLATION OF EQUIPMENT

- A. Floor mounted equipment shall be set on housekeeping pads extending 6" beyond sides of the equipment and secured using bolts and expansion shields. Housekeeping pads shall be 4" high (minimum) unless otherwise shown on drawings.
- B. The housekeeping pads and bases shall be of concrete with 1/2" reinforcing bars at 12" centers each way and doweled into the concrete floor unless otherwise indicated.
- C. Equipment shall be secured in place using fasteners as recommended by SMACNA's Guideline for Seismic Restraints of Mechanical Systems latest edition. Bolt sizes as a minimum shall be per the following schedule:

Bolt Size / Inches	Equipment Weight / Per Bolt Pounds
3/8	50
1/2	120
5/16	225
3/4	300
7/8	950

- D. Vibration Isolation: Vibration of motors, fans and other moving machinery shall be effectively isolated to prevent vibration transmission to building. Isolation shall prevent noise transmission through structure and slabs. Equipment shall be set on or suspended from neoprene and steel spring vibration dampeners of proper rating as specified herein, as shown on drawings, or as otherwise required. Fans and motors shall be secured to a common base.

3.17 INSTALLATION OF VALVES

- A. General:
 - 1. Valves shall be full line size unless otherwise noted. Automatic control valves are exempted.
 - 2. Valves shall have proper clearances for handle operation and shall close tight at the specified test pressure.
 - 3. Pump discharge check valves shall be of non-slam type.

B. Arrangement

1. Valves shall be installed in the systems so located, arranged and operated as to give complete regulation of apparatus, equipment and fixtures.
2. Valves shall be installed for accessibility and easy maintenance.
3. Gate valves shall be installed with stems horizontal to vertically upright.
4. Provide valve box at each valve or cock in ground. Set cover flush with finished grade except in planted areas set 1" above grade.
5. Balance Valves: Install balance valves where shown and on each circulating return branch where two or more branches occur on domestic hot water system.
6. Provide readily accessible lubricated gas shut-off valve in gas supply to each gas burning appliance and ahead of union connection thereto, and in addition to a valve on appliance. Locate within 3'-10" of appliance.
7. Compression Stops: Install stop valve or compression stop on water supply lines to each plumbing fixture, including hose faucets. Where fixture from trim is specified with integral built-in stops, individual supply stops will not be required. Unions are not required adjacent to compression stops.
8. Hose Faucets: Mount with outlet 18" above finished grade or 12" above finished floor, unless shown otherwise.

C. Location:

1. In branches and/or headers of water piping serving a group of two or more plumbing fixtures.
2. On both inlet and outlet of apparatus and equipment.
3. For shutoff of branch mains.
4. For flushing and sterilizing the systems.
5. Where shown on the drawings.
6. Ahead of each automatic control or regulation valve in water lines.

3.18 PIPE SUPPORTS

A. Installation:

1. Securely support piping from building construction with manufactured iron hangers, brackets, trapezes, guides, anchors and sway braces to maintain pipe alignment and prevent sagging, noise and excessive strain due to uncontrolled movement under operating conditions. Auxiliary secondary beams shall be

furnished and installed under this division of the specifications wherever necessary to meet the requirements above.

2. Piping supports for each system shall be engineered as a system and the proposed system submitted for review.
3. Relocate hangers as necessary to correct unsatisfactory conditions that may become evident when system is put into operation.
4. Support of piping by wire, rope, wood or other make shift devices will not be permitted.
5. Burning of holes in beam flanges or narrow members will not be permitted.
6. Where calculated maximum travel due to thermal expansion exceeds 1", provide rollers at supports.
7. Where rods exceed 12" in length for pipes 2" and larger and trapezes, lateral sway bracing shall be provided at every third hanger. As a minimum, each straight run of pipe shall be equipped with a longitudinal sway brace at 40'-0" maximum. Sway brace rods shall either be two hanger or 1-1/2 x 1-1/2 x 1/8" angle iron to 2" and smaller pipe size and 2" x 2" x 1/4" for larger pipes, set on 45°. Secure bracing to pipe and structure as for hangers. Hanger rods not sway braced shall be fitted at the top with a swivel. In no case shall Code limits be exceeded.
8. Piping shall not be supported from roof decking. Furnish and install auxiliary steel members to span steel purlins to distribute the load. Refer to roof shop drawings for location of beams and purlins.
9. Sheet lead, lead wool or wood plugs shall not be accepted as a substitute of cinch anchors as a means of attaching materials and equipment to concrete.
10. Support for insulated pipe shall be outside the insulation. Protect pipe insulation at every hanger, support or guide with inserts and shields. The galvanized sheet shield shall be applied between the hanger or support and the pipe insulation. Provide saddles at rollers of insulated pipe not equipped with inserts and shields.

3.19 IDENTIFICATION OF EQUIPMENT, DUCTWORK, PIPING AND VALVES

- A. Equipment Labels: Equipment furnished and installed under this section shall be provided with manufacturers metal labels securely attached to each individual piece of equipment and showing complete and comprehensive performance characteristics, size, model, serial number etc.
- B. Name Plates: Install engraved Bakelite nameplates with 1/4" high white letters for new and relocated equipment, switches, controls, room stats, damper motors, indicating zones, etc.
- C. Valves shall have tags attached with "S" mounting. Tags shall be at least 1-1/2 inches in diameter. Tags shall be stamped with valve I.D. number (e.g. V-1) and be keyed to

valve identification table submitted as part of the Operating Instruction and Maintenance Manuals.

- D. Dampers: Volume dampers above new or existing ceilings shall be marked by attaching a bright yellow, 12" length strip of cloth attached to damper rod. Groove ends of shafts to indicate open and closed position.
- E. Isolation Room Exhaust Ductwork:
 - 1. Ductwork shall be labeled with "Caution Airborne Infection Isolation Room Exhaust". Labels shall be permanent and in intervals of 20 feet on center or less.
 - 2. One label shall be located in close proximity to each isolation room
 - 3. One label shall be located at floor and roof penetrations of isolation room exhaust ductwork.
 - 4. Exhaust fan discharge ductwork and/or nozzles shall be labeled with "Caution Airborne Infection Isolation Room Exhaust".
 - 5. Labels shall be made of plastic sheet with pressure sensitive adhesive suitable for the application. Labels shall be yellow with black letters.
- F. Piping [exposed to view] shall have color coded markers as to type of use, service, and direction of flow in accordance with the latest edition of ANSI A 13.1. Locate markers at each valve, at entries to walls, and on 20 foot centers on straight runs of pipe. Provide a flow arrow at each identification marker. Labels or markers shall be made of plastic sheet with pressure sensitive adhesive suitable for the intended application.
 - 1. Color Coding for Labels and Bands by Hazard Classification:
 - a. Safe Materials – Green:
 - 1) Domestic cold and hot water – green with black letters.
 - 2) City water – green with white letters
 - 3) Chilled water – green with white letters
 - b. Dangerous Materials – Yellow:
 - 1) Natural Gas – yellow with black letters
 - 2) Industrial cold water – yellow with black letters
 - 3) Heating hot water – yellow with black letters
 - c. Fire Protection Equipment – Red:
 - 1) Fire Sprinkler Piping – red with black letters

- G. Nameplate designations shall correspond to the identifications on the “Record Drawings.”
- H. Submit to the Architect for approval a list of items to be tagged within two weeks after award of the Contract.

3.20 CLEANING

- A. Equipment, piping, ductwork, and related valves and appurtenances, etc. Clean so as to remove rust, scale, plaster or internal obstructions before a covering is installed or piping or equipment is painted. No scarring or disfiguring of equipment, piping, etc. will be acceptable before covering or painting is applied.
- B. Painted Work: Parts of the work, which are to be painted or which are exposed in the finished work shall be thoroughly cleaned and made ready to receive paint finish.
- C. Exposed Equipment: The exposed parts of equipment shall be cleaned, oil and grease removed, and the bright parts left clean and polished.
- D. Completion: Upon completion of the work, the Contractor shall remove rubbish, debris and surplus materials, resulting there, from the premises together with test instruments, and equipment and shall leave the site in a neat, clean and acceptable condition as approved by the [Architect] [Engineer].

3.21 FLUSHING OF PIPE SYSTEMS

- A. Entire new and existing pipe systems shall be flushed and cleaned of foreign matter before they are placed in service. The length and number of flushing cycles shall be governed by the complexity of the system, but in no case less than two cycles.
- B. Flushing shall be performed using a similar media that is to be carried by the piping system. (Example: Cold water piping – water; etc.)
- C. Where pipe strainers have been designed or installed into the piping network, said strainers shall be opened and strainer baskets removed and cleaned several times during the flushing of the system.
- D. Chemical Cleaning: For chemical cleaning of closed circuit systems see Section 23600.

3.22 CORROSION PROTECTION

- A. Protective coverings for underground steel piping shall be installed in strict accordance with manufacturer’s written installation instructions.
- B. Testing: Covered pipe shall be tested with “Tinker & Razor” high voltage holiday tester in the presence of Owner’s representative prior to backfilling holidays shall be repaired and retested.
- C. Plastic sleeves, rubber seals, or other dielectric material shall be used to isolate piping from the building structure where steel piping penetrates concrete floor slabs or walls.

3.23 PAINTING

A. Painting:

1. Finish painting of mechanical equipment shall be as specified in Division 9, unless otherwise specified in Division 15.
2. Equipment shall be provided with factory applied prime finish, unless otherwise specified.

B. Touch-Up:

1. If the factory finish on equipment furnished by the Contractor is damaged in shipment or during construction of the building, the equipment shall be refinished by the Contractor to the satisfaction of the Architect.

C. Concealed Materials:

1. Uncoated cast iron or steel that will be concealed or will not be accessible when installations are completed shall be given one heavy coat of black asphalt before concealment.

3.24 ELECTRICAL WORK

- A. Furnish electrical interlock wiring diagrams and complete sequences of operation for equipment specified in Division 26 that must interface with other electrical, mechanical, or control equipment. These diagrams shall be submitted to both the mechanical, and electrical engineers for review and coordination.
- B. Furnish additional line or low voltage, mechanical and control system wiring and conduit required over and above that specified in Division 26 as required for complete and functional systems is hereby specified in this Division in complete conformance with the requirements outlined in Division 26 at no additional cost to the Owner.

3.25 PENETRATIONS

- A. Duct and pipe penetrations of ceilings shall be sealed air tight with silicone caulking prior to installation of escutcheon rings.
- B. Duct and pipe walls or slab penetrations shall be canceled using a UL listed fire rated material.

3.26 SEISMIC RESTRAINT CODE REQUIREMENTS

- A. Seismic Design: Contractor shall be responsible for anchors and connections of mechanical work to the building structure to prevent damage as a result of an earthquake, including manufactured equipment, the connection and integrity of shop fabricated and field fabricated materials and equipment. Provide structural calculations certified and stamped by a Registered Professional Structural Engineer in the State of California prior to installation.

1. Equipment anchorage shall be as follows:
 - a. Mechanical equipment over 500 lbs., shall be braced or anchored in accordance with the regulations of Title 24, CCR and/or Uniform Building Code and/or the following, whichever is most restrictive.
 - b. Mechanical and electrical equipment shall be braced or anchored to resist a horizontal force acting in each direction using the following criteria:
 - 1) Equipment on Grade: 20% of Operating Weight
 - 2) Equipment on Structure: 30% of Operating Weight
 - 3) For flexibility mounted equipment use 4 x the above values, and for simultaneous vertical force use 1/3 x the horizontal force.
 - c. The above values are for an importance factor, $I = 1.5$ and seismic zone f_4 with $Z=0.4$.
 - d. Where anchorage details are not shown on the drawings the field installation shall be subject to the approval of the Structural Engineer.
 - e. Where platform details, anchorage details, or location are not shown or are different than shown on the drawings, the field installation shall be subject to the approval of the Structural Engineer.

3.27 PRELIMINARY OPERATIONS

- A. Should the Owner require that a portion of the system or equipment be operated prior to the final completion and acceptance of the work, the Contractor shall furnish such operation. The expense thereof will be paid, by the Owner separate and distinct from money paid on account of the contract.
- B. For such preliminary operation, payment shall not be construed as final acceptance of the work of this contract.

3.28 OPERATING INSTRUCTIONS

- A. The Contractor shall provide the services of a competent Operating Engineer to supervise the operation of equipment specified herein and to instruct the Owner's operators during a one day operating period. The operating instruction period shall be defined as straight time working hours and shall not include nights and weekends.
- B. The Owner shall be notified in writing at least five days before each operating instruction period begins. The Owner must indicate acceptance of the instructional starting time in writing to the Contractor. Upon arrival, the various instructors shall report to the Owner.

3.29 TESTS

- A. Tests must be performed and systems approved prior to painting, covering, insulating, furring or concealing piping.

- B. Provide test equipment, instrumentations and labor in conjunction with tests.
- C. Prior to test, protect or remove control devices, air vent and other items, which are not designed to stand pressure used in test.
- D. Accomplish testing of piping in section so as not to leave a pipe or joint untested.
- E. Obtain prior approval for test procedure.
- F. Responsibility for Damages: Contractor shall pay for costs for repair and restoration of work of other trades damaged by tests or cutting done in connection with tests.

3.30 REPAIRS AND RETEST

- A. Refer to related sections.
- B. Make other adjustments, repairs and alterations required to meet specified test results.
- C. Correct defects disclosed by tests or inspection; replace defective parts.
- D. Use only new materials in replacing defective parts; in case of pipe, replace with same length as defective piece.
- E. Repeat tests after defects have been corrected and parts replaced, until pronounced satisfactory.

3.31 MECHANICAL SYSTEMS STARTING

- A. Start-up operating systems provided under Division 23.
- B. Demonstration of operating systems provided under Division 23, including, but not limited to:
 - 1. Fan & Coil Units
 - 2. Air Cooled Condensing Units
 - 3. Control System
- C. Sequencing: Conduct demonstrations only after systems have been through start-up procedures, systems are complete and operating and operating maintenance data is complete.
- D. Verification of Conditions:
 - 1. Existing conditions: Examine preceding work to ensure that systems are operational.
 - 2. Verify with Division 26 contractor:

- a. Temporary services are disconnected and permanent utility services are capable of full loan.
 - b. Connections in main switchgear and subpanels are tight.
 - c. Necessary tests and check meter readings have been made.
3. Mechanical:
- a. Specified tests on piping systems have been made.
 - b. Specified cleaning of piping systems has been completed.
 - c. Piping: Conformance with drawings, specifications, and ANSI B31.1. Replace or correct work rejected because of defects or nonconformance with drawings, specifications and ANSI B31.1.
 - d. Operational and performance tests have been made.
 - e. Each piece of equipment comprising part of system has been checked for proper control sequence, and other condition which may cause damage to equipment or endanger personnel.
 - f. Verify air cooled chiller, heating hot water boilers, pumps operations.
 - g. Verify air cooled condensing units operations.
 - h. Verify vibration isolators are free to operate.
 - i. Verify exhaust fans operate.
 - j. Verify heating and/or cooling equipment cool and heat as controller requests.
 - k. Verify plumbing fixtures operate.
 - l. Verify water heater and control operate.
 - m. Verify integrity of wiring.
 - n. Verify sensors are provided and in correct location.
 - o. Verify range of each device and check software is compatible sensor calibration.
 - p. Test voltage on each input and output.
 - q. Test start/stop points to verify correct equipment operates.
 - r. Verify sequence of operation in modes.
 - s. Check sensor calibration.

- E. Submit testing plan for review prior to testing. Indicate order of procedure, list items will be tested and order of testing show where controllers and devices are located.
- F. Provide report indicating equipment operated properly and as per sequence of operation.

3.32 START-UP TESTING

- A. Notification: Notify owner at least two days in advance of start-up of mechanical systems.
- B. Start-up and Testing: Conduct start-up and start-up testing in presence of owners. See applicable Division 23 Sections for specific requirements.
- C. Lubrication: Field check and field lubricate equipment requiring lubrication prior to initial operation.
- D. Code Authorities: Complete tests required by code authorities including smoke detection, fire protection and health codes.
- E. Control Systems: Ensure control systems are fully operational in manual and automatic modes.
- F. Test equipment before and after installation as applicable where necessary to determine compliance with specifications.
- G. Start-up and Testing: Conduct start-up and start-up testing in presence of Owner. See applicable Division 23 Sections for specific requirements.
 - 1. Periodically clean various strainers during initial operation until no further accumulation of foreign materials occurs. Exercise care so minimum loss of water occurs when strainers are cleaned.
 - 2. Adjust safety and automatic control instruments as necessary to place them in proper operation and sequence.
- H. Field Tests: Subject the work of Division 23 to necessary field tests after installation and before acceptance.
 - 1. Make proper corrections, repairs and replacements should tests reveal evidence of malfunction. Repeat tests until proper and successful operation is achieved.
 - 2. If final control settings and adjustments cannot be properly made to performance tests because of time of year, make field tests as first seasonal use of systems following completion of project.
- I. Cleaning and Adjusting: After test runs have been completed and systems have been demonstrated to be satisfactory and ready for permanent operation. Clean permanent pipeline strainers properly adjust valve and pump packings, secure drive guards in place, check lubrication and replenish if required.

- J. Protection: If systems are not to continue in use following start-up procedures, take steps to ensure against accidental operation or operation by unauthorized personnel.
- K. Instruct Owner's representatives once on proper operation and maintenance of mechanical systems. Include seasonal concerns and operations.
- L. Systems: Mechanical systems provided under Division 23. See applicable Division 23 Sections for additional requirements.
- M. Contractor's Representatives: Have thorough knowledge of particular installation and system.
- N. Manufacturer's Representatives: Have thorough understanding of each particular equipment and system.
- O. Scheduling: Arrange and schedule demonstration times with Owner.
- P. Location: Conduct demonstrations at Project including tours of systems.
- Q. Operating and Maintenance Date: Arrange for data to be at demonstrations. Include review of data at demonstrations.
- R. Time Allotment: Provide demonstration periods of following minimum time periods:
 - 1. Water Systems: 8 hours (HVAC) for each building.
 - 2. Control Systems: 8 hours for each building.

3.33 COMPLETION DATE AND TESTING OF MECHANICAL SYSTEMS

- A. Final Acceptance Tests shall be sufficiently in advance of the contract completion date to permit the execution before that expiration of the contract of adjustments and/or alterations, which the final acceptance tests indicate as necessary for the proper functioning of equipment.
- B. Modifications shall be completed within the number of days allotted for completion of the contract.
- C. Starting and Operation: Before starting or operating equipment of systems, make thorough check to determine that the systems have been flushed and cleaned as required and equipment has been properly installed, lubricated and serviced. Notify owner at least three days in advance of starting these tests.

3.34 FINAL REVIEW

- A. Date and Time: At a time designated by the Owner, the entire system shall be reviewed by the Architect. The Contractor shall be present at this review.
- B. System Operation: The system shall be operating properly within water and air volumes balanced and temperature controls adjusted. Labels shall be removed from the

plumbing fixtures, and the fixtures shall be cleaned and in operating condition. Air and Water Balance Report shall be submitted to the Owner.

- C. Documentation: Certificates and documents required herein shall be in order and presented to the Architect at least two weeks prior to the review.
- D. Changes and Corrections: After the review, changes or corrections noted by the Architect as necessary for the work to comply with these specifications and the drawings shall be accomplished without delay in order to secure final acceptance to the work.

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SECTION 23 60 00

HEATING, VENTILATION AND AIR CONDITIONING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Section 23 05 00, "Common Work Results for Mechanical" applies to the work of this Section.
- B. The work listed or required by this section of the specifications is not intended to limit or establish the extent of the Heating, Ventilating and Air Conditioning work. The General Contractor shall be responsible for determining the extent of work to be done under a subcontract.

1.2 DESCRIPTION

- A. Work included: Provide labor, materials, appliances and tools necessary for the installation of the systems as herein specified and indicated on the drawings. The items of work shall include, but shall not be limited to, the following principal items:
 - 1. Equipment including, air cooled condensing units, fan coil units, etc.
 - 2. Refrigerant piping systems, including valves, fittings and etc.
 - 3. Insulation for piping.
 - 4. Condensate drain piping from fan coil units to the drain receptors.
 - 5. Miscellaneous hangers, supports, sleeves, inserts, isolators, flexible connections, seismic bracings, and other auxiliary equipment for systems under this section.
 - 6. Equipment identification, operations and maintenance instructions.
 - 7. Measurement and recording of final operating condition of HVAC Systems.
 - 8. Sound measurement of equipment operating conditions.
 - 9. Vibration measurement of equipment operation conditions.
- B. Apparatus, piping, ductwork, etc. shall be installed and interconnected so as to form complete systems.
- C. One eight-hour day of instructional time to Owner's maintenance of personnel by Contractor's start-up mechanic.

- D. Other work herein specified and shown on the accompanying drawings, including addendum, change orders and approved shop drawings.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Work designated on drawings to be installed or performed by other sections of the specifications.
- B. Motor starters and disconnects shall be furnished and installed under Division 16 of the specifications, unless otherwise specified or shown.
- C. Finish painting of equipment, piping and ductwork, except as noted otherwise.
- D. Equipment foundations, curbs, equipment pads, sumps and pits. Coordinate exact foundation sizes and elevations and anchor bolt sizes and locations.
- E. Air intake and discharge louvers in the building's exterior walls.

1.4 EQUIPMENT RESTRICTIONS

- A. Names of selected manufacturers have been specified for items of equipment and materials. Bids shall be based on the use of the product of one of the selected manufacturers, and only such products may be submitted for approval.

1.5 SUBMITTALS

- A. In addition to the requirements of Section 23 05 00, the submittal brochures shall include the following items:
 - 1. Piping System
 - Refrigerant Pipe Material and Fittings
 - Condensate Drain Pipe Material and Fittings
 - Pipe Hangers and Supports
 - 2. Insulation:
 - Piping:
 - Refrigerant
 - Condensate Drain
 - Insulation Jacketing
 - 3. Accessories:
 - Thermometers:
 - Air

4. Equipment:

Fan Coil Units
Air Cooled Condensing Units

5. Shop Drawings:

- a. Shop drawings shall be 1/4" scale minimum.
- b. Dimension Drawings for concrete pad, curb and equipment foundation (1/4" scale minimum) including bolt sizes and locations.
- c. Seismic Shop Drawings
 - 1) Submit fabrication details for equipment bases including dimensions, structural member sizes and support point locations. (1/4" scale minimum).
 - 2) Provide details of suspension and support for ceiling hung equipment.
 - 3) Where walls, floors, slabs or supplementary steel work are used for seismic restraint locations, details of acceptable attachment methods for ducts, conduit and pipe must be included and approved before the condition is accepted for installation. Restraint manufacturers' submittals must include spacing, static loads and seismic loads at attachment and support points.
 - 4) Provide details of seismic restraints and anchors; include number, size and locations for each piece of equipment.
 - 5) Provide complete scale (1/4" minimum) duct fabrication drawings for duct systems and equipment to be installed on this project to the Architect for approval prior to fabrication and installation.
 - (a) Duct offsets, transitions, sizes, routing and appurtenances shall be included in the scale drawings. Duct system installed locations shall be coordinated with Divisions of work included in this project prior to installation.
 - (b) The Mechanical Engineers Contract drawings shall not be used as the duct fabrication drawings. Drawings submitted in this format will be rejected and returned not reviewed to the contractor for re-submittal.
 - 6) Refrigerant piping, plans and sections (1/4" scale).

- (a) Show sections of the piping systems indicating routing and clearances between other trades.
 - 7) Submit fabrication details for equipment basis including dimensions, structural member sizes and support point locations. Provide all details of suspension and support for ceiling hung equipment. Where walls, floors, slabs or supplementary steel work is used for seismic restraint locations, details of acceptable attachment methods for ducts, conduit and pipe must be included and approved before the condition is accepted for installation. Restraint manufacturers submittals must include spacing, static loads and seismic loads at all attachment and support points. Provide specific details for seismic restraints and anchors; include number, size and locations for each piece of equipment.
 - 8) Control Wiring Diagrams.
- d. Provide calculations (including the combining of tensile and shear loadings) to support seismic restraint design.
- 1) Testing and calculations must include both shear and tensile loads as well as one test or analysis at 45° to the weakest mode. Analysis must indicate calculated dead loads, static seismic loads and capacity of materials utilized for connections to equipment and structure. Analysis must detail anchoring methods, bolt diameters, embedment and/or welded length. Seismic restraint devices shall be designed to accept, without failure, the forces acting through the equipment center of gravity. Overturning moments may exceed forces at ground level.
 - 2) Provide calculations to determine strain loads resulting from seismic forces presented in CBC, governing codes, and project seismic requirements. Seismic calculations shall be certified by a licensed engineer experienced in the design of restraints.
 - 3) Seismic restraint calculations must be provided for connections of equipment to the structure. Calculations must be stamped by a registered professional engineer with at least five years of seismic design experience, licensed in the state of the job location.
- e. The submittal drawings shall include one reproducible tracing, and six sets of prints. The original tracing shall be returned to the contractor with comments and approvals as noted.

PART 2 - PRODUCTS

2.1 CONDENSATE DRAIN PIPING:

- A. ASTM B88, Type "L" hard drawn, seamless copper tubing with ANSI B16.22 wrought copper fittings. Joints shall be solder sweat type. Solder shall be lead nickel-bearing and antimony free such as "Harris" Bridget.

2.2 REFRIGERANT PIPING

- A. Copper Tubing: ASTM B280, Type ACR hard drawn.
- B. Fittings: ANSI/ASME B16.22 wrought copper.
- C. Joints: Brazed, Cadmium free, AWS A5.8 45% silver brazing alloy, Class Bag-5.

2.3 FLEXIBLE PIPING CONNECTORS

- A. Provide "Resistoflex" Model R6904 or Mason Safeflex single sphere SFEJ standard for pipe size 1-1/2" to 24" and Safeflex for pipe size 1/2" to 1-1/4" or approved equal at each unit coil connection, pump connections, and piping connections to equipment.

2.4 INSULATION

- A. General: Pipe fittings and valves and duct thickness shall conform to Title 24 as a minimum. Use thickness specified, if greater than Title 24 requirements. Insulation to have a flame spread of not more than 25 and a smoke density not exceeding 50 when tested as a composite.
- B. Pipe Insulations
 - 1. Manufacturers: Johns Manville Corporation or approved equal.
 - 2. Glass Fiber: Micro-Lok meeting ASTM C547; rigid molded, noncombustible.
 - a. 'k' (ksi) Value: 0.23 at 75°F.
 - b. Maximum Service Temperature: 850°F.
 - c. Vapor Retarder Jacket: AP-T PLUS White kraft paper reinforced with glass fiber yarn and bonded to aluminum foil, secures with self sealing longitudinal laps and butt strips or AP jacket with outward clinch expanding staples or vapor barrier mastic as needed.
 - 3. Elastomeric Foam: ASTM C534; flexible, cellular elastomeric, molded or sheet.
 - a. 'k' (ksi) Value: 0.28 at 75°F.

- b. Maximum Service Temperature: 220°F.
 - c. Maximum Flame Spread: 25.
 - d. Maximum Smoke Developed: 50 (3/4" thick and below) 100 (above 3/4" thick).
 - e. Connection: Water vapor retarder adhesive as needed; Rubatex R-373 adhesive.
 - f. UV-Protection: Outdoor protective coating; Rubatex 374 Coating.
4. Field Applied Jackets:
- a. Aluminum Jacket: 0.020 inches thick sheet, smooth/embossed finish with longitudinal slip joints and 2 inches laps, die shaped fitting covers with factory attached protective liner.

C. Equipment Insulation

- 1. Manufacturers: Johns Manville Corporation or approved equal.
- 2. Flexible Fiber Glass Blanket: 812 Spin-Glas meeting ASTM C533; flexible.
 - a. 'k' (ksi) Value: 0.24 at 75°F.
 - b. Maximum Service Temperature: 450°F.
 - c. Density: 1.5 lb./cu ft density.
 - d. Vapor Retarder Jacket: Aluminum foil reinforced with fiberglass yarn and laminated to fire-resistant kraft, paper secured with UL listed pressure sensitive tape and/or outward clinch expanding staples and vapor barrier mastic as needed.
- 3. Rigid Fiber Glass Board: 814 Spin-Glas meeting ASTM C612, rigid.
 - a. 'k' (ksi) value: 0.23 at 75°F.
 - b. Maximum Service Temperature: 450°F.
 - c. Density 3.0 lb./cu ft density.
 - d. Vapor Retarder Jacket: Aluminum foil reinforced with fiberglass yarn and laminated to fire resistant kraft, secured with UL listed pressure sensitive tape and/or outward clinch expanding staples and vapor barrier mastic as needed.
 - e. Facing: 1 inch galvanized hexagonal wire mesh stitched on one face of insulation.

4. Rigid Fiber Glass Board: 1000 Spin-Glas meeting ASTM C612, rigid noncombustible.
 - a. 'k' (ksi) Value: 0.23 at 75°F.
 - b. Maximum Service Temperature: 850°F.
 - c. Density: 3.0 lb./cu ft.
 - d. Facing: 1 inch galvanized hexagonal wire mesh stitched on one face of insulation.

D. Piping Insulation:

1. Elastomeric Foam

Service	Pipe Size (Inch)	Thickness (Inch)
a. Refrigerant Suction Line	All Sizes	1
b. Refrigerant Hot Gas Line	All Sizes	1

- E. Condensate Drain Piping: Insulate condensate drain piping located inside the building from air cooling coil to drain receptors same as the chilled water piping except use 1-inch thick insulation.
- F. Pipe insulation located outside shall be 1" thicker than shown in Schedule.

2.5 ACCESSORIES

- A. Equipment Labels: See Section 23 05 00. In addition, major equipment (i.e., pumps, air handling units, exhaust fans, etc.) shall have equipment symbol number neatly spray-paint stenciled in 4-inch high letters in a position easily visible. Equipment above ceilings not accessible shall have stenciled identification on both sides.
- B. Name Tags:
1. Provide engraved bakelite name tags with 3/16" high white letters on black for thermostats, humidistat, switches, control panels, indicating air handling unit and zone numbers. Also provide nametags for air handling unit filter differential pressure gauges as noted below.
 2. Install zone damper operations with 1-1/2" high-stenciled letters to match zone thermostat designations. Mount damper operator labels so they are readable from the floor. Both surfaces shall be clean.

2.6 DIRECT EXPANSION DUCTLESS WALL MOUNTED INDOOR UNIT

- A. Manufacturer based upon Daikin model. Equal products by Mitsubishi, Trane or Carrier may be submitted for approval.

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B. General:

1. Indoor, direct-expansion, low profile wall mounted fan coil. Unit shall be complete with a coil, fan, fan motor, piping connectors, and hanging brackets.

C. Casing:

1. Cabinet shall be constructed of pre-coated steel. The discharge components are coated to prevent condensation. The inlet grilles shall be attractively styled, high-impact non-metallic material.
2. The inlet grilles shall have hinges and can be opened to obtain access to the cleanable filters, indoor fan motor and control box.

D. Refrigerant Circuits:

1. The units shall have a single refrigerant circuit. The refrigerant circuit shall be controlled by a flow control check valve. Refrigerant circuit shall be controlled by a factory-installed thermal expansion valve.

E. Coil:

1. Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins shall be bonded to the tubes by mechanical expansion and specially coated for enhanced wet-ability. A drip pan under the coil shall have a factory installed drain connection for hose attachment to remove condensate.

F. Fan:

1. Fans shall be centrifugal direct-drive blower type with air intakes on the sides of the blower housings and discharge at the front of the blower housings. Automatic, motor-driven vertical air sweep shall be provided standard.
2. Air sweep operation shall provide two user selectable modes.

G. Motors:

1. Motors shall be totally enclosed, permanently lubricated ball bearing with inherent overload protection. Fan motors shall be inverter controlled variable speed.

H. Controls:

1. Controls shall consist of a microprocessor-based control system which shall control space temperature, determine optimum fan speed, run self diagnostics, provide save mode and self cleaning. The temperature control range shall be from 64°F to 84°F.

2. User interface with the unit shall be accomplished through an accessory wired or wireless remote control (can be configured for °F or °C). The wired remote control shall be capable of running system diagnostics (displays operating conditions of the system):
 - a. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways to Building Control System – Delta Control System
 - b. Selectable automatic restart, after power failure the system will restart at the same operating conditions as before the failure.
3. A timer function to provide a minimum 24-hour timer cycle for system Auto Start/Stop.
4. Temperature-sensing controls shall sense return air temperature at the unit or at the remote control.
5. Indoor coil freeze protection in both cooling and heating (reversing valve failure) modes.
6. Automatic air sweep control to provide multiple operating modes of the air sweep louvers.
7. Dehumidification mode shall provide increased latent removal through total system modulation.
8. Fan-only operation to provide room air circulation when no cooling is required.
9. Diagnostics shall provide continuous checks of unit operation and warn of malfunctions. Error messages shall be displayed at the unit or the remote control.
10. Fan speed control shall be user-selectable: high, medium, low, or microprocessor determined based on the differential between the room temperature and the set point during all modes of operations.
11. Automatic changeover control shall include an adjustable dead band to prevent rapid mode cycling between heating and cooling.
12. Indoor coil high temperature protection shall be provided to detect excessive indoor discharge temperature in heating.
13. Cold blow prevention in heating.

I. Filters:

1. Unit shall have factory-supplied cleanable filters, with adjustable filter cleaning reminder on wired remote control.

J. Electrical Requirements:

1. Indoor units are 208/230-1-60 and are powered from the outdoor unit.

K. Special Features (Accessories):

1. Condensate pump and installation kit.

L. Warranty and Start-Up Service:

1. Manufacturer shall provide factory start-up service for each equipment. Manufacturer shall provide a one (1) year parts and labor warranty.

2.7 OUTDOOR CONDESNING UNITS

A. Manufacturer based upon Daikin model. Equal products by Mitsubishi, Trane or Carrier may be submitted for approval.

B. Unit shall be fully charged from the factory for up to 25 feet of piping.

1. This unit is designed to operate at outdoor ambient temperatures as high as 115°F and as low as 0°F.
2. Cooling capacities A.R.I. certified. The unit shall be UL listed. Exterior shall be designed for outdoor application.

C. Casing:

1. Unit casing shall be constructed of galvanized steel and painted with a weather-resistant powder paint.

D. Refrigerant Controls:

1. Refrigeration system controls shall include condenser fan and compressor contactor. High and low pressure controls are inherent to the compressor. Provide factory installed liquid line drier.

E. Compressor:

1. Provide a 5-year limited warranty, internal over temperature and pressure protection, total epoxy dipped hermetic motor windings, and thermostatically controlled sump heater. Include: Roto lock suction and discharge refrigerant connections, centrifugal oil pump, "special steel alloy" valves in valve plate assembly, and internal spring mounts.

F. Condenser Coil:

1. Coil is continuously wrapped, corrosion resistant all copper with minimum brazed joints and 3/8 inch O.D. seamless copper glued to a continuous

copper fin. Provide coil protected on all four sides by louvered panels and with a year limited warranty.

G. Controls and Safeties:

1. The unit shall be furnished with a 3-speed, 4-position fan switch on a wall plate for field mounting. The fan motor shall be equipped with integral, automatic reset thermal overload motor protection.
2. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways to Building Control System – Delta Control System.

H. Warranty and Start-Up Service

1. Manufacturer shall provide factory start-up service for each air-handling unit. Manufacturer shall provide a one (1) year parts and labor warranty

PART 3 - EXECUTION

3.1 EQUIPMENT INSTALLATION

- A. General: Install work as indicated, in accordance with manufacturer's instructions. Locate properly, plumb and level and securely attach to substrate foundations.

3.2 ACCESS TO EQUIPMENT

A. General:

1. Equipment and accessories shall be installed to permit access for maintenance.
2. Relocation of conduit, piping, equipment, and accessories required to provide maintenance access shall be accomplished by the Contractor at no additional cost to the Owner.

B. Access:

1. Provide access doors where dampers, instruments, controls, motors and other equipment requiring access for servicing, repairs or replacement are located behind walls, chases, or above non-removable ceilings.
2. The location of access doors shall be coordinated with and installed by the applicable trade installing walls or ceilings.
3. Contractor shall arrange for the necessary openings in the building to allow for admittance of apparatus.

3.3 PIPING SYSTEMS

- A. General: Apparatus, fixtures, devices and appliances which require pipe connections shall be so equipped and each such pipe connection shall be valved or trapped, or provided with special apparatus as indicated on the drawings or elsewhere specified. Where such connections are not indicated on the drawings or specified, they shall be made in the usual manner recommended by the manufacturer of each such equipment.
- B. Reduced fittings shall be used in lieu of bushings. Close nipples will not be permitted.
- C. Pipe lines shall be installed in the locations and of the sizes shown on the drawings or specified herein and of the materials and workmanship herein specified and shall be free from stains, tool marks, or other foreign substances.
- D. Piping shall be installed parallel to or at right angles to the building walls. Pipe lines shall be installed free from traps and air pockets and true to line and grade. Horizontal lines shall be installed as close to the building construction as possible so as to leave the greatest possible head room under them.
- E. The only filler that may be used in making up screw joints in pipe lines shall be an approved graphite paste or Teflon tape.
- F. Where pipes of two dissimilar metals are joined, "Mallory" dielectric couplings or approved equal shall be installed.
- G. Hangers and Supports:

- 1. Horizontal pipe lines shall be carried by hangers or supports spaced according to the following schedule:

SCHEDULE 40	STEEL PIPE	COPPER TUBING	
Size	Maximum Spacing	Tube O.D.	Maximum Spacing
1-1/4" or less	8'-0"	5/8" or less	6'-0"
1-1/2" - 2-1/2"	10'-0"	7/8" - 1-1/8"	8'-0"
3" or larger	12'-0"	2-5/8"-5-1/8"	12'-0"

- 2. Where two or more lines are run at the same elevation, trapeze hangers constructed of "Unistrut" or "Elcen" channels with rods as specified herein may be used. Provide separate hangers for each branch offset three feet or more in length. Hangers shall be set so as to allow the pipe to adjust itself to changes produced by expansion and contraction.
- 3. Pipes shall not be supported from decking. Furnish and install structural members to span steel purlins to distribute the load. Refer to roof shop drawings for location of beams and purlins to provide additional structural

members for hangers. Provide additional supports for upper attachments for piping supports with a secondary steel support system consisting of a structural steel channel securely between beams or purlins. Furnish additional "Unistrut" channel (back-to-back 1-5/8" x 1-5/8" x 0.010" roll formed) members. Clamp, brackets, etc., for complete support of piping and sway bracing. Do not penetrate metal decking with fasteners.

4. Hangers, unless otherwise noted on the drawings, for pipe lines shall be heavy duty clevis type: "Grinnel" Fig. 260 or approved equal. Hangers shall be supported on threaded rod hangers of the following minimum sizes:

PIPE SIZE	ROD DIA.
2" and less	3/8"
2-1/2" and 3"	1/2"
4" and 5"	5/8"
6"	3/4"

5. Seismic Bracing: Where hanger rods on horizontal runs of pipe are 24" in length or longer, Contractor shall provide transverse and longitudinal sway bracing angles in accordance with SMACNA Seismic Restraint Guide for Piping or Uniform Mechanical Code, whichever is the most stringent.
6. Condensate Drain (Waste) shall be installed in accordance with local code. Collect from aircoils, fuel-burning condensing appliances, overflows from water supplied equipment and discharge to approved plumbing fixture. Slope shall not be less than 1%. Size shall not be less than specified UMC.
7. Identification of Piping: Paint and identify exposed piping, as specified in Section 23 05 00.

3.4 PIPE TESTING

- A. Test piping system in accordance with ANSI/ASME B31.9.
- B. Test refrigeration system in accordance with ANSI/ASME B31.5.
 1. Pressure test refrigeration system with dry nitrogen to 200 psig. Perform final tests at 27 inches vacuum and 200 psig using electronic leak detector. Test to no leakage.
 2. Fully charge completed system with refrigerant after testing.

3.5 EXAMINATION AND PREPARATION

- A. Verify that equipment and surfaces are clean, dry and free of foreign material.
- B. Verify piping has been tested as specified.

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3.6 INSULATION

- A. Install materials in accordance with manufacturer's recommendations, building codes and industry standards.
- B. Continue insulation vapor barrier through penetrations, except where prohibited by code.
- C. Piping Insulation
 - 1. Locate insulation and cover seams in least visible locations.
 - 2. Neatly finish insulation at supports, protrusions and interruptions.
 - 3. Provide insulated dual temperature pipes or cold pipes conveying fluids below ambient temperature with vapor retardant jackets with self-sealing laps. Insulate complete system.
 - 4. In dual temperature systems seal pipe terminations including fittings, wall penetrations and pipe supports with vapor barrier mastic. In brine or chilled water, pipe systems seal pipe terminations every four pipe sections.
 - 5. For insulated pipes conveying fluids above ambient temperature, secure jackets with a self-sealing lap or outward clinched, expanded staples. Bevel and seal ends of insulation of equipment, flanges, and unions.
 - 6. Provide inserts between support shield and piping on piping 1-12" inches diameter or larger. Fabricate of Johns Manville Thermo-12 or other heavy density insulating materials suitable for temperature. Insulation inserts shall not be less than the following lengths:

1-1/2" to 2-1/2" pipe size	10" long
3" to 6" pipe size	12" long
8" to 10" pipe size	16" long
12" and over	22" long
 - 7. For pipe exposed in mechanical equipment rooms or in finished spaces, finish with aluminum jacket.
 - 8. For exterior applications, provide weather protection jacket or coating. Insulated pipe, fittings, joints and valves shall be covered with aluminum jackets. Jacket seams shall be located on the bottom side of horizontal piping.
- D. Equipment Insulation:
 - 1. Apply insulation as close as possible to equipment by grooving, scoring and beveling insulation, if necessary. As required, secure insulation to equipment with studs, pins, clips, adhesive, wires or bands.

2. Fill joints, cracks seams, and depressions with bedding compound to form a smooth surface. On cold equipment, use vapor retardant cement.
3. Provide insulated dual temperature equipment or cold equipment containing fluids below ambient temperature with vapor retardant jackets.
4. For insulated equipment containing fluids above ambient temperature, provide jacket with or without a vapor barrier.
5. Cover insulation with metal mesh and finish with aluminum jacket.
6. For equipment in mechanical equipment rooms or in finished spaces, finish with aluminum jacketing.
7. Do not insulate over nameplate or ASME stamps. Bevel and seal insulation around such.
8. When equipment with insulation requires periodic opening for maintenance, repair, or cleaning, install insulation in such a manner that it can be easily removed and replaced without damage.
9. For exterior applications, provide weather protection jacket or coating. Insulated equipment shall be covered with aluminum jacket.

3.7 TESTS

A. General:

1. Power, water and fuel required for tests will be furnished as specified under the General Conditions or General Requirements Sections. Other materials, gauges, test thermometers, and labor necessary shall be furnished by this Contractor.
2. Should a piece of apparatus or a material or work fail in one of these tests, it shall be removed immediately and be replaced by perfect material at the Contractors expense. Such portions of work so replaced shall be retested. Tests shall be performed in the presence of the Architect.

B. Equipment:

1. After the entire heating, ventilating and air conditioning system installation has been completed, ducts installed, and dampers adjusted, etc., a complete test of each air conditioning unit shall be made to determine whether the equipment fulfills the guarantee regarding the quantity of air delivered, efficiency, noiseless operation and other requirements.
2. Contractor shall furnish labor necessary to adjust the operation of the apparatus and make the connections for the test. Contractor shall replace fuses blown during the tests. After the tests, restore connections, apparatus, etc., to their proper condition.

3. Contractor shall demonstrate proper operation of the temperature control system and control system interlocks.
4. Provide Owner with report certifying that systems are operating properly.

3.8 OPERATION

- A. Operational Readiness: The Contractor shall insure that the complete installation including equipment and controls, is complete, operating, checked, and adjusted at the time of final inspection. Contractor shall provide one complete extra set of filters, which shall be installed in units prior to final inspection.
- B. The Contractor shall be held responsible for delays incurred and/or reinspections required due to lack of above-mentioned readiness.
- C. Each entire system shall be operated continuously for a period of three full days, at a time requested by the Owner, to prove that the systems will fulfill guaranteed requirements.

END OF SECTION

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SECTION 26 05 00
COMMON WORK RESULTS FOR ELECTRICAL

PART 1 GENERAL

1.1 DESCRIPTION

- A. Principal Work Items are: Provide all labor, material and equipment necessary to complete and test the electrical work as shown on the drawings and as specified herein. Work will include, but not limited to the following:
1. Underground duct banks and pre-cast concrete pull-boxes/manholes, including furnishing hardware and accessories (pulling eyes, drainage, necking, traffic cover, ladder, cable racks, perimeter grounding bus and ground rods) in each pull-box/manhole of the Power and Low Voltage Communication system (for telephone data copper, fiber-optic, low voltage control and Fire Alarm network systems).
 2. A complete electrical grounding system for the building, including electrical service grounding (Ground Rods in ground well, Uffer-ground and cold water pipe) and Low Voltage Communication system reference ground with a single point of ground connection at the Main Ground Bus.
 3. Supports, duct spacers, clamps, hangers, fastening devices, sleeves, slots, concrete bases, physical protection, caulking, weatherproofing, sealing, closing, etc.
 4. Relocation of utility services (power, fire alarm, fiber optic, tel/data, PV connections and etc.) services which are in the foot-print of the new building in this scope of work. The utility relocation works shall be done prior to grading works starting date.
 5. Complete installation and supply of 480/277 Volt and 208/120Volt, 3-Phase, 4-Wire Switchboard, Distribution Switchboards, Integrated Power Center Switchboard, feeders, pull-boxes, distribution transformers, control transformers, motor starters, disconnect switches, panel boards, branch circuit conduit and wiring and all other electrical devices.
 6. A complete grounding system for the 480/277 Volt and 208/120Volt separately derived systems and all of the electrical equipment.
 7. All Luminaires (lighting fixtures), including LED driver, electronic ballasts, lamps, occupancy/day light sensor, day light control, classroom lighting control system, corridor & lobby & exterior lighting control system and other control complete. Including the daylight dimming control system for the specified Tubular Daylight System as applicable.
 8. All exterior lighting fixtures including concrete bases for poles /low level area lights, walkway/bollard, step lights and planter lights.

9. All electrical work for the mechanical system, except as specified to be furnished or installed as part of other Sections in the Specifications.
10. All distribution materials and connection of the following listed equipment by the specific equipment furnished so that a complete and operable system results:
 - a. Building power, communication and fire alarm system connections to Campus systems.
 - b. Electrical operated roll down doors, gates and other type of door operator.
 - c. Electrical operated shades system as applicable.
 - d. Irrigation power connections.
 - e. Audio/Video equipment for classroom.
 - f. Hearing Assistance system.
11. Complete installation of the Central Lighting Inverter with battery back-up system in Nema1 enclosure for seismic zone 4 equipment, for the Emergency Egress Lighting system.
12. Furnish and install all hangers, anchors, sleeves, chases, access panels and supports required for electrical works.
13. Electrical conduit system rough-in.
14. Complete system of empty conduit, outlets, back-boxes, cabinets and/or terminal backboards for the security distribution system or other low voltage /signal systems.
15. Complete system of conduit with voice/data cables, outlets with devices, back-boxes, cabinets and/or terminal backboards with terminating blocks or patch panels for voice/data distribution system.
16. Excavation, backfill and concrete works required to complete items of this section.
17. Closing of all openings resulting from coring, sleeving, removal of conduit and/or equipment.
18. Cleaning, patching, fire stopping/proofing seal, repairing and painting.
19. Permits and Code Inspection fees.
20. Prime coat painting of all electrical equipment exposed to view in public area where required and deemed necessary by Architect.
21. Identified and instruction plates, tags, labels, magnetic yellow tapes, underground warning tapes etc.
22. Shop drawings and technical data; operating instruction and maintenance manual.
23. Test of all equipment and system installed.

24. "As-built" drawings, including but not limited to record of actual routing of duct banks, location of Power Pull-boxes/Manholes and Communication Pull-boxes, lighting and power/communication plan as-built condition.
25. Incidental items not indicated on the drawings nor mentioned in the specifications that belong to the work described, or are required to provide complete systems, as though called out here in every detail.

B. Work in Cooperation with Other Trades:

1. Examine the Drawings and Specifications and determine the work to be performed by the electrical, and other trades. Provide the type and amount of electrical materials and equipment necessary to place this work in proper operation, completely wired, tested, and ready for use. This shall include all conduits, conductor, and all other devices for the required operation and control sequences of all electrical, and other existing systems or equipment.

1.2 SUBSTITUTIONS

- A. General: Only written approval of Architect will permit substitutions for materials specified; See Section 01630, Product Options and Substitutions for procedure.

1.3 QUALITY ASSURANCE

A. Standards:

1. Comply with standards listed in the following:
 - a. Underwriters' Laboratories Inc. (UL).
 - b. The 2022 California Electrical Code, National Electric Code (NEC) 2020 edition, with California Amendments.
 - c. The USA National Fire Code (NFPA).
 - d. The National Electrical Manufacturers' Association (NEMA).
 - e. Institute of Electrical and Electronic Engineers (IEEE).
 - f. American National Standards Institute (ANSI).
 - g. 2016 California Code of regulations, Title 24, Part 1, 2 and 3.
2. Off-Site Work: Conform to Governing Agencies requirements.
3. Earthquake Provisions: All electrical component shall be anchored and braced to meet the force and displacement requirements prescribed in the 2020 CBC, Sections 1615A.1.12 through 1615a.1.22 and ASCE 7-16 Chapter 6 and 13.
4. In case of conflict among the reference standards, the more stringent provisions, better grade or quality shall govern and shall be resolved before installation at Contractor's expense. Prepare and secure approval for any clarifying details required by inspection authorities.

5. Nothing in the Contract Documents shall be construed as authority to permit work not conforming to codes, ordinances, standards or regulations.

B. Qualification Of Installers:

1. Throughout the progress of installation of the work of each Section, provide where required as indicated in respective Sections, at least one manufacturer's authorized representative who shall be thoroughly familiar with the specified requirements, completely trained and experienced in the necessary skills, who shall be present at the job site and shall direct all work performed under that particular Section.
2. Cutting and patching finish work shall be performed by workmen of the proper trade.

C. Qualification Of Manufacturers:

1. Manufacturers of the products supplied for this project shall have been in the business of manufacturing the particular product for at least five years and be able to prove a history of successful production acceptable to the Architect. As a condition for approval and when directed by the Architect, submit a list of past projects showing a minimum of five projects of similar scope to the Architect for approval.
2. Provide together with the Shop Drawing submittal, where called for in these Specifications, a list of five projects which shall have been in satisfactory operation for the past five years.

1.4 SUBMITTALS

A. General: Refer to Division 1.

B. Project Drawings:

1. The drawings are diagrammatic and indicate the general layout of the equipment.
2. The exact location shall be field determined, after shop drawing review for the installation in available space at the job site.

C. Manufacturers Data:

1. Within 30 calendar days after award of Contract, submit:
 - a. Complete materials list of all items proposed to be furnished and installed.
 - b. Manufacturer's specifications and other data required to demonstrate compliance with the specified requirements.
 - c. Unless specifically call for otherwise, provide bound copies of catalog cuts for standard products, not requiring specifically prepared Shop Drawings, for the following:

- 1) Wire and cable
 - 2) Conduit and raceways
 - 3) Outlet Boxes
 - 4) Convenience outlets
 - 5) Switches for lighting control.
 - 6) Disconnect switches for power control.
 - 7) Time clocks, photo controls.
 - 8) Contactors.
 - 9) Relays.
 - 10) Circuit breakers.
 - 11) Fuses.
 - 12) Motor starters.
 - 13) Dimmers for lighting systems.
 - 14) Standard lighting fixtures.
 - 15) Face plates for convenience outlets and light switches.
- d. Where more than one item, size, rating or other variations appear on a catalog cut sheet, clearly identify all items to be provided and properly indexed and referenced to Architect's identification numbers, designations and/or details.
 - e. Provide specially prepared Shop Drawings, including but not necessarily limited to:
 - 1) Custom designed lighting fixtures.
 - 2) Special electronic lighting control system.
 - 3) Distribution switchgear and transformers.
 - 4) Panelboards.
 - 5) Fire alarm system and wiring diagrams.
 - 6) Engraved switch-plates.
 - 7) Grounding system.
 - 8) Emergency power distribution system.
 - f. No work shall be initiated or fabrication of any equipment started prior to Architect's return of reviewed submittals.
- D. Operating Instructions and Maintenance Manuals:
1. Thoroughly instruct operating personnel designated by the Owner in the operation and maintenance of the equipment and systems installed.

2. Following approval of Shop Drawings of electrical equipment and prior to acceptance of electrical work, prepare 2 copies of operating and maintenance manuals in accordance with Division 1, describing operating, servicing, and maintenance requirements of electrical equipment installed under Division 16 with particular emphasis on safety devices. Operation and Maintenance Manuals shall cover all electrical equipment and systems including but not limited to the following:
 - a. Distribution switchgear and metering.
 - b. Panelboards.
 - c. Fire alarm and Detection system.
 - d. Transformers.
 - e. Motor starters.
 - f. Contactors.
 - g. Time clocks.
 - h. Relays.
 - i. Fuses.
 - j. Circuit breakers.
 - k. Any special electrical equipment.

- E. Information contained in the manual for the above equipment shall include the following:
 1. Manufacturer's catalog cuts and printed descriptive bulletins.
 2. Manufacturer's installation, operating, and maintenance instruction booklets.
 3. Parts list and costs.
 4. List of recommended spare parts for 12 months" operation.
 5. Name, address, and phone number for the closest source of spare parts.
 6. Wiring and schematic diagrams.

1.5 PRODUCT HANDLING

- A. Protection: Protect materials before, during, and after installation and protect installed work and materials of all other trades.
- B. Replacement: In the event of damage, immediately make all repairs and replacements necessary for the approval of the Owner's Representative and/or Architect and at no additional cost to the Owner.

- C. Delivery and Storage: Deliver all materials to the job site in their original unopened containers, where applicable, with all labels intact and legible at time of use. Store in strict accordance with the manufacturers' recommendations as approved by the Owner's Representative.

1.6 PERMITS

- A. General: Secure permits and pay all required fees for the installation of the electrical work.

1.7 RECORD DRAWINGS

- A. General: Refer to Specification Division 1, Contract Close-Out, "Project Record Documents", for requirements.

B. Record Drawings and Operating and Maintenance Books

1. Record Drawings (Refer to Division 1): On completion of work, furnish the Owner through the Architect, with a complete set electronic record drawings and shop drawings which properly reflect the locations of all equipment, fixtures, wiring junction box, pull box, feeder routing, underground feeder routing and etc., as actually installed. Where necessary to locate concealed equipment, dimensions, shall be included on these drawings. Maintain a separate set of drawing prints at the job site for such marking of "As-Built" locations. This set shall be updated as the installation work progresses and shall be available to the Architect at job visits. The Contractor shall indicate on the "As-Built" Drawings all deletions in green. All additions, relocations, rerouting and modifications shall be indicated in red.
2. The format shall be AutoCAD or Revit release 2016 or later. A USB Drive with the electronic model will be supplied to the successful bidder for this purpose. Monthly changes shall be made to the drawings on a layer named "record" and the color shall be green. A copy of the model on diskette with any "as-built" changes shall be submitted to the Architect along with all payment applications.
3. At the end of the project, the Contractor shall take "as-built" drawings modifying the electronic drawing files to show all changes, modification or additions made during construction. These drawings will become "Record Drawings" to be delivered to the Architect.

4. Final Record Drawings shall include legends, schedules, plans, sections and details.
5. All Record Drawings shall be marked on the lower right corner with the following:
 - a. Name of Contractor
 - b. Record Drawings
 - c. Date
 - d. Building Permit Number

Letter shall be bold and print 1/4 inches high minimum.

6. Contractor shall submit to the Architect; Record Drawings as follows:
 - a. Four (4) USB Drives (AutoCAD or Revit 2016 or later)
 - b. Four (4) hard copy prints
7. The Architect will distribute the final Record Drawings as follows:

	OWNER	ARCHITECT	ENGINEER
USB Drive	1	1	1
Prints	1	1	1

8. Delivery of complete set of Record Drawings is one condition for the release of Contractor's final payment under the Contract.

C. Operating and Maintenance Books

1. Operating and Maintenance Books (Refer to Division 1): Provide the Owner through the Architect, operating instructions and maintenance data books for all equipment and materials furnished under this Division.
2. Submit five (3) copies of operating and maintenance data books to the Architect for review two weeks before final inspection of the project. Assemble all data in a single complete indexed volume and identify the size, model and features indicated for each item, including copy of all guarantees and warranties issued on the installation showing all dates of expiration on separate Tab.

1.8 CERTIFICATES

- A. General: Refer to Specification Division 1, Contract Close-Out, for requirements.

1.9 GUARANTEE

- A. Conform to applicable provisions of Division 1 of the General Requirements of these specifications.
- B. Manufacturers Guaranties: Submit guarantees for all applicable equipment and devices.

PART 2 PRODUCTS

2.1 MATERIALS

- A. General: See General Conditions, Article titled "Materials".
 - 1. Architect shall be the sole judge of material conformance to Contract Documents. Equal products shall be as selected by the Architect.
 - 2. All materials and products shall be new and in perfect condition, and of the manufacturer's latest type and model. Unless otherwise noted, each material or product type shall be from one manufacturer only.
 - 3. All exterior mounted electrical boxes, devices and miscellaneous items shall be tamper-proof assemblies. Where not a standard feature, shop modify assembly to meet this requirement.
 - 4. Where any devices or equipment is referred to or indicated in these documents or on the Drawings in the singular number, such reference shall be deemed to apply to as many such devices as are required to complete the intended installation as specified and/or as shown on the Drawings.
 - 5. In case of conflicts among Drawings and Specifications, the more stringent requirement, larger quantities, better qualities and/or more proper application and installation for the particular situation shall govern.
 - 6. Wherever "finishes" are indicated to be selected by the Architect, such "finishes" shall include all standard as well as optional finishes offered by the Manufacturers.
 - 7. All materials shall be U.L. listed where applicable.
- B. Manufacturer and Catalog Numbers:
 - 1. Where manufacturer and catalog numbers are indicated, the published data on the product by the manufacturer are deemed to be part of this specification.

2. Numbers used indicate basic minimum design and appearance required, and must be modified to meet all specific requirements of Contract Documents.
3. Before submitting bid, verify availability of such modification. Where manufacturers cannot meet these modifications, notify Architect 10 days prior to bid date and deem these products removed from approved list of equipment.
4. Act of submitting bid is certification that all equipment specified, with required modifications, is available from at least one manufacturer listed.

2.2 CONDUIT

- A. General: Provide only new conduit with UL listing or label and deliver to the site in standard lengths.
- B. Types:
 1. Rigid Steel Conduit and Couplings: Hot-dipped galvanized or sherardized inside and out, with galvanized threads. Electro-galvanizing is not acceptable. Provide insulated throat metallic bushings.
 2. Rigid Plastic Conduit: Extrude from virgin polyvinyl chloride compound, Schedule 40 heavy wall, in 10'-0" (3 m) lengths with couplings. Where threaded connection is required or for allowed exposed application where subject to physical damage provide Schedule 80 conduit.
 3. Electric Metallic Steel Tubing: Hot-dipped galvanized or sherardized inside and out, with galvanized threads. Electro-galvanizing is not acceptable. Provide insulated and bushed tap-on type connectors and couplings as made by Tomic or T&B, or wrench-tightened compression type couplings. Set-screw type couplings or connectors are not acceptable.
 4. Flexible Conduit: Manufacture from single strip steel, hot-dip galvanized on all four sides prior to conduit fabrication. Provide insulated die-cast connectors with ridges that thread into the inside of the conduit to ensure a force fit as made by T&B or approved equal. Binding-screw type connectors are not acceptable.
 5. Liquid-Tight Flexible Conduit: Identical to flexible steel conduit but with overall polyvinyl chloride plastic jacket. Provide insulating connectors, Appleton STN series, or approved equal.

2.3 WIRE AND CABLE – 600 VOLTS AND LESS

- A. General:
 1. All wire and cable shall be soft-drawn annealed copper with 98-percent conductivity; 600-volt insulation, unless otherwise noted. All wire and cable shall be new and manufactured not more than 12 months prior to installation. Each coil or reel shall bear the UL label and shall be marked with AWG or circular wire size, voltage rating, insulation type, type of stranding, (and shielding, where applicable), manufacturer's name, trade name, month and year when

manufactured. Wire shall be marked continuously with at least insulation type, wire size and voltage rating.

2. All conductors used for power and lighting operation at 600-volt and below shall have a minimum insulation rating of 600-volt.
3. Minimum wire size used shall be #12 AWG except for control circuits which may be #14 AWG.
4. Conductors for all other auxiliary and signal systems shall be as indicated or as required or recommended by the system equipment manufacturer.

B. Types:

1. Conductors shall be "THWN-THHN"; #10 AWG and smaller shall be solid type; #8 AWG and larger shall be stranded.
2. Conductors installed in areas subjected to temperatures exceeding 140°F; terminating in incandescent lighting fixtures and installed through or into housing containing ballasts shall be type AVA.
3. Aluminum Conductors: No aluminum conductors are allowed.

2.4 FLUSH FLOOR COUPLINGS

- A. General: Provide flush floor couplings, whether shown on the Drawings or not, for exposed conduit stubbing up through finished floors.
- B. Types: For sizes 3/4-inch through 2-inch, provide brass type complete with slotted brass plug, Russell and Stoll No. 1920 inclusive. For conduit larger than 2-inch, use regular coupling with plumber's type brass plug.

2.5 OUTLET BOXES

A. General:

1. Provide all boxes necessary for proper installation of electrical work in compliance with applicable codes and regulations whether required box is specifically indicated on the Contract Documents or not.
2. Boxes shall be 1-piece galvanized pressed steel knockout type, minimum size 4-inch square by 1-1/2-inch, in all wall and ceiling locations unless otherwise indicated or required.
3. Cast boxes shall be ferrous or aluminum with threaded-hubs and dipped in rust inhibitor.

2.6 PULL BOXES

A. General:

1. Where pull boxes are indicated as required in wall, ceiling and in dry locations, provide boxes constructed of code-gauge sheet steel finished with one coat of metal primer and one coat of primer sealer.
2. All pull boxes in wall or in ceiling shall be recessed or concealed unless otherwise noted.
3. Provide pull boxes with screw-on type covers. Provide a minimum 1-inch all around flange for recess mounted type.

B. Where located outdoors, in wet locations or indicated as weatherproof, provide pull boxes constructed in code-gauge steel, hot-dipped galvanized after fabrication and finish with one coat of metal primer and sealer. Install cover with stainless steel tamper-proof captive screws and neoprene gaskets. Seal around conduit entries with silicone sealant.

C. In precast concrete walls or concrete masonry unit walls, provide surface mounted die cast copper free aluminum alloy A360 FS/FD device box and covers.

2.7 FLOOR BOXES

A. General:

1. Where floor boxes are used for power outlets, signal outlets, or as junction boxes, provide boxes of completely gasketed, watertight, adjustable cast-iron construction or non-metallic floor box, with threaded openings for conduit entry and brushed-nickel cover plates. Boxes shall have un-detachable hinged covers to accommodate single or duplex outlets as required. Provide Hubbell corrosion resistant "CFB" SystemOne series floor box for Round Cover Style, Cat No CFBS1R4SFBCR with CFBS1R4CVR cover. Where multiple or group devices are indicated, provide required multi-gang capacity floor box with similar Round Cover Style.
2. Provide in floor box, bushed telephone plate, signal fittings, or power outlets as specified elsewhere in this Section and one rubber molded bell nozzle protection with threaded sleeve for each outlet or fitting.
3. Where pedestal type outlet is indicated, provide floor box as specified above with the required outlets mounted in an above-floor type cast aluminum fitting with a satin aluminum finish. Provide Hubbell No. SC-3090 or No. SC-3091 series as required.
4. Provide flush floor combination power and data outlets in poke-thru assembly, Hubbell System One with similar Round Cover Style specified above, unless otherwise specified on the drawings.

5. Provide Hubbell SystemOne FRPT flush poke-thru assembly for power and communication feed to electrified modular furniture system if shown on the drawings.

2.8 CAST-IRON PULL BOXES

- A. General: Provide cast-iron pull boxes as indicated on Drawings or as required for the particular purpose. Exact locations of each box shall be determined after careful consideration has been given to coordination with other utilities, grading, paving and shall be approved by the Architect prior to installation.
- B. Pull Boxes: Conform to all Code requirements as to size for conduit entry and thickness of metal used in fabrication or casting.
- C. Enclosure: Provide watertight type with mounting lugs when required for surface mounting. For recess mounting, provide same type except with integral flange or trim and mount flush with the finish grade.
- D. Conduit Entry: Provide bossed, drilled, and tapped holes with a minimum of five full threads for each conduit entry.
- E. Covers: Provide neoprene gasketed plain or checkered type cover with letter designation as indicated on the Drawings cast in the cover. Submit shop drawings to Architect for approval prior to casting. Cover shall have captive-type stainless steel screws. Provide traffic-type cover where subject to vehicular loads, including lift trucks.
- F. Acceptable Manufacturers: Provide units as manufactured by Alhambra Foundry Company, Spring City Electrical Manufacture Company, Russel and Stoll, or O.Z./Gedney Co.

2.9 STAINLESS STEEL

- A. General: Where stainless steel is indicated or used for any portion of the electrical work, provide ANSI Type 302 or 304, with a satin finish. Provide the finished material free of all burrs. Exposed screws shall be of the same alloy.

2.10 GROUND WELL AND GROUND ELECTRODE

- A. Ground Well
 1. Ground well shall be of the pre-cast concrete type with armored body and cast-iron lid. Inside dimensions shall be 10" (254 mm) diameter by 12" (305 mm) deep.
 2. Provide permanent marking on top of lid identifying as "GROUND WELL".

B. Ground Electrode:

1. Install a grounding electrode constructed of 3/4" (20 mm) diameter by 10 feet (3 m) long copper-weld rod driven vertically full length into the ground through the ground well.
2. Fill the inside of the ground well with a layer of fine sand and layer of crushed rock on top with the ground rod protruding approximately 3" (76 mm) above the two layers.

C. Acceptable Manufacturers: Provide Brooks Product No. 3RT or approved equal by Quick set for the Ground Well and J.A. Weaver W-3410 for the grounding electrode

PART 3 EXECUTION

3.1 MATERIALS AND WORKMANSHIP

A. General:

1. Materials and equipment shall be installed in accordance with approved recommendations of the manufacturer and conforming to the Contract Documents. Devices and equipment are laid out per requirements of one manufacturer. Modify work and arrangements to suit actual equipment installed and pay for all additional cost incurred, if any. The installation shall conform to the applicable codes, rules, and regulations. The Drawings indicate, in diagrammatic form, the work to be done rather than exact routing, location and arrangement of equipment, conduit, and wiring. Make use of data in Contract Documents, verify against developed field conditions, install work in an orderly arrangement in a manner to overcome structural and other interference.
2. Study all Drawings and properly locate the outlets and equipment so that they are readily accessible. Locate equipment and outlets to avoid interference with mechanical or structural features. Do not support any electrical material, equipment or device from sheet metal roof decks or ductworks. If any conflicts occur necessitating departures from the Drawings, details of such departures and reasons therefore shall be submitted as soon as practicable for written approval.
3. Where developed conditions make revisions necessary to indicated locations and arrangements, Contractor shall make changes, at no additional cost, provided:
 - a. Change is ordered prior to time conduit is installed.
 - b. Length of conduit run is not changed more than 10%.
4. Architectural and structural drawings take precedence over electrical drawings in representation of general construction work, and drawings of various trades take precedence in representation of work of these trades. Refer to all Contract Documents and coordinate electrical work with other work.

5. Where discrepancies arise among the various Contract Documents, stop work in affected areas. Promptly notify Inspector of conditions.
6. Galvanic and chemical corrosion shall be prevented by isolating dissimilar metals and preventing contact of aluminum with concrete, plaster, mortar or earth.
7. All equipment shall be braced and/or anchored to meet the force and displacement requirements prescribed in the 2020 CBC.
8. The bracing and attachments to the structure shall be detailed on the approved drawings or they shall comply with one of the OSHPD pre-approvals (OPA #) as modified to satisfy anchorage requirements of ACI 318, Appendix D.
9. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

3.2 WIRE AND WIRING METHODS

A. General:

1. Wiring and cable for all systems including low voltage, control circuits, and communication systems shall be installed in conduit or raceway unless otherwise noted.
2. Before installing conductors, remove debris and moisture from conduit and equipment enclosures. Use linseed soap, minerallac or other specifically approved wire pulling compound to facilitate the installation of conductors. Oil, grease or similar substances shall not be used as pulling compound.
3. Each circuit shall correspond to the branch circuit number or control circuit number as indicated. All control wiring shall conform to the wiring diagrams on the Drawings when indicated or as directed by Owner's Representative, and the manufacturer's wiring diagrams; and shall control the equipment in the manner specified under this and other Sections.

B. Splices:

1. Make joints, splices, taps and connections for 600-Volt conductors with solderless connections. Use only plated copper alloy connectors or lugs; aluminum connectors or lugs are not acceptable.
2. For copper conductors, the following connections are acceptable:
 - a. For #10 AWG and smaller: Use 3M "Scotchlok" or Ideal "Super Nut".
 - b. For #8 AWG and larger: Use T & B "Lock-Tie" connectors, Burndy Versitaps and heavy-duty connectors, or O.Z. solderless connectors.
3. Re-tighten all bolt type connectors 24 to 48 hours after initial installation and before taping.

4. Tape all connections made with non-insulated type connectors with rubber-type tape, 1-1/2 times the thickness of the conductor insulation, then cover with Scotch No. 33 tape
- C. Color Coding: Color code all feeders by means of factory color coded conductors. Each phase shall be the same color throughout the system and shall be a different color from other phases and other systems. The identified grounded neutral conductor shall be white, ground shall be green. Color coding for branch circuit wiring shall be per applicable codes and shall match those existing.
- D. Tagging:
 1. Neatly arrange and lace conductors in switchboards, panelboards, gutters and terminal cabinets by means of nylon twine, Scotch No. 33 tape, or T & B "Ty-Rap" ties.
 2. Main and feeder cables shall be tagged in all boxes, panels, wireways, gutters and at terminal blocks. Tags shall identify where power source originates from, wire or cable number and equipment served and shall be made of flame resistant material.
 3. Tag wires for future use and tape exposed ends in same manner as required for non-insulated connectors.
- E. Voltage Drop: All branch circuits shall be limited to a maximum voltage drop of 2-1/2%. Increase branch circuit wire sizes where required to comply with this requirement. All feeders shall be limited to a maximum voltage drop of 1-1/2%.

3.3 CONDUIT AND TUBING

- A. Provide the type of conduit permitted in these Specifications or required for each location or condition per applicable codes and jurisdictions whichever is more stringent.
- B. Where conduit penetrates fire-rated walls or floors, provide pipe sleeve two sizes larger than conduit; pack void around conduit with oakum and fill ends of sleeve with fire-resistive compound. Provide mechanical fire-stop fittings with UL listed fire rating equal to wall or floor rating. Seal opening around conduit with UL listed foamed silicone elastomer compound.
- C. Conduit Usage:
 1. Concrete or masonry in contact with earth and concrete block walls are not considered as dry locations.
 2. Rigid plastic conduit, PVC Schedule 40, may be used only underground and below slabs on earth.
 3. Use rigid metal conduit where Code required; where indicated as hazardous area; where exposed to the weather; where exposed at less than 7'-6" above the floor

in areas accessible to anyone other than authorized operating or maintenance personnel; where underground; and where other types of conduits are not allowed in this Specification.

4. Electrical metallic tubing (EMT) may be installed only within buildings above grade, in dry locations, and where allowed to be surface mounted or exposed at not less than 7'-6" above floor or otherwise prohibited. EMT may be used only for sizes 2-inch or smaller.
5. Rigid plastic conduit, PVC Schedule 40, may be used only underground and below slabs on earth.
6. Flexible metal conduit (FMC): Use FMC connections for recessed and semi recessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformer and motors. Use Liquid-tight flexible metal conduit (LFMC) in damp or wet locations.
 - a. Use a maximum of 72 inches (1830 mm) of ½" FMC for recessed and semi-recessed luminaires.
 - b. Final connections to motors or equipment subject to vibration, noise transmission, or movement shall use FMC not exceeding four feet in length.
 - c. Short lengths of FMC shall be used for final primary and secondary connections to Low Voltage transformers (<600V)

D. Supports:

1. Support conduit at Code required intervals as a minimum. Provide additional supports where required or as directed by the Architect.
2. Suspended conduit: Use malleable iron factory-made split-hinged pipe rings with threaded suspension rods sized for the weight to be carried (minimum 3/8-inch diameter), Kindorf or equal. For grouped conduits, construct racks with threaded rods and tiered angle-iron or unistrut cross members. Clamp each conduit individually to a cross member. Where rods are more than 12-inch long, provide rigid sway bracing.
3. Wherever conduit may be affected by movements of the supporting structures or medium, and where secured on both sides of building control joints, provide suitable flexible or expansion devices.
4. Conduits or pipe shall not be welded to steel structures.

E. Locations:

1. Route conduit to avoid drains equipment hatch, other gravity lines and all obstructions. Where conflicts occur, relocate conduit as required.
2. Keep conduit at least 6-inch from the coverings on hot water pipes; at least 18-inch from the covering on exhaust flues and breechings; and at least 24-inch from radiant heaters.

3. Where exposed conduit runs are permitted, run conduit parallel with or at right angles to structural members, walls or lines of the building. Route exposed conduit to preserve headroom, access space and work space.
4. Changes in direction of runs shall be made with symmetrical bends or cast metal fitting. Field-made bends and offsets shall be made with an approved hickey or conduit-bending machine. Bending radius shall not be less than those allowed in the NEC. Crushed or deformed raceways shall not be installed or when installed, shall be changed as directed by the Architect.
5. Conduit may be run in concrete members or slabs only with previous written permission of the Architect. Individual written permission shall be obtained for each conduit run or for conduits within each definitive area or for each particular condition.

F. Joints, Bends and Fittings:

1. Where conduit is underground, under slabs or grade, exposed to the weather, or in wet locations, make joints liquid tight and gas tight. Seal conduit entries with silicone sealant.
2. Threaded Conduit: Use red lead and oil applied to the male threads only and tighten joints securely. For underground or under slab conduits, apply a heavy coat of Pabco P & B No. 2 paint after installation to surfaces within 6" (150 mm) on both sides of fittings and to areas where wrenches or other tools have been applied. On exposed conduits, repair scratches and other defects with galvanizing repair stick, Enterprise Galvanizing "Galvabar", or equal.
3. Plastic Conduits: Use approved solvent-weld cement specifically manufactured for the purpose.
4. Bushings shall be installed on ends of all conduits and shall be of the insulating type where required by applicable codes.
5. Cut threads on rigid conduit to standard taper and to length such that bare metal exposed by the threading operation will be completely covered by the couplings or fittings used. In addition, cut the lengths of the thread such that joints will become secure and wrench tight before conduit ends butt together in couplings and before conduit ends butt into the ends or shoulders of other fittings. Securely tighten threaded connections.
6. Keep bends and offsets in conduit runs to an absolute minimum. For the serving utilities, make large radius bends to meet their requirements. Replace deformed, flattened or kinked conduit.
7. Rigid metal conduit of 1-1/4-inch trade size or larger: Provide large radius factory-made bends or field bend the conduit with a power bender designed for the purpose and utilizing bend forms sized for the conduit being bent.
8. Plastic Conduit: Apply heat for bends so that conduit does not distort or discolor. Use a spring mandrel as required ensuring full inside diameter at bends.

9. Bend conduit to radius no less than Code required minimum.
 10. For conduits entering or leaving hazardous areas, provide each conduit at point of entry and exit from such areas with sealing inlets whether indicated on Drawings or not. Fill each inlet with approved sealing compound.
- G. Underground Conduits and Duct Banks: Make installation in accordance with Section 26 05 45.
- H. Conduit Stub-outs:
1. Unless otherwise indicated, all conduit stub-outs shall be minimum 4 or 5-inch as indicated in diameter and underground.
 2. Extend underground conduit stub-outs a minimum of 5-foot clear beyond building foundations, concrete walks, paving, other utilities and the like. Keep underground conduits a minimum of 10-foot clear of future building locations where indicated.
 3. Leave ends of underground stub-outs 6-inch clear of concrete envelope. Cap ends of steel conduit and wrap entire exposed portions with Scotchrap No. 50. Plug ends of nonmetallic conduit with Duxseal and cover with gravel and redwood planks for mechanical protection.
 4. Exact locations of stub-outs shall be indicated by a brass marker at finished grade and on Record Drawings.
- I. Conduit Stub-ups:
1. Use rigid steel conduit for stub-ups, 90-degree bends and risers to grade from other conduits. Stub-ups designated for future use shall be capped.
 2. Conduits stubbed up through concrete floors for connections to freestanding equipment shall be provided with a short elbow and an adjustable brass top or flush floor coupling set flush with the finished floor. Wiring shall be extended in rigid threaded conduit to the equipment, except that where required, flexible conduit to the equipment, except that where required, flexible conduit may be used 6-inch above the floor. Screwdriver-operated threaded flush plugs shall be installed in conduits from which no equipment connections are made. Use oil or grease on top of coupling and in threads on plug to prevent sticking.
 3. In utility rooms, electrical rooms, mechanical rooms and other unfinished areas not accessible to the public, terminate stub-ups to a minimum of 8-inch above floor unless otherwise indicated.
- J. Empty Conduits:
1. Provide a nylon or polyethylene rope rated 250-lb tensile strength in each conduit more than 10-foot in length and left empty for future use. Not less than 10-inch of slack shall be left at end of the conduits.

2. Tag empty conduit at each accessible end identifying the purpose of the conduit and the location of the other end.
3. In wet, corrosive, outdoor or underground location, use brass, bronze or copper No. 16 gauge tags or lead tags secured to conduit ends with No. 16 or larger galvanized wire. Inscribe on the tags with steel punch dies clear and complete identifying information.
4. In dry interior locations use metal-rimmed paper tags securely affixed with nylon twine. Inscribe on the tags with India ink, clear and complete identifying information.
5. Unused conduit openings shall be plugged or capped with a suitable device designed for the purpose. Caulking compound shall not be used for plugging empty conduits.

3.4 PENETRATIONS

- A. General: Penetrations in walls, floors or ceilings requiring protected openings shall be fire-stopped. Fire-stopping shall be of an approved material, securely installed and capable of maintaining its integrity when subjected to the time-temperature curve of State Fire Marshal Standard 12-43-3 and Standard 12-43-1. Manufacturer's instructions shall be made available to the inspection authority and kept at the job site.

3.5 MEMBRANE PENETRATION

- A. General: Where penetration through membrane cannot be avoided, cut and re-seal membrane at point of penetration as required.

3.6 PAINTING AND FINISHING

- A. General: Paint all electrical equipment exposed to view in public areas with one coat of primer. Finish coat painting will be provided under Division 1. For equipment inside electrical room, mechanical room and utility closets accessible only to authorized maintenance personnel, standard manufacturer's finishes are acceptable.

3.7 GROUNDING AND BONDING

- A. General:
 1. Grounding systems use the following elements as grounding electrodes:
 - a. Underground metal cold water pipe
 - b. Structural metal building frame
 - c. Concrete encased electrode (Uffer)
 - d. Ground rod (ground electrode)

2. Ground the neutral of each isolated AC or DC system having a neutral conductor with a system ground connection sized as indicated on the Drawings or per appropriate code requirement when not indicated. Ground clamps shall be readily accessible.
3. Connection shall be made with exothermic connection or UL listed irreversible compression type grounding connector.
4. Grounding System Resistance to ground shall be tested and shall not exceed 5-Ohm.

B. Installation:

1. Install grounding and bonding conductors concealed from view.
2. Install grounding well with cover at each ground rod location. Install ground well top cover flush with finished grade.
3. Install 4/0 AWG bare copper wire in foundation footing. The Uffer ground grounding electrode shall consist of a 50-foot length of bare #4/0 copper wire extended its full length below ground level and embedded along the bottom of the concrete foundation footing which is in direct contact with the foundation earth and supported in such a manner that it cannot be less than 3 inches from the bottom or side of the concrete when the foundation concrete is poured.
4. Install grounding electrode conductor and connect to reinforcing steel in foundation footing.
5. Bond together metal siding not attached to grounded structure; bond to ground.
6. Equipment Grounding Conductor: Install separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
7. Permanently ground entire light and power system in accordance with NEC, including service equipment, distribution panels, lighting panelboards, branch circuit panelboards, switch box and starter enclosures, motor frames, receptacles, and other exposed non-current carrying metal parts of electrical equipment.

C. Ground Electrode / Ground Well:

1. In the event that a metallic cold water pipe system is not available or should the grounding system to the cold water line not provide the proper ground resistance as specified, install single or multiple ground wells to obtain the proper resistance.

2. Locate ground rods a minimum of 6-foot apart or as indicated. Connect rods with minimum #3/0 AWG stranded, medium-hard drawn bare copper ground wires. Install ground wires 6-inch below slabs or 18-inch below finished grade, laid slack and in contact with earth throughout. Make buried tapes or splices by an exothermic welding process, "Cadweld" (by Erico) or Burndy "Thermoweld", and connect to the rods with Burndy type GK connectors.
3. Longer ground rods driven to a greater depth may be used in lieu of additional ground wells or in conjunction with other ground wells to attain the specified ground resistance.
4. Provide a white colored insulated copper conductor in a rigid steel conduit from the system grounding points to the grounding electrode in the ground well. Connect the conductor to the electrode with a 2 bolt "Evedur" clamp.

D. Equipment Ground:

1. Use the conduit system for equipment and enclosure grounding is not adequate, a separate ground wire of Code size is required.
2. Where nonmetallic conduits are used, provide a green color insulated copper ground conductor, of legal size, within the conduit and terminate properly to the equipment enclosures at each end. Enlarge size of conduit as required per applicable code(s).
3. Provide bonding devices, fittings or jumpers at expansion fittings or wherever continuity of grounding is not certain or where required by authorities having jurisdiction.
4. Provide, whether indicated on Drawings or not, each power feeder, single and multi-wire branch circuits (except those serving lights) with a separate green insulated ground wire, size as required by NEC, together in the circuit conduits and connect to the devices. Enlarge conduits where necessary to accommodate the ground wire. Conductor shield approved by conductor manufacturer may be used in lieu of a separate ground wire.

3.8 TESTS

- A. General: In addition to tests required by other sections, perform or cause to be performed in the presence of the Architect, all tests specified for electrical work when the work is substantially complete.
- B. Ground Resistance Test:
1. Employ a firm, qualified in such work, to measure resistance to grounding electrodes. Firm shall be approved by the Architect. Make tests before concrete is placed in affected areas in order that corrective measures, if required, may be taken.

2. Test to demonstrate that the insulation resistance between phase conductors and ground to be not less than requirements of Title 24. All circuits shall be tested for neural connections.
 3. Test to demonstrate that the entire raceway, boxes and metallic enclosure system maintain electrical continuity and that the maximum resistance measured from any point on the system to a grounded point of reference does not exceed 5-Ohm.
 4. Submit to the Architect, a report showing the results of these measurements.
 5. If the resistances do not comply with the requirements of these Specifications, perform all corrective measures as directed by the Architect.
- C. Test of each duct for blockage or deformation after concrete has cured for 24 hours. Use a flexible mandrel/scrapper not less than 12-inch long with a diameter approximately 1/4-inch less than the inside diameter of the duct, pull a mandrel behind a stiff bristles brush.
1. Replace any duct section found blocked. Notify District Inspector 10 days before duct tests; submit written reports of tests to District Inspector.
- D. Service Voltage Test:
1. Measure the service voltages under no load and under maximum load conditions.
 2. Submit to the Architect, a report showing the results of these measurements.
 3. If, in the opinion of the Architect, the voltages regulation are not within acceptable limits make and complete arrangements with the utility company and/or other concerned agencies for proper electrical service.
- E. Operating Test: Upon completion of the work and adjustment of equipment, conduct an operating test and submit for approval at such time as the Architect directs. Conduct the test in the presence of the Architect and the District Inspector. Demonstrate systems and equipment to:
1. Operate in accordance with requirements of the Contract Documents.
 2. Be free from electrical and mechanical defects.
- F. Other Tests: Conduct all other and additional tests to assure the Architect that the electrical work is free from short circuits, grounds (ground faults) other than intentional grounds, and defective or damaged insulation. In addition, perform all tests that are required by authorities having jurisdiction or are requested by the Architect.
- G. Cost: All cost incurred, including required instruments and personnel for the tests shall be included on the bid price and paid for by the Contractor.

3.9 CLEANING

- A. General: Periodically remove waste and rubbish and maintain order. Clean and polish finished metal surfaces. Exposed materials, equipment and apparatus shall be thoroughly cleaned of dirt, rust, cement, plaster, etc., and have cracks and corners scraped out clean, and surfaces carefully cleaned of grease and oil spots and be left smooth and clean, with unfinished surfaces ready for painting. Clean grease, oil and other foreign substances from floors, walls, ceilings and fixtures, and leave premises clean and free from debris and unused construction materials, where caused by work under this Section. Completely clean insides of lighting fixtures removing dirt, bugs and other foreign substances.

3.10 COORDINATION

- A. General: Coordinate with each trade involved in the construction project. Work shall be fully laid out in advance, coordinating all features of construction, including control wiring between different systems.

3.11 QUALITY CONTROL

- A. General: Establish and maintain quality control for operations under this Section to ensure compliance with Contract requirements, and maintain records of quality control for all materials, equipment and construction operations.

3.12 INSPECTION

- A. Preparatory inspection shall be conducted prior to commencing work, as follows:
 - 1. Check to see that required shop drawings and other submittals have been made, are complete, and approved. Where exceptions have been taken to submittals, but approved subject to correction, check to verify that proper corrections have been made.
 - 2. Check materials and equipment upon delivery at job site for compliance with approved submittal. Verify for proper storage.
 - 3. Check layout drawings and details of interfaces with existing work, with interfaces and interrelations with work under other Divisions of the Specifications, and with interfaces with work performed.
 - 4. Check the actual conditions on the site for conformance with the above. Verify that conditions are ready for new work.
 - 5. Review installation procedures and code requirements with each person involved in inspecting and performing the work.
 - 6. Review requirements of Drawings, Specifications, and the manufacturer's requirements and recommendations. In the event clarification or the Architect's decisions are required, such shall be obtained before proceeding with the work.

7. Quiz personnel doing work to ensure their understanding of Contract requirements including workmanship and techniques.
 8. This inspection and the results thereof shall be recorded. Inspection records shall be made available for review by the Architect and the District Inspector at any time upon request.
- B. Initial inspection shall be conducted when a representative sample of the work is complete, as follows:
1. Review the representative sample of the work against the Specification and code requirements previously discussed at preparatory inspection. Review shall include, but is not to be limited to:
 - a. Layout and sub-grade work.
 - b. Conduit/raceway installation.
 - c. Equipment installation.
 - d. Grounding.
 - e. Manholes, hand holes, junction boxes, enclosures, etc.
 2. Note and discuss deficiencies observed and corrective action to be taken. If corrective action is to be taken, an additional inspection shall be conducted for compliance.
 3. This inspection and the results thereof shall be recorded. Inspection records shall be made available for review by the Architect or the District Inspector at any time upon request.
 - a. Follow-up inspections shall be conducted daily to ensure compliance with corrections required by initial inspection, as follows:
 - b. Check completed work against corrected representative sample of work.
 - c. Perform tests required by Contract to ensure compliance.
 4. This inspection and the results thereof shall be recorded. Inspection records shall be made available for review by the Architect or the District Inspector at any time upon request.
- C. Copies: Furnish the Architect a copy of these records and tests, as well as records of corrective action taken.

END OF SECTION 26 05 00

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SECTION 26 05 53
IDENTIFICATION OF ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Identification for conductors and communication and control cable.
 - 2. Warning labels and signs.
 - 3. Equipment identification labels.

PART 2 - PRODUCTS

2.1 CONDUCTOR AND COMMUNICATION- AND CONTROL-CABLE IDENTIFICATION MATERIALS

- A. Marker Tape: Vinyl or vinyl -cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

2.2 WARNING LABELS AND SIGNS

- A. Comply with NFPA 70 and 29 CFR 1910.145.
- B. Self-adhesive General Safety Labels: Factory printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment, unless otherwise indicated.
- C. Baked-Enamel Warning Signs: Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application. 1/4-inch grommets in corners for mounting. Nominal size, 7 by 10 inches. Metal-Backed, Butyrate Warning Signs: Weather-resistant, non-fading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch galvanized-steel backing; and with colors, legend, and size required for application. 1/4-inch grommets in corners for mounting. Nominal size, 10 by 14 inches.
- D. Fasteners for Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.
- E. Warning label and sign shall include, but are not limited to, the following legends:
 - 1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 - 2. Dimension in first subparagraph below is clear space prescribed in NFPA 70 (2020 Edition), Table 110-26(A)(1), for equipment with nominal voltage to ground of 151 to 600 V, and with grounded parts, including

concrete, brick, or tile walls, opposite the equipment. Additional clear space is required at this voltage if there are unguarded exposed live parts on both sides of the workspace. Retain below and revise to suit Project conditions or requirements of Authorities Having Jurisdiction, or indicate varying clearance requirements on Drawings.

3. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES WIDE (PARALEL TO EQUIPMENT) AND CLEAR DEPTH REQUIRED IN ACCORDANCE WITH NEC ARTICLE 110.32
4. Equipment containing or operating circuits more than 240Volts nominal: Provide laminated plastic warning signs engraved in 1/2" high by 3/8" wide white letters on red background to read: "CAUTION HIGH VOLTAGE- 'XXX' VOLT", 'XXX' indicating actual voltage.
5. Provide Arc Flash Information Label with PPE category information on each electrical equipment, which are likely require examination, adjustment, servicing, or maintenance while energized, including but not limited to Switchgear, Switchboards, Transformers, Industrial Control Panels, Motor Control Centers, Disconnect Switches and Panels. PPE level shall be in accordance with the Arc Flash Hazard Analysis report done on the Short Circuit and Over-current Protective Device Coordination study.
6. Arc Flash Information Label must contain the following important elements:
 - a. "Arc Flash Information" banner on top of Label.
 - b. Equipment Designation.
 - c. Nominal System Voltage
 - d. Arc Flash Boundary Distance
 - e. Shock hazard when cover is open
 - f. Incident Energy Cal/Cm2 and Working Distance
 - g. Limited approach distance
 - h. Arc Flash PPE Hazard Category and Arc Rated of Clothing
 - i. Arc Flash Analysis Study number
 - j. Registered Professional Engineer performing the studies and date.
7. Arc Flash Label shall be supplied by Switchgear Factory, samples shall be included in the scope of Short-circuit and Protective Device Coordination and Arc Flash Hazard Analysis Studies.

2.3 EQUIPMENT IDENTIFICATION LABELS

- A. Provide laminated plastic WARNING SIGNS engraved in 1/2" high by 3/8" wide white letters on red background to Provide laminated plastic warning signs

Barry J. Nidorf Secure Youth Track Facility Security and Kitchen Upgrades

County of Los Angeles Probation
16350 Filbert Street, Sylmar, CA 91342

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engraved in 1/2" high by 3/8" wide white letters on red background to Provide laminated plastic warning signs engraved in 1/2" high by 3/8" wide white letters on red background to Retain one of two paragraphs below to specify type of labels Contractor must use to comply with NFPA 70 (2020 Edition), Article 110-22, "Identification of Disconnecting Means." Note that, unless otherwise indicated, the labeling products selected below will also be used for labeling that is not required by NFPA 70 but may be specified in Part 3 "Application" Article to identify equipment other than disconnect devices. See Evaluations.

- B. Provide three layers laminated plastic (micarta) nameplates engraved in 1/4" (minimum) high white letters on black background (for Utility/normal power) to correspond with the designations on the Drawings, electrical equipment nameplate shall be as follows:
- C. The main nameplate shall give the equipment designation in 1/2" high letters, the second line in 1/4" high letters shall indicate the Amperage, Voltage-Phase, and Wire. The third line of same dimensions as the second line shall indicate where the equipment fed from. Following is an example of Panelboard nameplate:

PANEL "1HA"
100A MAIN, 480Y/277-VOLT, 3-PH, 4W
FED FM "1MS" – 100A CB

- D. Provide white letters on red background for emergency power equipment.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Auxiliary Electrical Systems Conductor and Cable Identification: Use marker tape to identify field-installed alarm, control, signal, sound, intercommunications, voice, and data wiring connections.
 - 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and cable pull points. Identify by system and circuit designation.
 - 2. Use system of designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
- B. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Comply with 29 CFR 1910.145 and apply metal-backed, butyrate warning signs. Identify system voltage with black letters on an orange background. Apply to exterior of door, cover, or other access.
 - 1. Equipment with Multiple Power or Control Sources: Apply to door or cover of equipment including, but not limited to, the following:
 - a. Power transfer switches.

- b. Controls with external control power connections.
- 2. Equipment Requiring Workspace Clearance According to NFPA 70: Unless otherwise indicated, apply to door or cover of equipment but not on flush panelboards and similar equipment in finished spaces.
- C. Equipment Identification Labels (name plates): On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
 - 1. Labeling Instructions:
 - a. Indoor Equipment: Provide laminated plastic nameplates engraved in white letters on black background (for emergency power equipment, provide white letters on red background), attached with rivets or self tapping screws or with nuts and flat and lock washers.
 - b. Outdoor Equipment: Engraved, laminated acrylic or melamine label, drilled for screw attachment.
 - c. Elevated Components: Increase sizes of labels and legend to those appropriate for viewing from the floor.
 - d. Provide engraved branch circuit breaker numbering strip, screw or riveted on branch circuit and lighting panelboard internal trim. Permanent engraved numbering on internal trim is acceptable, sticker numbering system is not permitted.
 - e. Provide load schedules for all branch circuit and lighting panelboards, identifying type, size and location of load. Schedules shall be typewritten and protected by transparent plastic cover.
 - 2. Equipment to be Labeled:
 - a. Identification labeling of some items listed below may be required by individual Sections or by NFPA 70.
 - b. Panelboards, electrical cabinets, and enclosures.
 - c. Electrical switchgear and switchboards.
 - d. Transformers.
 - e. Substations.
 - f. Generators.
 - g. Motor-control centers.
 - h. Disconnect switches.
 - i. Enclosed circuit breakers.
 - j. Motor starters.

- k. Push-button stations.
- l. Power transfer equipment/MV Switches.
- m. Contactors.
- n. Pull boxes.
- o. Terminal Cabinet

END OF SECTION 26 05 53

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SECTION 26 24 00
BUILDING SERVICE & DISTRIBUTION

PART 1 - STANDARDS

1.1 DESCRIPTION

- A. Work Included: Provide all labor, material, equipment, necessary testing, and complete the building service and distribution system as shown on the Drawings and as specified herein.

PART 2 - MATERIALS

2.1 CONCRETE PULL BOXES

- A. General:
1. Provide precast concrete pull boxes where pull boxes are indicated complete with cover, drain hole and two pull irons. Unless otherwise indicated, inside dimensions for pull boxes shall be 2'-6" (0.762 m) wide by 4' (1.22 m) long by 4' (1.22 m) deep.
 2. Pull boxes shall meet all legal requirements as to size for conduits terminating therein.
 3. Reinforced concrete shall be Class A, 20,684 kPa (3,000 psi) type.
- B. Covers:
1. Covers shall be concrete with a cast-iron lid and frame.
 2. Cast-iron lid shall have bead weld designation; "ELECTRICAL", "HIGH-VOLTAGE", "COMMUNICATIONS", "FIBER-OPTIC" and etc., as required. Submit to the Architect for review.
 3. Provide traffic-type construction with traffic covers in areas involving vehicular traffic.
- C. Acceptable Manufacturers: Pre-cast concrete pull boxes shall be Quikset EPB-2100 Series or equal by Brooks Products, Jensen or Oldcastle.

2.2 UNDERGROUND CONDUIT SYSTEM

- A. Underground Conduit System: Provide as shown on the Drawings and as specified.

- B. Excavation: Provide excavation for underground conduit system and manholes as shown on the Drawings and as specified hereinbefore.
- C. Conduit for the underground conduit system shall be as shown on the Drawings, and as specified in Section 260500 and in Part Three of this Section.
- D. The conduit length for each size shall be the length that is standard with the manufacturer with a permissible tolerance of 1/4" (0.6 cm) in a 10'-0" (3.1 m) length.
- E. Conduit fittings shall be UL approved and shall conform to applicable standards, except that where NEMA Standards for conduit fittings do not exist, fittings shall be as recommended by the conduit manufacturer.
- F. Conduit fittings shall be of a type especially made for use with the conduit for electrical service. Plastic conduit and fittings shall be capable of being joined, by means of a solvent welding cement, so as to provide a watertight root-proof joint.

2.3 CABLES

- A. General: Provide all cables as indicated and specified.
- B. 600-Volt Class and Under: Provide conductors of the 600-Volt class and under as specified under paragraph, "Wire and Cable", in Section 26 05 00.
- C. Over 600-Volt Class: Refer to Section 26 13 00.
- D. Auxiliary Systems: Provide clock, voice/data, security, fire alarm or other auxiliary type system cables as specified under the respective sections.

2.4 INTEGRATED POWER CENTER

- A. General
 - 1. Integrated power center (IPC) combine power distribution and controls into one integrated package.
 - 2. The IPC structure is 84 inches high x10-9/32 inches deep load conductors exit the top or bottom of the IPC.
 - 3. The IPC consist combination of 480Y/277V, 3phase, 4 wire main circuit breaker panelboard, three-phase 480 Delta – 208Y/120V, 3 phase distribution transformer assembly and 208Y/120V-3phase, 4 wire panelboard.
 - 4. The integrated power center equipment rating are indicated in the single line diagram.

B. Standard

1. The integrated power center shall be manufactured and tested to meet the following standards: U.L. 50, U.L. 67, U.L. 98, U.L. 489, U.L. 891, NEMA AB1, NEMA PB1, NEMA PB2, NEMA 250, NEC Art 384, NFPA 70.
2. The integrated power center and the devices within shall be manufactured and tested to meet the following federal specifications: W-C 375B/Gen, W-C 865C, WP 115B Type 1, Class 1.

C. Enclosure

1. The IPC enclosure shall be NEMA3R floor standing in 4" concrete pad grounded in accordance with NEC for system and equipment ground.
2. Enclosure shall be steel construction in accordance to applicable U.L. standards.

D. Main circuit breakers

1. Main circuit breakers rating and short circuit duty are as indicated.
2. Refer to standard for compliance.

E. Transformer

1. Three phase, 480 Delta – 208Y/120V. KVA as indicated.
2. H-220C insulation system with 150°C rise above 40°C ambient.
3. Provision for close coupling to integrated power center line-up.
4. Copper winding.
5. Green premium (RoHS/Reach Compliance product environmental profile)
6. Electrostatic shield.
7. UL listed to UL1561 under file E6868.
8. Complying with DOE 10 CFR 431 (78 FR 2335 – April 18, 2013)

F. Power Panelboard

1. 208Y/120V. 3-phase 4-wire, with main circuit breaker.
2. Refer to single line diagram for trip and frame size.
3. Refer to standard Panelboards Section below for compliance.

G. Integrated System

1. Power panelboards shall be installed in common-depth and front-accessible switchboard enclosures.

2. Factory installed power cables shall electrically connect main breaker, transformer and panelboard in the line-up.

H. Fronts

1. Trim front shall meet strength and rigidity requirements or applicable U.L. standards.
2. Each section shall have a hinged door with a three-point latch with locking provisions.
3. A clear plastic directory card holder shall be mounted on the inside of the door.
4. Locks shall be cylindrical tumbler type. All lock assemblies shall be keyed alike. One (1) key shall be provided with each lock.

- I. Acceptable manufacturers: Integrated power center shall be Square D, Eaton or General Electric.

2.5 TRANSFORMERS (600-VOLT CLASS AND BELOW)

- A. General: Provide transformers for use on 60-Hertz system with the following characteristics:

1. Type: Dry, ventilated, self-cooled type with provisions for future cooling fans where indicated.
2. Complying with DOE 10 CFR 431 (78 FR 2335 – April 18, 2013)
3. Ratings: Phase, voltage and connection arrangement as indicated.
4. Capacities: The kVA capacities as indicated with capability of carrying a continuous 10-percent overload at rated voltage without exceeding NEMA average and hot spot temperature ratings of the insulation at 104-degree F (40-degree C) ambient air temperature.
5. Windings: Constructed of copper and shall be of the fire-resistant type, designed for natural convection cooling through normal air circulation.
6. Insulation Class H (Class 220 Insulation Rating) 150-degree C average winding temperature rise.
7. Dimensions: Within the limitations indicated or the space available for installing the transformers.
8. Taps: Four 2-1/2 percent primary taps, 2 above and 2 below rated voltage.
9. Terminals: Locate terminals at the bottom of the transformer or other area where the temperature, when operating at 10-percent overload and in an ambient of 104-degree F (40-degree C) will not exceed 140-degree F (60-degree C).

10. Mounting: Floor, wall or ceiling mounted, as indicated. Transformers shall be furnished complete with mounting channels and mounting bolts. Enclosures shall be provided with lifting lugs and jacking plates as required.
 11. Vibration Dampening: Constructed with built in vibration dampeners which completely isolate the cores and coils from all supports and enclosures.
 12. Sound Ratings: In the installed condition, the sound levels shall not exceed:
 - a. 45 dB for 0 to 45 kVA.
 - b. 50 dB for 46 to 150 kVA.
 - c. 55 dB for 151 to 300 kVA.
 - d. 60 dB for 301 to 500 kVA.
 13. Enclosure: Cover plates shall be Code-gauge sheet steel, captive type, bolted to the enclosure framework. Enclosure shall have suitable ventilating openings with rodent-proof screens. Provide weatherproof type when located outdoors.
 14. Finish: Metal parts excepting cores or core mounting frames shall be cleaned, rust-proofed, and be given a heavy coating of an inert primer. Cover plates and external metal parts shall be finished with two full-bodied coatings of oil-resistant industrial gray enamel.
 15. Nameplates: Provide nameplates, identifying the characteristics, as specified in Section 26 05 00.
- B. Acceptable Manufacturers: Transformers shall be manufactured by Square D; Eaton or General Electric.

2.6 PANELBOARDS

- A. General:
1. Provide flush or surface mounted panelboards with main breakers or lugs, sub-fed lugs, bus size and circuit breakers of a rating as shown on the Drawings.
 2. Each branch circuit breaker shall be identified by permanent number identification as to circuit numbers. Adhesive sticker numbering identification system is not acceptable.
 3. Panelboard shall have "field marked" to warn qualified persons of the potential for arc-flash hazards.
 4. Top of panelboard shall not be higher than 78" (198 cm) above finished floor.

5. Space for controls such as time clocks, time controlled relays and air-conditioning controls shall be located in a separate compartment with hinged doors within respective panelboards. Where limited by the height of the panels, locate controls in a separate cabinet adjacent to the respective panelboard.
- B. Bus bars shall be rectangular in cross-section constructed of copper with silver-plated joints and interconnections. Unless otherwise indicated, neutral buses shall be full size. Bus bars shall be isolated from wiring troughs and working spaces and be braced to withstand a minimum short circuit fault of 25,000 amperes rms symmetrical or larger as indicated. Provide split bus where indicated on the Drawings.
- C. Circuit Breakers:
1. Circuit breakers shall have interrupting capacities as indicated on the Drawings. Minimum interrupting capacities for 120/208 and 277/480-volt circuit breakers shall be 10,000 amperes and 14,000 amperes rms symmetrical respectively. Provide breakers of the bolt-on molded case type. Plug-in types are not acceptable.
 2. Single-pole breakers shall be full module size; two poles shall not be installed in a single module. Multi-pole circuit breakers shall be of the common-trip type having a single operating handle and for sizes of 50 amperes or less, may consist of single-pole circuit breakers permanently assembled at the factory into a multi-pole unit.
 3. Circuit breakers used for motor-circuit disconnects and not within sight of the motor controller shall be capable of being locked in the open position.
 4. All circuit breakers shall have provisions for lock out clips which shall be provided for breakers serving motors, signal systems and air-conditioning controls, and as indicated on the schedules on the Drawings.
 5. Provide approved "Lock-Off" devices for all circuit breakers serving lighting circuits without local switching.
 6. Circuit breakers shall be arranged in the panels to correspond exactly with the schedules on the Drawings. Circuit numbers shall be black-on-white plastic tabs or other such permanent type which cannot be changed readily from the front of the panel.
 7. Breakers serving loads comprised of large wattage incandescent lamps shall be equipped with desensitized magnetic trip mechanisms which prevent tripping by in-rush currents.
 8. Provide approved handle ties for individual circuit breakers protecting each ungrounded branch circuit conductor of multi-wire branch circuits.
 9. Provide ground fault circuit-interrupter for all Code required lighting or receptacle circuits rated at 15, 20, 25 or 30 amperes at 120 volts or

above. The bolt-on molded-case type circuit breaker, similar to General Electric Type THQB-GF, shall be of the quick-make, quick-break operating mechanism with construction as described above and with the following additional features:

- a. Amperes line-to-line, ground fault conditions: 0.005.
 - b. Amperes, symmetrical rms at 120 volts: 10,000.
 - c. Push-to-test circuit.
 - d. Trip-free handle to allow breaker to trip even if handle is held or blocked in the "ON" position.
 - e. If the above requirements cannot be met, the following shall be provided:
 - 1) Provide ground fault circuit-interrupter for all Code required circuits. Ground-fault protection shall consist of a ground-sensor encircling all phase conductors, connected to a solid-state ground relay which initiates tripping of the circuit breaker.
 - 2) Ground protection shall be adjustable from 5 to 50 amperes. Circuit-interrupter shunt-trip and relay shall operate from a 120-volt control source. Time-current characteristic shall provide 0.1-second operation at about 10 times pickup. Relay shall be surface mounted in a separate barriered space.
- D. Control Devices: Contactors, relays, time switches and related equipment shall be as specified in Section 260500 and shall be mounted in a separate barriered space. Refer to the paragraph, "Cabinets", herein.
- E. Cabinets:
- 1. Back boxes shall be flush or surface mounted as shown on the Drawings. Construction shall be of Code gauge zinc-coated sheet steel bearing the UL label where required. Back boxes shall be galvanized when recess mounted. Refer to "Painting" section for finish requirement of galvanized surfaces.
 - 2. Panelboards shall be minimum 20" (51 cm) wide and shall be of types as required by the schedules and these Specifications. Where specifically indicated on the Drawings, provide UL listed column-type panelboards. All other requirements of the column-type panelboard shall comply with those specified in this section.
 - 3. Panelboard doors shall be hinged and have pin tumbler cylinder locks operated by paracentric type keys. All panelboard locks shall be common keyed. Furnish two keys for each panelboard.

4. Where more than one door is mounted on a panelboard, arrange the trim so that a minimum 2" (5.1 cm) solid metal trim space is maintained between doors. Doors and trims shall be minimum 12 gauge steel.
 5. Provide 12" (30.5 cm) high gutter where double lugs are required or where cable size exceeds bus size.
 6. Wiring gutters on panelboards having through feeders shall be 5" (12.7 cm) minimum. Gutters shall be an integral part of the panelboard.
 7. Provide barriered space for mounting contactors and control devices with a hinged door and lock, where shown or required.
- F. Finish: Doors, trims and surface mounted back boxes located in areas exposed to public view shall be painted with one coat zinc chromate and one coat of primer sealer. Finish painting shall be in accordance with section, "Painting". Provide doors, trims and surface mounted back boxes located in custodian's rooms, mechanical rooms, electrical rooms and other areas not exposed to public view with one coat zinc chromate and a hammertone or light gray baked enamel finish.
- G. Identification:
1. Provide neatly typed circuit index cards, clearly and correctly identifying all circuits, mounted in card holders, behind glass or heavy plastic on the inside of the panelboard doors. Indexes shall accurately record room numbers and load of each circuit.
 2. Provide nameplates as specified under paragraph, "Nameplates", in Section 26 05 00. Designate the identifying nomenclature, voltage and phase of the panel as shown on the Drawings, for example:
PANEL "1LB"
100 A MAIN – 208Y/120 V, 3 PH, 4W
FED FM "1DSL" – 100A CB
- H. Acceptable Manufacturers: Panelboard assembly, devices and major components shall be of the same manufacturer. Acceptable manufacturers are Square D; Eaton or General Electric.

2.7 DISTRIBUTION SWITCHBOARDS

- A. General:
1. Provide distribution switchboards with ratings, components and features as indicated on the Drawings.
 2. Switchboards shall consist of molded case thermal magnetic circuit breakers or externally operable quick-make, quick-break fused switch as indicated on the Drawings, in floor-standing, dead front, totally metal enclosed sections requiring front access only.

3. All sections shall be nominal 90" (22.9 cm) high, 15" (38.1 cm) deep and 38" (0.965 m) or 42" (1.067 m) wide and shall not exceed the physical spaces allowed for on the Drawings. Switchboards shall be constructed of Code gauge sheet steel.
4. In outdoor locations or where indicated, provide weatherproof enclosure having doors with padlocking facilities.

B. Bus bars:

1. Bus bars shall be rectangular in cross-section, constructed of copper with silver-plated joints and full-height in each vertical section with horizontal cross bus bars between sections. Short circuit bracing capabilities shall be in accordance with the minimum requirement as indicated for the circuit breakers.
2. Provide all lugs for sizes No. 6 AWG or larger suitable for copper conductors. Shop drawings must show lug sizes based on the actual conductors to be provided.
3. Neutral bar shall have terminals for all active, spare or inactive circuits.

C. Disconnect Devices:

1. Circuit breakers shall be of the bolted-on molded case type, with thermal magnetic trips and shall be rated at the voltage with frame sizes, number of poles, and trip settings as shown on the Drawings. Multi-pole circuit breakers shall have a common operating handle.
2. Provide circuit breakers with interrupting capacity as indicated on plans, minimum interrupting capacity shall be 14,000 symmetrical rms amperes at 480/277 volts and 10,000 amperes at 208/120 volts.
3. Fusible switches shall be of the quick-made, quick-break, visible blade type and shall be UL listed and horsepower rated. Phase sequence and circuit numbering shall be uniform. Temperature rise and current carrying capacity of busses and parts shall be in accordance with NEMA Standards and NEC requirements. Provide fuses as specified under paragraph, "Fuses", in Section 26 05 00.
4. When indicated, provide circuit breakers and switches with shunt-trips, motor operators or other features as required for the application.
5. All circuit breakers shall be pad-lockable in the "OFF" position. All switches shall be pad-lockable in either the "OPEN" or "CLOSE" position.

D. Identification:

1. Nameplates: Provide nameplates and warning signs as specified, in Section 260553.
2. Provide a nameplate for each circuit breaker or fusible switch with wording to indicate load served.

3. The main nameplate shall give the switchboard designation in 1/2" (1.3 cm) high letters. A second line in 1/4" (0.6 cm) high letters shall indicate the Ampere, Voltage –Phase and Wire. The third line of same dimensions as the second line shall indicate where the equipment fed from.
- E. Finish: Supporting framework, cover plates and other metal surface shall first be given a phosphate coating for superior paint adhesion and corrosion resistance. Alkyd amine standard gray enamel shall be electrostatically applied and baked thoroughly in a convection-type oven to ensure a long lasting, mark resistant finish.
- F. Acceptable Manufacturers: Switchboard assembly, switches, circuit breakers, devices and major components shall be of the same manufacturer. Acceptable manufacturers are Square D, General Electric, or Cutler Hammer.

2.8 DISTRIBUTION PANELBOARDS

- A. General: Distribution panelboards in general shall comply with the requirements of the distribution switchboards except that distribution panelboards shall be suitable for wall mounting instead of free floor standing.

END OF SECTION 26 24 00

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SECTION 26 27 26
WIRING DEVICES (DECORA)

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this Section.
- B. This Section is a Division 26 Basic Electrical Materials and Methods section, and is part of each Division 26 section making reference to wiring devices specified herein.
- C. Related Sections:
 - 1. Division 01 Section “General Commissioning Requirements”, for commissioning procedures.

1.2 DESCRIPTION OF WORK

- A. The extent of wiring device work is indicated by drawings and schedules. Wiring devices are defined as single discrete units of electrical distribution systems which are intended to carry but not utilize electric energy.
- B. Types of Decora Style electrical wiring devices in this Section include the following:
 - 1. Receptacles.
 - 2. Ground-fault circuit interrupters.
 - 3. Switches.
 - 4. Wallplates.

1.3 QUALITY ASSURANCE

- A. Manufacturers: Firms regularly engaged in manufacture of electrical wiring devices, of types, sizes, and ratings required, whose products have been in satisfactory use in similar service for not less than three (3) years.
- B. Installer’s Qualifications: Firm with at least two (2) years of successful installation experience on projects utilizing wiring devices similar to those required for this project.

- C. CEC Compliance: Comply with CEC as applicable to installation and wiring of electrical wiring devices.
- D. UL Compliance: UL498, UL Fed Spec WC-596, UL20, UL Fed Spec WS896E where available.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's data on electrical wiring devices.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, manufacturers providing wiring devices which may be incorporated in the work include, but are not limited to, the following (for each type and rating of wiring device):
 - 1. Leviton Manufacturing Co. Inc.
 - 2. Arrow-Hart, Eaton.
 - 3. Pass & Seymour (Legrand)
 - 4. Harvey Hubbell Inc.
 - 5. Intermatic (timer switches).

2.2 FABRICATED WIRING DEVICES

- A. General: Provide factory-fabricated wiring devices, in types, colors, and electrical ratings for applications indicated and which comply with NEMA Std. Pub/No. WD 1. Provide W-C-596 rated wiring devices where available for the device listed below. Provide white color devices except as otherwise indicated.
- B. Receptacles:
 - 1. All receptacles shall be the grounding type with ground connection made through an extra pole which shall be permanently connected to the green grounding conductor.
 - 2. Duplex receptacles for 20 Ampere, 120 Volt service shall be two-pole, three-wire rated 20 Amperes at 125 Volt.
 - 3. Single receptacles for 20 Ampere, 120 Volt service shall be two-pole, three-wire rated 20 Ampere at 125 Volt .
 - 4. Ground-fault Circuit Interrupters (GFCI) as required per-Code, shall be two-pole, three-wire rated 20 Ampere at 125 Volt.
 - 5. USB charging device shall be with the duplex receptacle for 20 Ampere, 120 Volt service, two-pole, three-wire rated 20 amperes at 125 volts.
 - 6. Style: Receptacles shall be Decora style nylon.

7. Color: White (normal circuit) and Red (emergency circuit)
- C. Switches:
1. Snap: Provide decorator rocker switches, rated 20 amperes at 120/277 volts quiet type and shall be UL approved without derating for tungsten lamp loads or inductive loads.
 2. Rotary spring wound timer switches: 0-60 minutes 20A. Inductive load rated.
 3. Color: White unless otherwise noted.

2.3 WIRING DEVICE ACCESSORIES

- A. Wall plates: Provide wall plates for single and combination wiring devices, of types, sizes, and with ganging and cutouts as indicated. Select plates which match wiring devices to which it attached. Wall plates shall be made of high-impact smooth nylon, or 304 stainless steel wall plate as indicated per-plan. Metal screws for securing plates to devices shall be as follows:
1. Screw heads colored to match finish of plates.
 2. Finish: Brushed Stainless Steel.
- B. Manufacturers: Subject to compliance with requirements, manufacturers providing wallplates may be incorporated in the work include, but are not limited to, the following (for each type and rating of wiring device):
1. Leviton Manufacturing Co. Inc.
 2. Arrow Hart, Eaton.
 3. Pass & Seymour (Legrand)
 4. Lutron Electronics, Inc.
 5. Harvey Hubbell Inc.

PART 3 – EXECUTION

3.1 INSTALLATION OF WIRING DEVICES

- A. Install wiring devices as indicated, in accordance with manufacturer's written instructions, applicable requirements of CEC and NECA's "Standard of Installation", and in accordance with recognized industry practices to fulfill project requirements.
- B. Where receptacles are shown to be mounted of above counter, refer to Architectural Drawings for cabinet locations and mount receptacle box to clear backsplash of all counters by a minimum of two inches.

- C. Install device plates in full contact with wall surface or surface mounted box.
- D. Install wiring devices only in electrical boxes which are clean; free from excess building materials, dirt, and debris.
- E. Install wiring devices after wiring work is completed.
- F. Install wall plates after painting work is completed.
- G. Install GFCI receptacle as indicated per-plan, ground fault circuit interrupted duplex receptacle shall be individually ground fault protected unit (daisy chained installation of regular duplex receptacle protected by adjacent GFCI receptacle is not acceptable).
- H. Installed switched receptacle controlled by occupancy sensor, as indicated per-plan – switched receptacle shall have factory identified marking.

3.2 PROTECTION OF WALLPLATES AND RECEPTACLES:

- A. Upon installation of wall plates and receptacles, advise Contractor regarding proper and cautious use of convenience outlets. At time of substantial completion, replace those items which have been damaged, including those burned and scored by faulty plugs.

3.3 GROUNDING:

- A. Provide equipment grounding connections for all wiring devices, unless otherwise indicated. Wiring device grounding shall be bonded to equipment ground wire of the branch circuit serving device in its outlet box.

3.4 TESTING:

- A. Prior to energizing circuitry, test wiring for electrical continuity, and for short-circuits. Ensure proper polarity of connections is maintained. Subsequent to energization, test wiring devices to demonstrate compliance with requirements.

END OF SECTION 26 27 26