

City of San Diego

CONTRACTOR'S NAME: De La Fuente Construction, Inc.

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FAX NO.:

CITY CONTACT: Antoinette Wynne, Contract Specialist, Email: ARWynne@sandiego.gov

Phone No. (619) 533-3638

F. Marquez / C. Cornelio / L. I. Russell

BIDDING DOCUMENTS



FOR

SOUTH DE ANZA PARK IMPROVEMENTS

BID NO.: **K-25-2349-DBB-3**

SAP NO. (WBS/IO/CC): **B-19162, B-19172, B-19173**

CLIENT DEPARTMENT: **1714**

COUNCIL DISTRICT: **2**

PROJECT TYPE: **GA**

THIS CONTRACT WILL BE SUBJECT TO THE FOLLOWING:

- PROJECT LABOR AGREEMENT
- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM
- PREVAILING WAGE RATES: STATE ☒ FEDERAL ☐
- APPRENTICESHIP

BID DUE DATE:

2:00 PM

JANUARY 15, 2025

CITY OF SAN DIEGO'S ELECTRONIC BIDDING SITE, PLANETBIDS

<http://www.sandiego.gov/cip/bidopps/>

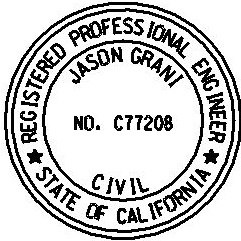
ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Landscape Architect:


1) For City Engineer

November 19, 2024
Date

Seal:



Chris Langdon
2) Registered Landscape Architect

November 19, 2024
Date

Seal:



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REQUIRED DOCUMENTS SCHEDULE DURING BIDDING AND AWARDING

The Bidder's attention is directed to the City's Municipal Code §22.0807(d)(2) for important information regarding grounds for debarment for failure to submit required documentation.

The specified Equal Opportunity Contracting Program (EOCP) forms are available for download from the City's web site at:

<http://www.sandiego.gov/eoc/forms/index.shtml>

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
1.	Bid Bond (PDF via PlanetBids)	At Time of Bid	ALL BIDDERS
2.	Contractors Certification of Pending Actions	At Time of Bid	ALL BIDDERS
3.	Subcontractors For Alternates	At Time of Bid	ALL BIDDERS
4.	Mandatory Disclosure of Business Interests	At Time of Bid	ALL BIDDERS
5.	Debarment and Suspension Certification for Prime Contractors	At Time of Bid	ALL BIDDERS
6.	Debarment and Suspension Certification for Subcontractors, Suppliers & Mfgs	At Time of Bid	ALL BIDDERS
7.	Bid Bond (Original)	By 5PM 1 working day after bid opening	ALL BIDDERS
8.	SLBE Good Faith Effort Documentation	By 5PM 3 working days after bid opening	ALL BIDDERS
9.	Form AA60 – List of Work Made Available	By 5PM 3 working days after bid opening with Good Faith Effort (GFE) documentation	ALL BIDDERS
10.	If the Contractor is a Joint Venture: <ul style="list-style-type: none"> Joint Venture Agreement Joint Venture License 	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER
11.	Payment & Performance Bond; Certificates of Insurance & Endorsements; and Signed Contract Agreement Page	Within 10 working days of receipt by bidder of contract forms and NOI	AWARDED BIDDER

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
12.	In-Use Off-Road Diesel Fueled Fleet Regulation (OFF-ROAD REGULATION) Compliance	Within 10 working days of receipt by bidder of contract forms and NOI	AWARDED BIDDER
13.	Listing of "Other Than First Tier" Subcontractors	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER
14.	PLA Forms <ul style="list-style-type: none"> • Letter of Assent • Jobs Coordination Designation Form 	Within 10 working days of receipt by bidder of NOI	AWARDED BIDDER

NOTICE INVITING BIDS

1. **SUMMARY OF WORK:** This is the City of San Diego's (City) solicitation process to acquire Construction services for **South De Anza Park Improvements**. For additional information refer to Attachment A.
2. **FULL AND OPEN COMPETITION:** This solicitation is subject to full and open competition and may be bid by Contractors on the City's approved Prequalified Contractors List. For information regarding the Contractors Prequalified list visit the City's web site: <http://www.sandiego.gov>.
3. **ESTIMATED CONSTRUCTION COST:** The City's estimated construction cost for this project is **\$9,440,000.00**.
4. **BID DUE DATE AND TIME ARE: JANUARY 15, 2025 at 2:00 PM.**
5. **PREVAILING WAGE RATES APPLY TO THIS CONTRACT:** Refer to Attachment D.
6. **LICENSE REQUIREMENT:** To be eligible for award of this contract, Prime contractor must possess the following licensing classification: **A**
7. **PROJECT LABOR AGREEMENT:**
 - 7.1. This work is covered by a Citywide Project Labor Agreement (PLA) entered into by the City of San Diego, the San Diego Building and Construction Trades Council and signatory Craft Unions, included herein as Attachment H.

This work will provide many opportunities for local residents and local small business enterprises to participate. It is the City's policy that contractors will cooperate with all efforts of the City, the Project Labor Coordinator, the Jobs Coordinator, and other organizations retained by the City to encourage and assist in the participation of Local, Targeted and/or Veteran workers.
 - 7.2. **LETTER OF ASSENT.** The Contractor and all subcontractors agree to be bound by the PLA by submitting a Letter of Assent (PLA Attachment B) to the City's Project Labor Coordinator. The Contractor shall submit its Letter of Assent as a condition of award and all subcontractors shall submit their Letter of Assent before commencing any Work on the Project.
 - 7.3. **PRE-JOB CONFERENCE.** Each contractor, regardless of tier, is required to conduct a pre-job conference with the Unions not later than ten (10) calendar days prior to commencing work.

The Prime Contractor is responsible for facilitating and scheduling their own pre-job conferences and for facilitating, scheduling, and ensuring that all its subcontractors conduct a pre-job conference.

- 7.4. JOBS COORDINATOR.** The Contractor will be required to hire a Jobs Coordinator, an independent third-party individual, entity or employee with whom the Prime Contractor enters into a contract or employs to assist the Contractor with achieving and exceeding the Local Worker goals set forth in the PLA, Article 4, Section 4.5, to assist with fulfilling the Work Opportunities Program as set forth in Article 22, and to assist with Helmets to Hardhats participation as set forth in Article 23.

Each subcontractor, regardless of tier, shall utilize the Jobs Coordinator retained by the Prime Contractor, pursuant to the PLA, Article 22 Section 22.2 (f). The Contractor shall submit a Jobs Coordinator Designation Form as a condition of award.

- 8. SUBCONTRACTING PARTICIPATION PERCENTAGES:** Subcontracting participation percentages apply to this contract.

- 8.1.** The City has incorporated **mandatory** SLBE-ELBE subcontractor participation percentages to enhance competition and maximize subcontracting opportunities. For the purpose of achieving the mandatory subcontractor participation percentages, a recommended breakdown of the SLBE and ELBE subcontractor participation percentages based upon certified SLBE and ELBE firms has also been provided to achieve the mandatory subcontractor participation percentages:

1. SLBE participation	8.1%
2. ELBE participation	9.5%
3. Total mandatory participation	17.6%

- 8.2.** The current list of Certified SLBE/ELBE Firms to be used for outreach for this project is posted to the Documents tab on PlanetBids.

- 8.3.** The Bid may be declared non-responsive if the Bidder fails to meet the following requirements:

8.3.1. Include SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; OR

8.3.2. Submit Good Faith Effort (GFE) documentation, saved in searchable Portable Document Format (PDF), demonstrating the Bidder made a good faith effort to conduct outreach to and include SLBE-ELBE Subcontractors as required in this solicitation by 5PM 3 Working Days after the Bid opening if the overall mandatory participation percentage is not met.

All submittals in searchable PDF shall be submitted electronically within the prescribed time identified in the contract documents via PlanetBids by invitation to the point of contact named in the bid provided by the Contract Specialist to all bidders.

9. NON-MANDATORY PRE-BID MEETING:

9.1. ONLINE PRE-BID MEETING:

Prospective Bidders are **Encouraged** to attend the Pre-Bid Meeting.

The Pre-Bid Meeting will be held on **Wednesday, December 11, 2024**, at **10:00 AM** (PST) at:

Microsoft Teams [Need help?](#)

[Join the meeting now](#)

Meeting ID: 271 574 065 066

Passcode: M4W5xG2E

Dial in by phone

[+1 945-468-5511,,979131912#](#) United States, Dallas

[Find a local number](#)

Phone conference ID: 979 131 912#

For organizers: [Meeting options](#) | [Reset dial-in PIN](#)

Please Note: You will need to join the meeting with a computer, tablet or smartphone with the **Microsoft Teams** in order to sign in via the Chat feature as attendance at the meeting will be evidenced by the Chat sign-in. The Chat feature will also be used for attendees to ask any questions.

The purpose of the meeting is to discuss the scope of the Project, submittal requirements, and any Equal Opportunity Contracting Program requirements and reporting procedures.

Upon entering the meeting, all attendees must use the chat feature to sign in with the following information: Name of firm, Attendee's name, Phone number and Email address.

10. AWARD PROCESS:

- 10.1. The Award of this contract is contingent upon the Contractor's compliance with all conditions of Award as stated within these documents and within the Notice of Intent to Award.
- 10.2. Upon acceptance of bids and determination of the apparent low bidder, the City will prepare the contract documents for execution within approximately 21 days of the date of the bid opening. The City will then award the contract upon receipt of properly signed Contract, bonds, and insurance documents.
- 10.3. This contract will be deemed executed and effective only upon the signing of the Contract by the Mayor or his designee and approval as to form by the City Attorney's Office.
- 10.4. The low Bid will be determined by the Base Bid, plus all the Alternates.
- 10.5. Once the low Bid has been determined, the City may, at its sole discretion, award the contract for the Base Bid alone or for the Base Bid plus one or more Alternates.

11. SUBMISSION OF QUESTIONS:

- 11.1.** The Director (or Designee) of the Purchasing & Contracting Department is the officer responsible for opening, examining, and evaluating the competitive Bids submitted to the City for the acquisition, construction and completion of any public improvement except when otherwise set forth in these documents. Any questions related to this solicitation shall be submitted to:

Antoinette Wynne, Contract Specialist at ARWynne@sandiego.gov

- 11.2.** Questions received less than 14 days prior to the date for opening of Bids may not be considered.
- 11.3.** Questions or clarifications deemed by the City to be material shall be answered via issuance of an addendum and posted to the City's online bidding service.
- 11.4.** Only questions answered by formal written addenda shall be binding. Oral and other interpretations or clarifications shall be without legal effect. It is the Bidder's responsibility to be informed of any addenda that have been issued and to include all such information in its Bid.

12. ADDITIVE/DEDUCTIVE ALTERNATES:

- 12.1.** The additive/deductive alternates have been established to allow the City to compare the cost of specific portions of the Work with the Project's budget and enable the City to make a decision whether to incorporate these portions prior to award. The award will be established as described in the Bid. The City reserves the right to award the Contract for the Base Bid only or for the Base Bid plus one or more Alternates.

INSTRUCTIONS TO BIDDERS

1. PREQUALIFICATION OF CONTRACTORS:

- 1.1. Contractors submitting a Bid must be pre-qualified for the total amount proposed, including all alternate items, prior to the date of submittal. Bids from contractors who have not been pre-qualified as applicable and Bids that exceed the maximum dollar amount at which contractors are pre-qualified may be deemed **non-responsive** and ineligible for award.
- 1.2. The completed application must be submitted online no later than 2 weeks prior to the bid opening.
- 1.3. **Joint Venture Bidders Cumulative Maximum Bidding Capacity:** For projects with an engineer's estimate of \$30,000,000 or greater, Joint Ventures submitting bids may be deemed responsive and eligible for award if the cumulative maximum bidding capacity of the individual Joint Venture entities is equal to or greater than the total amount proposed.
 - 1.3.1. Each of the entities of the Joint Venture must have been previously prequalified at a minimum of \$15,000,000.
 - 1.3.2. Bids submitted with a total amount proposed of less than \$30,000,000 are not eligible for Cumulative Maximum Bidding Capacity prequalification. To be eligible for award in this scenario, the Joint Venture itself or at least one of the Joint Venture entities must have been prequalified for the total amount proposed.
 - 1.3.3. Bids submitted by Joint Ventures with a total amount proposed of \$30,000,000 or greater on a project with an engineer's estimate of less than \$30,000,000 are not eligible for Cumulative Maximum Bidding Capacity prequalification.
 - 1.3.4. The Joint Venture designated as the Apparent Low Bidder shall provide evidence of its corporate existence and furnish good and approved bonds in the name of the Joint Venture within 14 Calendar Days of receipt by the Bidder of a form of contract for execution.
- 1.4. Complete information and links to the on-line prequalification application are available at:

<http://www.sandiego.gov/cip/bidopps/prequalification>
- 1.5. Due to the City's responsibility to protect the confidentiality of the contractors' information, City staff will not be able to provide information regarding contractors' prequalification status over the telephone. Contractors may access real-time information about their prequalification status via their vendor profile on [PlanetBids.™](#)

2. **ELECTRONIC FORMAT RECEIPT AND OPENING OF BIDS:** Bids will be received in electronic format (eBids) EXCLUSIVELY at the City of San Diego's electronic bidding (eBidding) site, at: <http://www.sandiego.gov/cip/bidopps/> and are due by the date, and time shown on the cover of this solicitation.
- 2.1. **BIDDERS MUST BE PRE-REGISTERED** with the City's bidding system and possess a system-assigned Digital ID in order to submit an electronic bid.
- 2.2. The City's bidding system will automatically track information submitted to the site including IP addresses, browsers being used and the URLs from which information was submitted. In addition, the City's bidding system will keep a history of every login instance including the time of login, and other information about the user's computer configuration such as the operating system, browser type, version, and more. Because of these security features, Contractors who disable their browsers' cookies will not be able to log in and use the City's bidding system.
- 2.3. The City's electronic bidding system is responsible for bid tabulations. Upon the bidder's or proposer's entry of their bid, the system will ensure that all required fields are entered. **The system will not accept a bid for which any required information is missing.** This includes all necessary pricing, subcontractor listing(s) and any other essential documentation and supporting materials and forms requested or contained in these solicitation documents.
- 2.4. **BIDS REMAIN SEALED UNTIL BID DEADLINE.** eBids are transmitted into the City's bidding system via hypertext transfer protocol secure (https) mechanism using SSL 128-256 bit security certificates issued from Verisign/Thawte which encrypts data being transferred from client to server. Bids submitted prior to the "Bid Due Date and Time" are not available for review by anyone other than the submitter who has until the "Bid Due Date and Time" to change, rescind or retrieve its proposal should it desire to do so.
- 2.5. **BIDS MUST BE SUBMITTED BY BID DUE DATE AND TIME.** Once the bid deadline is reached, no further submissions are accepted into the system. Once the Bid Due Date and Time has lapsed, bidders, proposers, the general public, and City staff are able to immediately see the results online. City staff may then begin reviewing the submissions for responsiveness, EOCB compliance and other issues. The City may require any Bidder to furnish statement of experience, financial responsibility, technical ability, equipment, and references.
- 2.6. **RECAPITULATION OF THE WORK.** Bids shall not contain any recapitulation of the Work. Conditional Bids may be rejected as being non-responsive. Alternative proposals will not be considered unless called for.
- 2.7. **BIDS MAY BE WITHDRAWN** by the Bidder only up to the bid due date and time.
- 2.7.1. Important Note: Submission of the electronic bid into the system may not be instantaneous. Due to the speed and capabilities of the user's internet service provider (ISP), bandwidth, computer hardware and other variables, it may take

time for the bidder's submission to upload and be received by the City's eBidding system. It is the bidder's sole responsibility to ensure their bids are received on time by the City's eBidding system. The City of San Diego is not responsible for bids that do not arrive by the required date and time.

- 2.8. ACCESSIBILITY AND AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE:** To request a copy of this solicitation in an alternative format, contact the Purchasing & Contracting Department, Public Works Division Contract Specialist listed on the cover of this solicitation at least five (5) working days prior to the Bid/Proposal due date to ensure availability.

3. ELECTRONIC BID SUBMISSIONS CARRY FULL FORCE AND EFFECT:

- 3.1.** The bidder, by submitting its electronic bid, acknowledges that doing so carries the same force and full legal effect as a paper submission with a longhand (wet) signature.
- 3.2.** By submitting an electronic bid, the bidder certifies that the bidder has thoroughly examined and understands the entire Contract Documents (which consist of the plans and specifications, drawings, forms, affidavits and the solicitation documents), and that by submitting the eBid as its bid proposal, the bidder acknowledges, agrees to and is bound by the entire Contract Documents, including any addenda issued thereto, and incorporated by reference in the Contract Documents.
- 3.3.** The Bidder, by submitting its electronic bid, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certification, forms and affidavits submitted as part of this bid are true and correct.
- 3.4.** The Bidder agrees to the construction of the project as described in Attachment "A-Scope of Work" for the City of San Diego, in accordance with the requirements set forth herein for the electronically submitted prices. The Bidder guarantees the Contract Price for a period of 120 days from the date of Bid opening. The duration of the Contract Price guarantee shall be extended by the number of days required for the City to obtain all items necessary to fulfill all conditions precedent.

- 4. BIDS ARE PUBLIC RECORDS:** Upon receipt by the City, Bids shall become public records subject to public disclosure. It is the responsibility of the respondent to clearly identify any confidential, proprietary, trade secret or otherwise legally privileged information contained within the Bid. General references to sections of the California Public Records Act (PRA) will not suffice. If the Contractor does not provide applicable case law that clearly establishes that the requested information is exempt from the disclosure requirements of the PRA, the City shall be free to release the information when required in accordance with the PRA, pursuant to any other applicable law, or by order of any court or government agency, and the Contractor will hold the City harmless for release of this information.

5. CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM:

5.1. Prior to the Award of the Contract or Task Order, you and your Subcontractors and Suppliers must register with the City's web-based vendor registration and bid management system. For additional information go to:

<http://www.sandiego.gov/purchasing/bids-contracts/vendorreg>

5.2. The City may not award the contract until registration of all subcontractors and suppliers is complete. In the event this requirement is not met within the time frame specified in the Notice of Intent to Award letter, the City reserves the right to rescind the Notice of Award / Intent to Award and to make the award to the next responsive and responsible bidder / proposer

6. JOINT VENTURE CONTRACTORS: Provide a copy of the Joint Venture agreement and the Joint Venture license to the City within 14 Calendar Days after receiving the Contract forms.

7. INSURANCE REQUIREMENTS:

7.1. All certificates of insurance and endorsements required by the contract are to be provided upon issuance of the City's Notice of Intent to Award letter.

7.2. Refer to sections 5-4, "INSURANCE" of the Supplementary Special Provisions (SSP) for the insurance requirements which must be met.

8. REFERENCE STANDARDS: Except as otherwise noted or specified, the Work shall be completed in accordance with the following standards:

Title	Edition	Document Number
Standard Specifications for Public Works Construction ("The GREENBOOK") http://www.greenbookspecs.org/	2021	ECPI010122-01
City of San Diego Standard Specifications for Public Works Construction ("The WHITEBOOK")* https://www.sandiego.gov/ecp/edocref/greenbook	2021	ECPI010122-02
City of San Diego Standard Drawings* https://www.sandiego.gov/ecp/edocref/standarddraw	2021	ECPI010122-03
Citywide Computer Aided Design and Drafting (CADD) Standards https://www.sandiego.gov/ecp/edocref/drawings	2018	PWPI010119-04
California Department of Transportation (CALTRANS) Standard Specifications https://dot.ca.gov/programs/design/july-2023-ccs-standard-plans-and-standard-specifications	2023	ECPD092023-05
CALTRANS Standard Plans https://dot.ca.gov/programs/design/july-2023-ccs-standard-plans-and-standard-specifications	2023	ECPD092023-06

Title	Edition	Document Number
California Manual on Uniform Traffic Control Devices Revision 8 (CA MUTCD Rev 8) https://dot.ca.gov/programs/safety-programs/camutcd	2014	ECPD032324-07
NOTE: *Available online under Engineering Documents and References at: https://www.sandiego.gov/ecp/edocref/ *Electronic updates to the Standard Drawings may also be found in the link above		

9. **CITY'S RESPONSES AND ADDENDA:** The City, at its discretion, may respond to any or all questions submitted in writing via the City's eBidding web site in the **form of an addendum**. No other responses to questions, oral or written shall be of any force or effect with respect to this solicitation. The changes to the Contract Documents through addenda are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda at the time of bid submission.
10. **CITY'S RIGHTS RESERVED:** The City reserves the right to cancel the Notice Inviting Bids at any time, and further reserves the right to reject submitted Bids, without giving any reason for such action, at its sole discretion and without liability. Costs incurred by the Bidder(s) as a result of preparing Bids under the Notice Inviting Bids shall be the sole responsibility of each bidder. The Notice Inviting Bids creates or imposes no obligation upon the City to enter a contract.
11. **CONTRACT PRICING:** This solicitation is for a Lump Sum contract with Unit Price provisions as set forth herein. The Bidder agrees to perform construction services for the City of San Diego in accordance with these contract documents for the prices listed below. The Bidder further agrees to guarantee the Contract Price for a period of 120 days from the date of Bid opening. The duration of the Contract Price guarantee may be extended, by mutual consent of the parties, by the number of days required for the City to obtain all items necessary to fulfill all contractual conditions.
12. **SUBCONTRACTOR INFORMATION:**
- 12.1. **LISTING OF SUBCONTRACTORS.** In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act" of the California Public Contract Code, the Bidder shall provide the **NAME** and **ADDRESS** of each Subcontractor who will perform work, labor, render services or who specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Contractor's total Bid. The Bidder shall also state within the description, whether the subcontractor is a **CONSTRUCTOR, CONSULTANT** or **SUPPLIER**. The Bidder shall state the **DIR REGISTRATION NUMBER** for all subcontractors and shall further state within the description, the **PORTION** of the work which will be performed by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement may result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions – Section 3-2, "Self-Performance",

which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which Bidders are seeking recognition towards achieving any mandatory, voluntary (or both) subcontracting participation goals.

Additionally, pursuant to California Senate Bill 96 and in accordance with the requirements of Labor Code sections 1771.1 and 1725.5, by submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the California Department of Industrial Relations (DIR). **The Bidder shall provide the name, address, license number, DIR registration number of any Subcontractor – regardless of tier** - who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement pursuant to the contract.

- 12.2. LISTING OF SUPPLIERS.** Any Bidder seeking the recognition of Suppliers of equipment, materials, or supplies obtained from third party Suppliers towards achieving any mandatory or voluntary (or both) subcontracting participation goals shall provide, at a minimum, the **NAME, LOCATION (CITY), DIR REGISTRATION NUMBER** and the **DOLLAR VALUE** of each supplier. The Bidder will be credited up to 60% of the amount to be paid to the Suppliers for materials and supplies unless vendor manufactures or substantially alters materials and supplies, in which case, 100% will be credited. The Bidder is to indicate within the description whether the listed firm is a supplier or manufacturer. If no indication is provided, the listed firm will be credited at 60% of the listed dollar value for purposes of calculating the Subcontractor Participation Percentage.
- 12.3. LISTING OF SUBCONTRACTORS OR SUPPLIERS FOR ALTERNATES.** For subcontractors or suppliers to be used on alternate items, bidder shall use the provided **“Subcontractors For Alternates”** form and shall indicate for each alternate subcontract whether it is an additive or deductive alternate; the subcontractor’s name, location, phone number, email address, CA license number, and DIR registration number; whether the subcontractor is a designer, constructor or supplier; the type of work the subcontractor will be performing; and the dollar value of the subcontract for that alternate item. Failure to comply with this requirement may result in the bid being rejected as nonresponsive and ineligible for award.
- 13. SUBMITTAL OF “OR EQUAL” ITEMS:** See Section 4-6, “Trade Names” in The WHITEBOOK and as amended in the SSP.
- 14. AWARD:**
 - 14.1.** The Award of this contract is contingent upon the Contractor’s compliance with all conditions precedent to Award.
 - 14.2.** Upon acceptance of a Bid, the City will prepare contract documents for execution within approximately 21 days of the date of the Bid opening and award the Contract

approximately within 7 days of receipt of properly executed Contract, bonds, and insurance documents.

- 14.3.** This contract will be deemed executed and effective only upon the signing of the Contract by the Mayor or his designee and approval as to form the City Attorney's Office.
- 15. SUBCONTRACT LIMITATIONS:** The Bidder's attention is directed to Standard Specifications for Public Works Construction, Section 3-2, "SELF-PERFORMANCE" in The GREENBOOK and as amended in the SSP which requires the Contractor to self-perform not less than the specified amount. Failure to comply with this requirement shall render the bid **non-responsive** and ineligible for award.
- 16. AVAILABILITY OF PLANS AND SPECIFICATIONS:** Contract Documents may be obtained by visiting the City's website: <http://www.sandiego.gov/cip/>. Plans and Specifications for this contract are also available for review in the office of the City Clerk or Purchasing & Contracting Department, Public Works Division.
- 17. ONLY ONE BID PER CONTRACTOR SHALL BE ACCEPTED:** No person, firm, or corporation shall be allowed to make, file, or be interested in more than one (1) Bid for the same work unless alternate Bids are called for. A person, firm or corporation who has submitted a sub-proposal to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other Bidders or from submitting a Bid in its own behalf. Any Bidder who submits more than one bid will result in the rejection of all bids submitted.
- 18. SAN DIEGO BUSINESS TAX CERTIFICATE:** The Contractor and Subcontractors, not already having a City of San Diego Business Tax Certificate for the work contemplated shall secure the appropriate certificate from the City Treasurer, Civic Center Plaza, First floor and submit to the Contract Specialist upon request or as specified in the Contract Documents. Tax Identification numbers for both the Bidder and the listed Subcontractors must be submitted on the City provided forms within these documents.
- 19. BIDDER'S GUARANTEE OF GOOD FAITH (BID SECURITY) FOR DESIGN-BID-BUILD CONTRACTS:**
- 19.1.** For bids \$250,000 and above, bidders shall submit Bid Security at bid time. Bid Security shall be in one of the following forms: a cashier's check, or a properly certified check upon some responsible bank; or an approved corporate surety bond payable to the City of San Diego for an amount of not less than 10% of the total bid amount.
- 19.2.** This check or bond, and the monies represented thereby, will be held by the City as a guarantee that the Bidder, if awarded the contract, will in good faith enter into the contract and furnish the required final performance and payment bonds.
- 19.3.** The Bidder agrees that in the event of the Bidder's failure to execute this contract and provide the required final bonds, the money represented by the cashier's or certified check will remain the property of the City; and the Surety agrees that it will pay to the City the damages, not exceeding the sum of 10% of the amount of the Bid, that the City may suffer as a result of such failure.
- 19.4.** At the time of bid submission, bidders must upload and submit an electronic PDF copy of the aforementioned bid security. Whether in the form of a cashier's check, a

properly certified check or an approved corporate surety bond payable to the City of San Diego, the bid security must be uploaded to the City's eBidding system. By 5PM, 1 working day after the bid opening date, all bidders must provide the City with the original bid security.

- 19.5.** Failure to submit the electronic version of the bid security at the time of bid submission AND failure to provide the original by 5PM, 1 working day after the bid opening date shall cause the bid to be rejected and deemed **non-responsive**.

Original Bid Bond shall be submitted to:
Purchasing & Contracting Department, Public Works Division
1200 3rd Ave., Suite 200, MS 56P
San Diego, California, 92101
To the Attention of the Contract Specialist on the Front Page of this solicitation.

20. AWARD OF CONTRACT OR REJECTION OF BIDS:

- 20.1.** This contract may be awarded to the lowest responsible and reliable Bidder.
- 20.2.** Bidders shall complete ALL eBid forms as required by this solicitation. Incomplete eBids will not be accepted.
- 20.3.** The City reserves the right to reject any or all Bids, to waive any informality or technicality in Bids received, and to waive any requirements of these specifications as to bidding procedure.
- 20.4.** Bidders will not be released on account of their errors of judgment. Bidders may be released only upon receipt by the City within 3 Working Days of the bid opening, written notice from the Bidder which shows proof of honest, credible, clerical error of a material nature, free from fraud or fraudulent intent; and of evidence that reasonable care was observed in the preparation of the Bid.
- 20.5.** A bidder who is not selected for contract award may protest the award of a contract to another bidder by submitting a written protest in accordance with the San Diego Municipal Code.
- 20.6.** The City of San Diego will not discriminate in the award of contracts with regard to race, religion creed, color, national origin, ancestry, physical handicap, marital status, sex or age.
- 20.7.** Each Bid package properly signed as required by these specifications shall constitute a firm offer which may be accepted by the City within the time specified herein.
- 20.8.** The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of the base bid and any proposed alternates or options as detailed herein.

21. BID RESULTS:

- 21.1.** The availability of the bids on the City's eBidding system shall constitute the public announcement of the apparent low bidder. In the event that the apparent low bidder is subsequently deemed non-responsive or non-responsible, a notation of such will be made on the eBidding system. The new ranking and apparent low bidder will be adjusted accordingly.

- 21.2.** To obtain the bid results, view the results on the City's web site, or request the results by U.S. mail and provide a self-addressed, stamped envelope. If requesting by mail, be sure to reference the bid name and number. The bid tabulations will be mailed to you upon their completion. The results will not be given over the telephone.

22. THE CONTRACT:

- 22.1.** The Bidder to whom award is made shall execute a written contract with the City of San Diego and furnish good and approved bonds and insurance certificates specified by the City within 14 days after receipt by Bidder of a form of contract for execution unless an extension of time is granted to the Bidder in writing.
- 22.2.** If the Bidder takes longer than 14 days to fulfill these requirements, then the additional time taken shall be added to the Bid guarantee. The Contract shall be made in the form adopted by the City, which includes the provision that no claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
- 22.3.** If the Bidder to whom the award is made fails to enter into the contract as herein provided, the award may be annulled and the Bidder's Guarantee of Good Faith will be subject to forfeiture. An award may be made to the next lowest responsible and reliable Bidder who shall fulfill every stipulation embraced herein as if it were the party to whom the first award was made.
- 22.4.** Pursuant to the San Diego City Charter section 94, the City may only award a public works contract to the lowest responsible and reliable Bidder. The City will require the Apparent Low Bidder to (i) submit information to determine the Bidder's responsibility and reliability, (ii) execute the Contract in form provided by the City, and (iii) furnish good and approved bonds and insurance certificates specified by the City within 14 Days, unless otherwise approved by the City, in writing after the Bidder receives notification from the City, designating the Bidder as the Apparent Low Bidder and formally requesting the above mentioned items.
- 22.5.** The award of the Contract is contingent upon the satisfactory completion of the above-mentioned items and becomes effective upon the signing of the Contract by the Mayor or designee and approval as to form by the City Attorney's Office. If the Apparent Low Bidder does not execute the Contract or submit required documents and information, the City may award the Contract to the next lowest responsible and reliable Bidder who shall fulfill every condition precedent to award. A corporation designated as the Apparent Low Bidder shall furnish evidence of its corporate existence and evidence that the officer signing the Contract and bond for the corporation is duly authorized to do so.

- 23. EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK:** The Bidder shall examine carefully the Project Site, the Plans and Specifications, other materials as described in the Special Provisions, Section 3-9, "TECHNICAL STUDIES AND SUBSURFACE DATA", and the proposal forms (e.g., Bidding Documents). The submission of a Bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of work, the quantities of materials to be

furnished, and as to the requirements of the Bidding Documents Proposal, Plans, and Specifications.

24. CITY STANDARD PROVISIONS: This contract is subject to the following standard provisions. See The WHITEBOOK for details.

- 24.1.** The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.
- 24.2.** The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.
- 24.3.** The City of San Diego Municipal Code §22.3004 for Contractor Standards.
- 24.4.** The City of San Diego's Labor Compliance Program and the State of California Labor Code §1776.
- 24.5.** Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts.
- 24.6.** The City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).
- 24.7.** The City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.

25. PRE-AWARD ACTIVITIES:

- 25.1.** The contractor selected by the City to execute a contract for this Work shall submit the required documentation as specified herein and in the Notice of Intent to Award. Failure to provide the information as specified may result in the Bid being rejected as **non-responsive**.
- 25.2.** The decision that bid is non-responsive for failure to provide the information required within the time specified shall be at the sole discretion of the City.

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND

FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

De La Fuente Construction, Inc., a corporation, as principal, and Everest National Insurance Company, a corporation authorized to do business in the State of California, as Surety, hereby obligate themselves, their successors and assigns, jointly and severally, to The City of San Diego a municipal corporation in the sum of **Nine Million Seven Hundred Thirty Eight Thousand Nine Hundred Thirty Eight Dollars and Zero Cents (\$9,738,938.00)** for the faithful performance of the annexed contract K-25-2349-DBB-3, and in the sum of **Nine Million Seven Hundred Thirty Eight Thousand Nine Hundred Thirty Eight Dollars and Zero Cents (\$9,738,938.00)** for the benefit of laborers and materialmen designated below.

Conditions:

If the Principal shall faithfully perform the annexed contract with the City of San Diego, California, then the obligation herein with respect to a faithful performance shall be void; otherwise, it shall remain in full force.

If the Principal shall promptly pay all persons, firms and corporations furnishing materials for or performing labor in the execution of this contract, and shall pay all amounts due under the California Unemployment Insurance Act then the obligation herein with respect to laborers and materialmen shall be void; otherwise, it shall remain in full force.

The obligation herein with respect to laborers and materialmen shall inure to the benefit of all persons, firms and corporations entitled to file claims under the provisions of Article 2. Claimants, (iii) public works of improvement commencing with Civil Code Section 9100 of the Civil Code of the State of California.

Changes in the terms of the annexed contract or specifications accompanying same or referred to therein shall not affect the Surety's obligation on this bond, and the Surety hereby waives notice of same.

The Surety shall pay reasonable attorney's fees should suit be brought to enforce the provisions of this bond.

The Surety expressly agrees that the City of San Diego may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal.

The Surety shall not utilize the Principal in completing the improvements and work specified in the Agreement in the event the City terminates the Principal for default.

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND

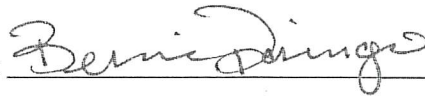
CONTRACTOR De La Fuente Construction, Inc.

By: 

Print Name: Jorge Diaz, President

Date: 3/5/23

THE CITY OF SAN DIEGO

By: 

Print Name: Berric Doringo
Deputy Director
Purchasing & Contracting Department

Date: 4/29/2025

SURETY Everest National Insurance Company

By: 

Print Name: Alex Karaniwan
Attorney-In-Fact

Date: 02/26/2025

APPROVED AS TO FORM

Heather Ferbert, City Attorney

By: 

Print Name: 
Deputy City Attorney

Date: 5/9/2025

100 Everest Way, Warren, NJ 07059

Local Address of Surety

619-297-3160

Local Phone Number of Surety

\$71,784.00

Premium

ES00020200

Bond Number



**POWER OF ATTORNEY
EVEREST REINSURANCE COMPANY and EVEREST NATIONAL INSURANCE COMPANY**

KNOW ALL PERSONS BY THESE PRESENTS: That Everest Reinsurance Company and Everest National Insurance Company, corporations of the State of Delaware ("Company") having their principal offices located at Warren Corporate Center, 100 Everest Way, Warren, New Jersey, 07059, do hereby nominate, constitute, and appoint:

Kyle King, Travis R. Pearson, William Bodensadt III, Kimberly Acevedo, Chanel Asfaw, Alex Karaniwan

its true and lawful Attorney(s)-in-fact to make, execute, attest, seal and deliver for and on its behalf, as surety, and as its act and deed, where required, any and all bonds and undertakings in the nature thereof, for the penal sum of no one of which is in any event to exceed UNLIMITED, reserving for itself the full power of substitution and revocation.

Such bonds and undertakings, when duly executed by the aforesaid Attorney(s)-in-fact shall be binding upon the Company as fully and to the same extent as if such bonds and undertakings were signed by the President and Secretary of the Company and sealed with its corporate seal.

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Board of Directors of Company ("Board") on April 21, 2016:

RESOLVED, that the President, any Executive Vice President, and any Senior Vice President are hereby appointed by the Board as authorized to make, execute, seal and deliver for and on behalf of the Company, any and all bonds, undertakings, contracts or obligations in surety or co-surety with others and that the Secretary or any Assistant Secretary of the Company be and that each of them hereby is authorized to attest to the execution of any such bonds, undertakings, contracts or obligations in surety or co-surety and attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that the President, any Executive Vice President, and any Senior Vice President are hereby authorized to execute powers of attorney qualifying the attorney named in the given power of attorney to execute, on behalf of the Company, bonds and undertakings in surety or co-surety with others, and that the Secretary or any Assistant Secretary of the Company be, and that each of them is hereby authorized to attest the execution of any such power of attorney, and to attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that the signature of such officers named in the preceding resolutions and the corporate seal of the Company may be affixed to such powers of attorney or to any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be thereafter valid and binding upon the Company with respect to any bond, undertaking, contract or obligation in surety or co-surety with others to which it is attached.

IN WITNESS WHEREOF, Everest Reinsurance Company and Everest National Insurance Company have caused their corporate seals to be affixed hereto, and these presents to be signed by their duly authorized officers this 10th day of October 2023.



Everest Reinsurance Company and Everest National Insurance Company

By: Anthony Romano, Senior Vice President

On this 22nd of March 2023, before me personally came Anthony Romano, known to me, who, being duly sworn, did execute the above instrument; that he knows the seal of said Company; that the seal affixed to the aforesaid instrument is such corporate seal and was affixed thereto; and that he executed said instrument by like order.

LINDA ROBINS
Notary Public, State of New York
No 01R06239736
Qualified in Queens County
Term Expires April 25, 2027

Linda Robins, Notary Public

I, Sylvia Semerdjian, Assistant Secretary of Everest Reinsurance Company and Everest National Insurance Company do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Section of the bylaws and resolutions of said Corporation as set forth in said Power of Attorney, with the ORIGINALS ON FILE IN THE HOME OFFICE OF SAID CORPORATION, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Company, this 26th day of February, 2025.



By: Sylvia Semerdjian, Assistant Secretary

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT Civil Code § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached, and not the truthfulness, accuracy or validity of that document.

STATE OF CALIFORNIA

County of San Diego

On FEB 26 2025 before me, Grant Jacka, Notary Public,
Date Insert Name of Notary exactly as it appears on the official seal

personally appeared Alex Karaniwan
Name(s) of Signer(s)



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

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

Witness my hand and official seal.

Signature [Handwritten Signature]
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of the form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

- ☐ Individual
☐ Corporate Officer — Title(s): _____
☐ Partner ☐ Limited ☐ General
☐ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____

Signer is Representing: _____

RIGHT THUMBPRINT
OF SIGNER

Top of thumb here

Signer's Name: _____

- ☐ Individual
☐ Corporate Officer — Title(s): _____
☐ Partner ☐ Limited ☐ General
☐ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____

Signer is Representing: _____

RIGHT THUMBPRINT
OF SIGNER

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ATTACHMENTS

ATTACHMENT A
SCOPE OF WORK

SCOPE OF WORK

1. **SCOPE OF WORK:** The project scope includes accessible cast-in-place concrete paving, accessible playground and playground surfacing, comfort station, lighting, basketball courts, planting, irrigation, stormwater, trash enclosure, site furnishings, and other items.

1.1. The Work shall be performed in accordance with:

- 1.1.1. The Notice Inviting Bids and Plans numbered **0100358-01-D** through **0100358-113-D**, inclusive.

<https://drive.google.com/drive/folders/1rvt1Zpi4t0rCVup2h9nFHLiewf9dggi>

2. **LOCATION OF WORK:** The location of the Work is as follows:

Appendix E – Location Map

3. **CONTRACT TIME:** The Contract Time for completion of the Work, including the Plant Establishment Period, shall be **300 Working Days**.

ATTACHMENT B

RESERVED

ATTACHMENT C

EQUAL OPPORTUNITY CONTRACTING PROGRAM

EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP)

SECTION A - GENERAL REQUIREMENTS

A. INTRODUCTION.

1. This document sets forth the following specifications:
 - a) The City's general EOCP requirements for all Construction Contracts.
 - b) Special Provisions for Contracts subject to SLBE and ELBE requirements only.
2. Additional requirements may apply for state or federally funded projects.
3. These requirements shall be included as Contract provisions for all Subcontracts.
4. The City specified forms, instructions, and guides are available for download from the EOCP's web site at: <http://www.sandiego.gov/eoc/forms/index.shtml>

B. GENERAL.

1. The City of San Diego promotes equal employment and subcontracting opportunities.
2. The City is committed to ensuring that taxpayer dollars spent on public Contracts are not paid to businesses that practice discrimination in employment or subcontracting.
3. The City encourages all companies seeking to do business with the City to share this commitment.

C. DEFINITIONS.

1. For the purpose of these requirements: Terms "Bid" and "Proposal", "Bidder" and "Proposer", "Subcontractor" and "Subconsultant", "Contractor" and "Consultant", "Contractor" and "Prime Contractor", "Consultant" and "Professional Service Provider", "Suppliers" and "Vendors", "Suppliers" and "Dealers", and "Suppliers" and "Manufacturers" may have been used interchangeably.
2. The following definitions apply:
 - a) **Emerging Business Enterprise (EBE)** - A for-profit business that is independently owned and operated; that is not a subsidiary or franchise of another business and whose gross annual receipts do not exceed the amount set by the City Manager and that meets all other criteria set forth in regulations implementing Municipal Code Chapter 2, Article 2, Division 36. The City Manager shall review the threshold amount for EBEs on an annual basis and adjust as necessary to reflect changes in the marketplace.
 - b) **Emerging Local Business Enterprise (ELBE)** - A Local Business Enterprise that is also an Emerging Business Enterprise.

- c) **Minority Business Enterprise (MBE)** - A certified business that is at least fifty-one percent (51%) owned by one or more minority individuals, or, in the case of a publicly owned business at least fifty-one percent (51%) of the stock is owned by one or more minority individuals; and (2) whose daily business operations are managed and directed by one or more minorities owners. Minorities include the groups with the following ethnic origins: African, Asian Pacific, Asian Subcontinent, Hispanic, Native Alaskan, Native American, and Native Hawaiian.
- d) **Women Business Enterprise (WBE)** - A certified business that is at least fifty-one percent (51%) owned by a woman or women, or, in the case of a publicly owned business at least fifty-one percent (51%) of the stock is owned by one or more women; and (2) whose daily business operations are managed and directed by one or more women owners.
- e) **Disadvantaged Business Enterprise (DBE)** - a certified business that is at least fifty-one percent (51%) owned by socially and economically disadvantaged individuals, or, in the case of a publicly owned business at least fifty-one percent (51%) of the stock is owned by one or more socially and economically disadvantaged individuals; and (2) whose daily business operations are managed and directed by one or more socially and economically disadvantaged owners.
- f) **Disabled Veteran Business Enterprise (DVBE)** - A certified business that is at least fifty-one percent (51%) owned by one or more disabled veterans; and (2) business operations must be managed and controlled by one or more disabled veterans. Disabled Veteran is a veteran of the U.S. military, naval, or air service; the veteran must have a service-connected disability of at least 10% or more; and the veteran must reside in California.
- g) **Other Business Enterprise (OBE)** - Any business which does not otherwise qualify as a Minority, Woman, Disadvantaged, or Disabled Veteran Business Enterprise.
- h) **Small Business Enterprise (SBE)** - A for-profit business that is independently owned and operated; that is not a subsidiary or franchise of another business and whose gross annual receipts do not exceed the amount set by the City Manager and that meets all other criteria set forth in regulations implementing Municipal Code Chapter 2, Article 2, Division 36. The City Manager shall review the threshold amount for SBEs on an annual basis and adjust as necessary to reflect changes in the marketplace. A business certified as a Micro Business (MB) or a Disabled Veteran Business Enterprise (DVBE) by the State of California and that has provided proof of such certification to the City Manager shall be deemed to be an SBE.

- i) **Small Local Business Enterprise (SLBE)** - A Local Business Enterprise that is also a Small Business Enterprise.

D. CITY'S EQUAL OPPORTUNITY COMMITMENT.

1. Nondiscrimination in Contracting Ordinance.

- a) You, your Subcontractors, and Suppliers shall comply with the requirements of the City's Nondiscrimination in Contracting Ordinance, San Diego Municipal Code §§22.3501 through 22.3517.

You shall not discriminate on the basis of race, gender, gender expression, gender identity, religion, national origin, ethnicity, sexual orientation, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, or suppliers. You shall provide equal opportunity for Subcontractors to participate in subcontracting opportunities. You understand and agree that the violation of this clause shall be considered a material breach of the Contract and may result in Contract termination, debarment, or other sanctions.

You shall include the foregoing clause in all Contracts between you and your Subcontractors and Suppliers.

- b) **Disclosure of Discrimination Complaints.** As part of its Bid or Proposal, you shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against you in a legal or administrative proceeding alleging that you discriminated against your employees, Subcontractors, vendors, or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.
- c) Upon the City's request, You agree to provide to the City, within 60 Calendar Days, a truthful and complete list of the names of all Subcontractors and Suppliers that you have used in the past 5 years on any of your Contracts that were undertaken within the San Diego County, including the total dollar amount paid by you for each Subcontract or supply Contract.
- d) You further agree to fully cooperate in any investigation conducted by the City pursuant to the City's Nondiscrimination in Contracting Ordinance, Municipal Code §§22.3501 through 22.3517. You understand and agree that violation of this clause shall be considered a material breach of the Contract and may result in remedies being ordered against you up to and including contract termination, debarment, and other sanctions for the violation of the provisions of the Nondiscrimination in Contracting Ordinance. You further understand and agree that the procedures, remedies, and sanctions provided for in the Nondiscrimination in Contracting Ordinance apply only to violations of the Ordinance.

E.

EQUAL EMPLOYMENT OPPORTUNITY OUTREACH PROGRAM.

1. You, your Subcontractors, and Suppliers shall comply with the City's Equal Employment Opportunity Outreach Program, San Diego Municipal Code §§22.2701 through 22.2707.

You shall not discriminate against any employee or applicant for employment on any basis prohibited by law. You shall provide equal opportunity in all employment practices. You shall ensure that your Subcontractors comply with this program. Nothing in this section shall be interpreted to hold you liable for any discriminatory practices of your Subcontractors.

You shall include the foregoing clause in all Contracts between you and your Subcontractors and Suppliers.

2. If the Contract is competitively solicited, the selected Bidder shall submit a Work Force Report (Form BB05) within 10 Working Days after receipt by the Bidder to the City for approval as specified in the Notice of Intent to Award letter.
3. The selected Bidder shall submit an Equal Employment Opportunity Plan if a Work Force Report is submitted and if the City determines that there are under-representations when compared to County Labor Force Availability data.
4. If the selected Bidder submits an Equal Employment Opportunity Plan, it shall include the following assurances:
 - a) You shall maintain a working environment free of discrimination, harassment, intimidation, and coercion at all Sites and in all facilities at which your employees are assigned to Work.
 - b) You shall review your EEO Policy annually with all on-Site supervisors involved in employment decisions.
 - c) You shall disseminate and review your EEO Policy with all employees at least once a year, post the policy statement and EEO posters on all company bulletin boards and job sites, and document every dissemination, review, and posting with a written record to identify the time, place, employees present, subject matter, and disposition of meetings.
 - d) You shall review, at least annually, all supervisors' adherence to and performance under the EEO Policy and maintain written documentation of these reviews.
 - e) You shall discuss your EEO Policy Statement with Subcontractors with whom you anticipate doing business, including the EEO Policy Statement in your Subcontracts, and provide such documentation to the City upon request.

- f) You shall document and maintain a record of all Bid solicitations and outreach efforts to and from Subcontractors, contractor associations, and other business associations.
- g) You shall disseminate your EEO Policy externally through various media, including the media of people of color and women, in advertisements to recruit. Maintain files documenting these efforts and provide copies of these advertisements to the City upon request.
- h) You shall disseminate your EEO Policy to union and community organizations.
- i) You shall provide immediate written notification to the City when any union referral process has impeded your efforts to maintain your EEO Policy.
- j) You shall maintain a current list of recruitment sources, including those outreaching to people of color and women, and provide written notification of employment opportunities to these recruitment sources with a record of the organizations' responses.
- k) You shall maintain a current file of names, addresses and phone numbers of each walk-in applicant, including people of color and women, and referrals from unions, recruitment sources, or community organizations with a description of the employment action taken.
- l) You shall encourage all present employees, including people of color and women employees, to recruit others.
- m) You shall maintain all employment selection process information with records of all tests and other selection criteria.
- n) You shall develop and maintain documentation for on-the-job training opportunities, participate in training programs, or both for all of your employees, including people of color and women, and establish apprenticeship, trainee, and upgrade programs relevant to your employment needs.
- o) You shall conduct, at least annually, an inventory and evaluation of all employees for promotional opportunities and encourage all employees to seek and prepare appropriately for such opportunities.
- p) You shall ensure that the company's working environment and activities are non-segregated except for providing separate or single-user toilets and necessary changing facilities to assure privacy between the sexes.

F. SUBCONTRACTING.

1. The City encourages all eligible business enterprises to participate in City contracts as a Contractor, Subcontractor, and joint venture partner with you, your Subcontractors, or your Suppliers. You are encouraged to take positive steps to diversify and expand your Subcontractor solicitation base and to offer

subcontracting opportunities to all eligible business firms including SLBEs, ELBEs, MBEs, WBEs, DBEs, DVBES, and OBEs.

2. For Subcontractor participation level requirements, see the Contract Documents where applicable.
3. For the purposes of achieving the mandatory Subcontractor participation percentages, City percentage calculations will not account for the following:
 - a) "Field Orders" and "City Contingency" Bid items.
 - b) Alternate Bid items.
 - c) Allowance Bid items designated as "EOC Type II".
4. Allowance Bid items designated as "EOC Type I" will be considered as part of the Base Bid and will be included in the percentage calculation.
5. Each joint venture partner shall be responsible for a clearly defined Scope of Work. In addition, an agreement shall be submitted and signed by all parties identifying the extent to which each joint venture partner shares in ownership, control, management, risk, and profits of the joint venture.

G. LISTS OF SUBCONTRACTORS AND SUPPLIERS.

1. You shall comply with the Subletting and Subcontracting Fair Practices Act, Public Contract Code §§4100 through 4113, inclusive.
2. You shall list all Subcontractors who will receive more than 0.5% of the total Bid amount or \$10,000, whichever is greater on the form provided in the Contract Documents (Subcontractors list).
3. The Subcontractors list shall include the Subcontractor's name, telephone number including area code, physical address, Scope of Work, the dollar amount of the proposed Subcontract, the California contractor license number, the Public Works contractor registration number issued pursuant to Section 1725.5 of the Labor Code, and the Subcontractor's certification status with the name of the certifying agency.
4. The listed Subcontractor shall be appropriately licensed pursuant to Contractor License Laws.
5. For Design-Build Contracts, refer to the RFQ and RFP for each Project or Task Order.

H. SUBCONTRACTOR AND SUPPLIER SUBSTITUTIONS.

1. Listed Subcontractors and Suppliers shall not be substituted without the Express authorization of the City or its duly authorized agent.

2. Request for Subcontractor or Supplier substitution shall be made in writing to Purchasing & Contracting Department, Public Works Division, Attention Contract Specialist, 1200 3rd Ave., Suite 200, MS 56P, San Diego, CA 92101 with a copy to the Engineer.
3. The request shall include a thorough explanation of the reason(s) for the substitution, including dollar amounts and a letter from each substituted Subcontractor or Supplier stating that they (the Subcontractors or Suppliers) release all interest in working on the Project and written confirmation from the new Subcontractor or Supplier stating that they agree to work on the Project along with the dollar value of the Work to be performed.
4. Written approval of the substitution request shall be received by you or from the City or its authorized officer prior to any unlisted Subcontractor or Supplier performing Work on the Project.
5. Substitution of Subcontractors and Suppliers without authorization shall subject you to those penalties set forth in Public Contract Code §4110.
6. Requests for Supplier substitution shall be made in writing at least 10 Days prior to the provision of materials, supplies, or services by the proposed Supplier and shall include proof of written notice to the originally listed Supplier of the proposed substitution.
7. A Contractor whose Bid is accepted shall not:
 - a) Substitute a person as Subcontractor or Supplier in place of the Subcontractor or Supplier listed in the original bid, except that the City, or its duly authorized officer, may consent to the substitution of another person as a Subcontractor or Supplier in any of the following situations:
 - i. When the Subcontractor or Supplier listed in the Bid, after having a reasonable opportunity to do so, fails or refuses to execute a written Contract for the scope of work specified in the subcontractor's bid and at the price specified in the subcontractor's bid, when that written contract, based upon the general terms, conditions, plans, and specifications for the project involved or the terms of the subcontractor's written bid, is presented to the subcontractor by the prime contractor.
 - ii. When the listed Subcontractor or Supplier becomes insolvent or the subject of an order for relief in bankruptcy.
 - iii. When the listed Subcontractor or Supplier fails or refuses to perform his or her subcontract.
 - iv. When the listed Subcontractor fails or refuses to meet bond requirements as set forth in Public Contract Code §4108.

- v. When you demonstrate to the City or its duly authorized officer, subject to the provisions set forth in Public Contract Code §4107.5, that the name of the Subcontractor was listed as the result of an inadvertent clerical error.
 - vi. When the listed Subcontractor is not licensed pursuant to Contractor License Law.
 - vii. When the City, or its duly authorized officer, determines that the Work performed by the listed Subcontractor or that the materials or supplies provided by the listed Supplier are substantially unsatisfactory and not in substantial accordance with the Plans and specifications or that the Subcontractor or Supplier is substantially delaying or disrupting the progress of the Work.
 - viii. When the listed Subcontractor is ineligible to work on a public works project pursuant to §§1777.1 or 1777.7 of the Labor Code.
 - ix. When the City or its duly authorized agent determines that the listed Subcontractor is not a responsible contractor.
- b) Permit a Contract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original Subcontractor, Supplier listed in the original Bid without the consent of the City, or its duly authorized officer.
 - c) Other than in the performance of "Change Orders" causing changes or deviations from the Contract, sublet or subcontract any portion of the Work, or contract for materials or supplies in excess of 0.5% of your total bid or \$10,000, whichever is greater, as to which his or her original Bid did not designate a Subcontractor or Supplier.
8. Following receipt of notice from you of the proposed substitution of a Subcontractor or Supplier, the listed Subcontractor or Supplier who has been so notified shall have 5 Working Days within which to submit written objections to the substitution to the Contract Specialist with a copy to the Engineer. Failure to file these written objections shall constitute the listed Subcontractor or Supplier's consent to the substitution. If written objections are filed, the City shall give notice in writing of at least 5 Working Days to the listed Subcontractor or Supplier of a hearing by the City on your request for substitution.

I. PROMPT PAYMENT.

- 1. You or your Subcontractors shall pay to any subcontractor, not later than 7 Calendar Days of receipt of each progress payment, unless otherwise agreed to in writing, the respective amounts allowed you on account of the Work performed by the Subcontractors, to the extent of each Subcontractor's interest therein. In cases of Subcontractor performance deficiencies, you shall

make written notice of any withholding to the Subcontractor with a copy to the Contracts Specialist. Upon correction of the deficiency, you shall pay the Subcontractor the amount previously withheld within 14 Calendar Days after payment by the City.

2. Any violation of California Business and Professions Code, §7108.5 concerning prompt payment to Subcontractors shall subject the violating Contractor or Subcontractor to the penalties, sanctions, and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to you or your Subcontractor in the event of a dispute involving late payment or nonpayment by the Prime Contractor, deficient subcontract performance, or noncompliance by a Subcontractor.

J. PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS.

1. The City will hold retention from you and will make prompt and regular incremental acceptances of portions, as determined by the Engineer, of the Work and pay retention to you based on these acceptances.
2. You or your Subcontractors shall return all monies withheld in retention from a Subcontractor within 30 Calendar Days after receiving payment for Work satisfactorily completed and accepted including incremental acceptances of portions of the Work by the City.
3. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 Calendar Days may take place only for good cause and with the City's prior written approval. Any violation of this provision by you or your Subcontractor shall subject you or your Subcontractor to the penalties, sanctions, and other remedies specified in §7108.5 of the Business and Professions Code.
4. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to you or your Subcontractor in the event of a dispute involving late payment or nonpayment by you, deficient subcontract performance, or noncompliance by a Subcontractor.

K. CERTIFICATION.

1. The City accepts certifications of DBE, DVBE, MBE, SDBE, SWBE, or WBE by any of the following certifying agencies:
 - a) Current certification by the State of California Department of Transportation (CALTRANS) as DBE, SDBE, or SWBE.
 - b) Current MBE, WBE, or DVBE certification from the California Public Utilities Commission.
 - c) DVBE certification is received from the State of California's Department of General Services, Office of Small and Minority Business.
 - d) Current certification by the City of Los Angeles as DBE, WBE, or MBE.

- e) Subcontractors' valid proof of certification status (copies of MBE, WBE, DBE, or DVBE certifications) shall be submitted as required.

L. CONTRACT RECORDS AND REPORTS.

1. You shall maintain records of all subcontracts and invoices from your Subcontractors and Suppliers for work on this project. Records shall show name, telephone number including area code, and business address of each Subcontractor, Supplier, and joint venture partner, and the total amount actually paid to each firm. Project relevant records, regardless of tier, may be periodically reviewed by the City.
2. You shall retain all records, books, papers, and documents pertinent to the Contract for a period of not less than 5 years after Notice of Completion and allow access to said records by the City's authorized representatives.
3. You shall submit the following reports using the City's web-based contract compliance (Prism® portal):
 - a. **Monthly Payment.** You shall submit Monthly Payment Reporting by the 10th day of the subsequent month. Incomplete and/or delinquent reporting may cause payment delays, non-payment of invoices, or both.
4. The records maintained under item 1, described above, shall be consolidated into a Final Summary Report, certified as correct by an authorized representative of the Contractor. The Final Summary Report shall include all subcontracting activities and be sent to the EOCP Program Manager and Office of Labor Standards & Enforcement (OLSE) Prevailing Wage Unit prior to Acceptance. Failure to comply may result in assessment of liquidated damages or withholding of retention. The City will review and verify 100% of subcontract participation reported in the Final Summary Report prior to approval and release of final retention to you. In the event your Subcontractors are owed money for completed Work, the City may authorize payment to subcontractor via a joint check from the withheld retention.

EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP)

SECTION B - SLBE-ELBE SUBCONTRACTING REQUIREMENTS

THESE SPECIAL PROVISIONS SUPPLEMENT THE POLICIES AND REQUIREMENTS ESTABLISHED BY THE CITY OF SAN DIEGO EQUAL OPPORTUNITY CONTRACTING PROGRAM SPECIFIED IN THE CITY'S GENERAL EOCP REQUIREMENTS.

A. GENERAL.

1. It is the City's policy to encourage greater availability, capacity development, and contract participation by SLBE and ELBE firms in City contracts. This policy is, in part, intended to further the City's compelling interest to stimulate economic development through the support and empowerment of the local community, ensure that it is neither an active nor passive participant in marketplace discrimination, and promote equal opportunity for all segments of the contracting community.
2. The City is committed to maximizing subcontracting opportunities for all qualified and available firms.
3. This policy applies to City-funded construction contracts. Bidders shall be fully informed of this policy as set forth in these specifications. Mandatory or voluntary subcontracting percentages, Bid Discounts, and restricted competitions are specified in the Contract Documents.
4. You shall make subcontracting opportunities available to a broad base of qualified Subcontractors and shall achieve the minimum SLBE-ELBE Subcontractor participation identified for your project.
5. Failure to subcontract the specified minimum (mandatory) percentages of the Bid to qualified available SLBE-ELBE Subcontractors will cause a Bid to be rejected as non-responsive unless the Bidder has demonstrated compliance with the affirmative steps as specified in the City's document titled "Small Local Business (SLBE) Program, INSTRUCTIONS FOR BIDDERS COMPLETING THE GOOD FAITH EFFORT SUBMITTAL" and has submitted documentation showing that all required positive efforts were made prior to the Bid submittal due date. The required Good Faith Effort (GFE) documentation shall be submitted to the Contract Specialist. The instructions for completing the good faith effort submittal can be found on the City's website:
<https://www.sandiego.gov/sites/default/files/legacy/eoc/pdf/slbegeinst.pdf>
6. The current list of certified SLBE-ELBE firms and information for completing the GFE submittal can be found on the City's EOC Department website:
<http://www.sandiego.gov/eoc/programs/slbe>
7. These requirements may be waived, at the City's sole discretion, on projects deemed inappropriate for subcontracting participation.

B.

DEFINITIONS.

1. The following definitions shall be used in conjunction with these specifications:

- a) **Bid Discount** – Additional inducements or enhancements in the bidding process that are designed to increase the chances for the selection of SLBE firms in competition with other firms.
- b) **Commercially Useful Function** – An SLBE-ELBE performs a commercially useful function when it is responsible for the execution of the Work and is carrying out its responsibilities by actually performing, managing, and supervising the Work involved. To perform a commercially useful function, the SLBE-ELBE shall also be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quantity and quality, ordering the material, and installing (where applicable) and paying for the material itself.

To determine whether an SLBE-ELBE is performing a commercially useful function, an evaluation will be performed of the amount of Work subcontracted, normal industry practices, whether the amount the SLBE-ELBE firm is to be paid under the contract is commensurate with the Work it is actually performing and the SLBE-ELBE credit claimed for its performance of the Work, and other relevant factors. Specifically, an SLBE-ELBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of meaningful and useful SLBE-ELBE participation, when in similar transactions in which SLBE-ELBE firms do not participate, there is no such role performed.

- c) **Good Faith Efforts (GFE)** – Documentation of the Bidder's intent to comply with SLBE Program goals and procedures included in the City's SLBE Program, Instructions for Completing Good Faith Effort Submittal available from the City's EOCP website or the Contract Specialist.
- d) **Independently Owned, Managed, and Operated** – Ownership of a SLBE-ELBE firm shall be direct, independent, and by individuals only. Business firms that are owned by other businesses or by the principals or owners of other businesses that cannot themselves qualify under the SLBE-ELBE eligibility requirements shall not be eligible to participate in the Program. Moreover, the day-to-day management of the SLBE-ELBE firm shall be direct and independent of the influence of any other businesses that cannot themselves qualify under the SLBE-ELBE eligibility requirements.
- e) **Joint Venture** – An association of two or more persons or business entities that is formed for the single purpose of carrying out a single defined business enterprise for which purpose they combine their

capital, efforts, skills, knowledge, or property. Joint ventures shall be established by written agreement to qualify for this program.

- f) **Local Business Enterprise (“LBE”)** – A firm having a Principal Place of Business and a Significant Employment Presence in San Diego County, California that has been in operation for 12 consecutive months and a valid business tax certificate. This definition is subsumed within the definition of Small Local Business Enterprise.
- g) **Minor Construction Program** – A program developed for bidding exclusively among SLBE-ELBE Construction firms.
- h) **Principal Place of Business** – A location wherein a firm maintains a physical office and through which it obtains no less than 50% of its overall customers or sales dollars.
- i) **Protégé** – A firm that has been approved and is an active participant in the City’s Mentor-Protégé Program and that has signed the required program participation agreement and has been assigned a mentor.
- j) **Significant Employee Presence** – No less than 25% of a firm’s total number of employees are domiciled in San Diego County.

C. SUBCONTRACTOR PARTICIPATION.

1. For the purpose of satisfying subcontracting participation requirements, only 1st tier SLBE–ELBE Subcontractors will be recognized as participants in the Contract according to the following criteria:
 - a) For credit to be allowed toward a respective participation level, all listed SLBE-ELBE firms shall have been certified by the Bid due date.
 - b) The Subcontractor shall perform a commercially useful function for credit to be allowed toward subcontractor participation levels. The Subcontractor shall be required by you to be responsible for the execution of a distinct element of the Work and shall carry out its responsibility by actually performing and supervising its own workforce.
 - c) If the Bidder is seeking the recognition of materials, supplies, or both towards achieving any mandatory subcontracting participation level, the Bidder shall indicate on Form AA40 – Named Equipment/Material Supplier List with the Bid the following:
 - i. If the materials or supplies are obtained from a SLBE-ELBE manufacturer, the Bidder will receive 100% of the cost of the materials or supplies toward SLBE participation. For the purposes of counting SLBE-ELBE participation, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the Contract and of the general character described by the specifications.

- ii. If the materials or supplies are obtained from a SLBE-ELBE supplier, the Bidder will receive 60% of the cost of the materials or supplies toward SLBE participation. For the purposes of counting SLBE-ELBE participation a Supplier is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a supplier, the firm shall be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a supplier in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business if the person both owns and operates distribution equipment for the products. Any supplementing of the suppliers' own distribution equipment shall be by a long-term lease agreement and shall not be on an ad hoc or contract-by-contract basis.
 - iii. If the materials or supplies are obtained from a SLBE-ELBE, which is neither a manufacturer nor a supplier, the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, fees or transportation charges for the delivery of materials or supplies required on a job site will be counted toward SLBE-ELBE participation, provided the fees are reasonable and not excessive as compared with fees customarily allowed for similar services. No portion of the cost of the materials and supplies themselves will be counted toward SLBE-ELBE participation.
- d) If the Bidder is seeking the recognition of SLBE-ELBE Trucking towards achieving any mandatory subcontracting participation level, the Bidder shall indicate it on Form AA35 – List of Subcontractors with the Bid. The following factors will be evaluated in determining the credit to be allowed toward the respective participation level:
- i. The SLBE-ELBE shall be responsible for the management and supervision of the entire trucking operation for which it is getting credit on a particular Contract and there shall not be a contrived arrangement for the purpose of counting SLBE-ELBE participation.
 - ii. The SLBE-ELBE shall itself own and operate at least 1 fully licensed, insured, and operational truck used on the Contract.

- iii. The SLBE-ELBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures, and operates using drivers it employs.
- iv. The SLBE-ELBE may lease trucks from another SLBE-ELBE firm including an owner-operator who is certified as a SLBE-ELBE. The SLBE-ELBE who leases trucks from another SLBE-ELBE receives credit for the total value of the transportation services the lessee SLBE-ELBE provides on the contract.
- v. The SLBE-ELBE may also lease trucks from a non-SLBE-ELBE firm, including an owner-operator. The SLBE-ELBE who leases trucks from a non-SLBE-ELBE is entitled to credit for the total value of transportation services provided by non-SLBE-ELBE lessees not to exceed the value of transportation services provided by SLBE-ELBE owned trucks on the contract. Additional participation by non-SLBE-ELBE lessees receive credit only for the fee or commission it receives as a result of the lease arrangement.
- vi. A lease shall indicate that the SLBE-ELBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the SLBE-ELBE so long as the lease gives the SLBE-ELBE absolute priority for use of the leased truck.

D. SLBE-ELBE SUBCONTRACTOR PARTICIPATION PERCENTAGES.

- 1. Contracts valued at \$1,500,000 and above will be considered Major Public Works Contracts and will include a mandatory Subcontractor participation requirement for SLBE-ELBE firms.
 - a) The Bidder shall achieve the mandatory Subcontractor participation requirement or demonstrate GFE.
 - b) The Bidders shall indicate the participation on Forms AA35 - List of Subcontractors and AA40 - Named Equipment/Material Supplier List as applicable regardless of the dollar value.
 - c) An SLBE-ELBE Bidder may count its own participation toward achieving the mandatory goal as long as the SLBE-ELBE Bidder performs 51% of the Contract Price.
- 2. Contracts Valued over \$1,000,000 and under \$1,500,000 will also be considered Major Public Works Contracts and will include the mandatory subcontractor participation requirements described above and the following:
 - a) 5% bid discount for SLBE-ELBE firms.
 - b) Non-certified Contractor will receive 5% bid discount if they achieve the specified mandatory Subcontracting participations.

- c) Bid discounts shall not apply if the award will result in a total contract cost of \$50,000 in excess of the apparent lowest Bid.
 - d) In the event of a tie bid between a SLBE-ELBE Bidder and a non-SLBE-ELBE Bidder, the SLBE-ELBE Bidder will be awarded the Contract.
 - e) In the event of a tie bid between a discounted Bid and a non-discounted Bid, the discounted Bid will be awarded the Contract.
- 3. Contracts valued over \$500,000 up to \$1,000,000 will be considered Minor Public Works Contracts and will be awarded through a competitive Bid process open only to City certified SLBE-ELBE firms. If there are no bidders or no responsible bidders, the Contract will be made available to all Bidders and will be subject to requirements listed in items 1 and 2 for Major Public Works Contracts above.
 - 4. Contracts valued at \$500,000 and below will also be considered Minor Public Works Contracts and will be awarded through a competitive bid process open only to City certified ELBEs unless there are less than 2 firms available at which it will be awarded through a competitive process open only to the City certified SLBE-ELBE firms. If there are no bidders or no responsible bidders, the Contract will be made available to all Bidders and subject to requirements listed in items 1 and 2 for Major Public Works Contracts above.

E. JOINT VENTURES.

- 1. The City may allow for Joint Venture bid discounts on some Contracts. Contracts that allow for Joint Venture bid discounts will be designated in Bid documents. A firm that is bidding or competing for City Contracts may partner with a certified SLBE or ELBE to compete for Contracts as a Joint Venture.
- 2. A Joint Venture shall be between two entities with the same discipline or license as required by the City. Joint ventures will receive bid discounts depending on the SLBE or ELBE percentage of participation. To be eligible for a discount, a Joint Venture Agreement shall be approved by the City at the time of Bid submittal. The maximum allowable discount shall be 5%. The parties shall agree to enter in the relationship for the life of the projects.
- 3. Joint Venture shall submit a Joint Venture Management Plan, a Joint Venture Agreement, or both at least 2 weeks prior to the Bid due date. Copies of the Joint Venture applications are available upon request to the Contract Specialist. Each agreement or management plan shall include the following:
 - a) Detailed explanation of the financial contribution for each partner.
 - b) List of personnel and equipment used by each partner.
 - c) Detailed breakdown of the responsibilities of each partner.
 - d) Explanation of how the profits and losses will be distributed.
 - e) Description of the bonding capacity of each partner.
 - f) Management or incentive fees available for any one of the partners (if any).

4. Each Joint Venture partner shall perform a Commercially Useful Function. An SLBE or ELBE that relies on the resources and personnel of a non-SLBE or ELBE firm will not be deemed to perform a Commercially Useful Function.
5. Each Joint Venture partner shall possess licenses appropriate for the discipline for which a proposal is being submitted. If a Joint Venture is bidding on a single trade project, at the time of bid submittal, each Joint Venture partner shall possess the requisite specialty license for that trade bid.
6. The SLBE or ELBE partner shall clearly define the portion of the Work to be performed. This Work shall be of the similar type of Work the SLBE or ELBE partner performs in the normal course of its business. The Joint Venture Participation Form shall specify the Bid items to be performed by each individual Joint Venture partner. Lump sum Joint Venture participation shall not be acceptable.
7. Responsibilities of the SLBE or ELBE Joint Venture Partner:
 - a) The SLBE or ELBE partner shall share in the control, management responsibilities, risks and profits of the Joint Venture in proportion with the level of participation in the project.
 - b) The SLBE or ELBE partner shall perform Work that is commensurate with its experience.
 - c) The SLBE or ELBE partner shall use its own employees and equipment to perform its portion of the Work.
 - d) The Joint Venture as a whole shall perform Bid items that equal or exceed 50% of the Contract Price, excluding the cost of manufactured items, in order to be eligible for a Joint Venture discount.

F. MAINTAINING PARTICIPATION LEVELS.

1. Credit and preference points are earned based on the level of participation proposed prior to the award of the Contract. Once the Project begins you shall achieve and maintain the SLBE-ELBE participation levels for which credit and preference points were earned. You shall maintain the SLBE-ELBE percentages indicated at the Award of Contract and throughout the Contract Time.
2. If the City modifies the original Scope of Work, you shall make reasonable efforts to maintain the SLBE-ELBE participation for which creditor preference points were earned. If participation levels will be reduced, approval shall be received from the City prior to making changes.
3. You shall notify and obtain written approval from the City in advance of any reduction in subcontract scope, termination, or substitution for a designated SLBE-ELBE Subcontractor. Failure to do so shall constitute a material breach of the Contract.
4. If you fail to maintain the SLBE-ELBE participation listed at the time the Contract is awarded and have not received prior approval from the City, the

City may declare you in default and will be considered grounds for debarment under Chapter 2, Article 2, Division 8, of the San Diego Municipal Code.

G. SUBCONTRACTING EFFORTS REVIEW AND EVALUATION.

1. Documentation of your subcontracting efforts will be reviewed by EOCP to verify that you made subcontracting opportunities available to a broad base of qualified Subcontractors, negotiated in good faith with interested Subcontractors, and did not reject any bid for unlawful discriminatory reasons. The EOCP review is based on the federal “Six Good Faith Efforts” model.
2. The GFEs are required methods to ensure that all ELBE and SLBE firms have had the opportunity to compete for the City’s Public Works procurements. The Six Good Faith Efforts, also known as affirmative steps, attract and utilize ELBE and SLBE firms:
 - a) Ensure ELBE firms are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities.
 - b) Make information of forthcoming opportunities available to SLBE-ELBE firms and arrange time for Contracts and establish delivery schedules, where requirements permit, in a way that encourages and facilitates participation by SLBE-ELBE firms in the competitive process. This includes posting solicitations for Bids or proposals to SLBE-ELBE firms for a minimum of 10 Working Days before the Bid or Proposal due date.
 - c) Consider in the contracting process whether firms competing for large Contracts could subcontract with SLBE-ELBE firms.
 - d) Encourage contracting with a consortium of ELBE-SLBE firms when a Contract is too large for one of these firms to handle individually.
 - e) Use the services and assistance of the City’s EOC Office and the SLBE-ELBE Directory.
 - f) If you award subcontracts, require your Subcontractors to take the steps listed above.

H. GOOD FAITH EFFORT DOCUMENTATION.

1. If the specified SLBE-ELBE Subcontractor participation percentages are not met, you shall submit information necessary to establish that adequate GFEs were taken to meet the Contract Subcontractor participation percentages. See the City’s document titled “Small Local Business (SLBE) Program, INSTRUCTIONS FOR BIDDERS COMPLETING THE GOOD FAITH EFFORT SUBMITTAL.” The instructions for completing the good faith effort submittal can be found on the City’s website:

<https://www.sandiego.gov/sites/default/files/legacy/eoc/pdf/slbegfeinst.pdf>

I. SUBCONTRACTOR SUBSTITUTION.

1. Evidence of fraud or discrimination in the substitution of Subcontractors will result in sanctions including assessment of penalty fines, termination of Contract, or debarment. This section does not replace applicable California Public Contract Code.

J. FALSIFICATION OF SUB-AGREEMENT AND FRAUD.

1. Falsification or misrepresentation of a sub-agreement as to company name, Contract amount or actual Work performed by Subcontractors, or any falsification or fraud on the part your submission of documentation and forms pursuant to this program, will result in sanctions against you including assessment of penalty fines, termination of the Contract, or debarment. Instances of falsification or fraud which are indicative of an attempt by you to avoid subcontracting with certain categories of Subcontractors on the basis of race, gender, gender expression, gender identity, religion, national origin, ethnicity, sexual orientation, age, or disability shall be referred to the Equal Opportunity Contracting Program's Investigative Unit for possible violations of Article 2, Division 35 of the City Administrative Code, §§22.3501 et seq. (Nondiscrimination in Contracting).

K. RESOURCES.

1. The current list of certified SLBE-ELBE firms and information for completing the GFE submittal can be found on the City's EOC Department website:
<http://www.sandiego.gov/eoc/programs/slbe>
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ATTACHMENT D
PREVAILING WAGE

PREVAILING WAGE

1. **PREVAILING WAGE RATES:** Pursuant to San Diego Municipal Code section 22.3019, construction, alteration, demolition, repair and maintenance work performed under this Contract is subject to State prevailing wage laws. For construction work performed under this Contract cumulatively exceeding \$25,000 and for alteration, demolition, repair and maintenance work performed under this Contract cumulatively exceeding \$15,000, the Contractor and its subcontractors shall comply with State prevailing wage laws including, but not limited to, the requirements listed below.
 - 1.1. **Compliance with Prevailing Wage Requirements.** Pursuant to sections 1720 through 1861 of the California Labor Code, the Contractor and its subcontractors shall ensure that all workers who perform work under this Contract are paid not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations (DIR). This includes work performed during the design and preconstruction phases of construction including, but not limited to, inspection and land surveying work.
 - 1.1.1. Copies of such prevailing rate of per diem wages are on file at the City and are available for inspection to any interested party on request. Copies of the prevailing rate of per diem wages also may be found at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>. Contractor and its subcontractors shall post a copy of the prevailing rate of per diem wages determination at each job site and shall make them available to any interested party upon request.
 - 1.1.2. The wage rates determined by the DIR refer to expiration dates. If the published wage rate does not refer to a predetermined wage rate to be paid after the expiration date, then the published rate of wage shall be in effect for the life of this Contract. If the published wage rate refers to a predetermined wage rate to become effective upon expiration of the published wage rate and the predetermined wage rate is on file with the DIR, such predetermined wage rate shall become effective on the date following the expiration date and shall apply to this Contract in the same manner as if it had been published in said publication. If the predetermined wage rate refers to one or more additional expiration dates with additional predetermined wage rates, which expiration dates occur during the life of this Contract, each successive predetermined wage rate shall apply to this Contract on the date following the expiration date of the previous wage rate. If the last of such predetermined wage rates expires during the life of this Contract, such wage rate shall apply to the balance of the Contract.
 - 1.2. **Penalties for Violations.** Contractor and its subcontractors shall comply with California Labor Code section 1775 in the event a worker is paid less than the prevailing wage rate for the work or craft in which the worker is employed. This shall be in addition to any other applicable penalties allowed under Labor Code sections 1720 – 1861.

- 1.3. Payroll Records.** Contractor and its subcontractors shall comply with California Labor Code section 1776, which generally requires keeping accurate payroll records, verifying and certifying payroll records, and making them available for inspection. Contractor shall require its subcontractors to also comply with section 1776. Contractor and its subcontractors shall submit weekly certified payroll records online via the City's web-based Labor Compliance Program. Contractor is responsible for ensuring its subcontractors submit certified payroll records to the City.
- 1.3.1.** Contractor and their subcontractors shall also furnish records specified in Labor Code section 1776 directly to the Labor Commissioner in the manner required by Labor Code section 1771.4.
- 1.4. Apprentices.** Contractor and its subcontractors shall comply with California Labor Code sections 1777.5, 1777.6 and 1777.7 concerning the employment and wages of apprentices. Contractor is held responsible for the compliance of their subcontractors with sections 1777.5, 1777.6 and 1777.7.
- 1.5. Working Hours.** Contractor and their subcontractors shall comply with California Labor Code sections 1810 through 1815, including but not limited to: (i) restrict working hours on public works contracts to eight hours a day and forty hours a week, unless all hours worked in excess of 8 hours per day are compensated at not less than 1½ times the basic rate of pay; and (ii) specify penalties to be imposed on contractors and subcontractors of \$25 per worker per day for each day the worker works more than 8 hours per day and 40 hours per week in violation of California Labor Code sections 1810 through 1815.
- 1.6. Required Provisions for Subcontracts.** Contractor shall include at a minimum a copy of the following provisions in any contract they enter into with a subcontractor: California Labor Code sections 1771, 1771.1, 1775, 1776, 1777.5, 1810, 1813, 1815, 1860 and 1861.
- 1.7. Labor Code Section 1861 Certification.** Contractor in accordance with California Labor Code section 3700 is required to secure the payment of compensation of its employees and by signing this Contract, Contractor certifies that "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' 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."
- 1.8. Labor Compliance Program.** The City has its own Labor Compliance Program authorized in August 2011 by the DIR. The City will withhold contract payments when payroll records are delinquent or deemed inadequate by the City or other governmental entity, or it has been established after an investigation by the City or other governmental entity that underpayment(s) have occurred. For questions or assistance, please contact the City of San Diego's Prevailing Wage Unit at PWDPprevailingWage@sandiego.gov.

- 1.9. Contractor and Subcontractor Registration Requirements.** This project is subject to compliance monitoring and enforcement by the DIR. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid or proposal, subject to the requirements of section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.
- 1.9.1.** A Contractor's inadvertent error in listing a subcontractor who is not registered pursuant to Labor Code section 1725.5 in response to a solicitation shall not be grounds for filing a bid protest or grounds for considering the bid non-responsive provided that any of the following apply: (1) the subcontractor is registered prior to bid opening; (2) within twenty-four hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in Labor Code section 1725.5; or (3) the subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
- 1.9.2.** By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration for themselves and all listed subcontractors to the City at the time of bid or proposal due date or upon request.
- 1.10. Stop Order.** For Contractor or its subcontractors engaging in the performance of any public work contract without having been registered in violation of Labor Code sections 1725.5 or 1771.1, the Labor Commissioner shall issue and serve a stop order prohibiting the use of the unregistered contractors or unregistered subcontractor(s) on ALL public works until the unregistered contractor or unregistered subcontractor(s) is registered. Failure to observe a stop order is a misdemeanor.
- 1.11. List of all Subcontractors.** The Contractor shall provide the list of subcontractors (regardless of tier), along with their DIR registration numbers, utilized on this Contract prior to any work being performed; and the Contractor shall provide a complete list of all subcontractors with each invoice. Additionally, Contractor shall provide the City with a complete list of all subcontractors (regardless of tier) utilized on this contract within ten working days of the completion of the contract, along with their DIR registration numbers. The City shall withhold final payment to Construction Management Professional until at least thirty (30) days after this information is provided to the City.

1.12. Exemptions for Small Projects. There are limited exemptions for installation, alteration, demolition, or repair work done on projects of \$25,000 or less. The Contractor shall still comply with Labor Code sections 1720 et. seq. The only recognized exemptions are listed below:

1.12.1. Registration. The Contractor will not be required to register with the DIR for small projects. (Labor Code section 1771.1).

1.12.2. Certified Payroll Records. The records required in Labor Code section 1776 shall be required to be kept and submitted to the City of San Diego, but will not be required to be submitted online with the DIR directly. The Contractor will need to keep those records for at least three years following the completion of the Contract. (Labor Code section 1771.4).

1.12.3. List of all Subcontractors. The Contractor shall not be required to hire only registered subcontractors and is exempt from submitting the list of all subcontractors that is required in section 1.11. above. (Labor code section 1773.3).

ATTACHMENT E
SUPPLEMENTARY SPECIAL PROVISIONS

SUPPLEMENTARY SPECIAL PROVISIONS

The following Supplementary Special Provisions (SSP) modifies the following documents:

1. The **2021 Edition** of the Standard Specifications for Public Works Construction (The "GREENBOOK").
2. The **2021 Edition** of the City of San Diego Standard Specifications for Public Works Construction (The "WHITEBOOK"), including the following:
 - a) General Provisions (A) for all Construction Contracts.

SECTION 1 – GENERAL, TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

1-2 TERMS AND DEFINITIONS. To the "WHITEBOOK":

To item 47, "Holiday", ADD the following:

Holiday	Observed On
Juneteenth	June 19

To item 55, "Normal Working Hours", DELETE in its entirety and SUBSTITUTE with the following:

Normal Working Hours: Normal Working Hours shall be **7:00 AM to 5:00 PM, Monday through Friday**, inclusive. Saturdays, Sundays, and City Holidays are excluded. Unless otherwise specified on the Traffic Control Permits.

To the "WHITEBOOK", ADD the following:

- 111. Civil Engineer or Engineer of Work** shall refer to the California licensed Civil Engineer or consulting firm responsible for preparation of the grading plans, surveying and verifying as-graded topography.
- 112. Consultant** shall refer to the soil engineering and engineering geology consulting firm retained to provide geotechnical services for the project.
- 113. Soil Engineer** shall refer to a California licensed Engineer retained by the Owner, who is experienced in the practice of geotechnical engineering. The Soil Engineer shall be responsible for having qualified representatives on-site to observe and test the Contractor's work for conformance with these specifications.

- 114. Engineering Geologist** shall refer to a California licensed Engineering Geologist retained by the Owner to provide geologic observations and recommendations during the site grading.
- 115. Geotechnical Report** shall refer to a soil report (including all addenda) which may include a geologic reconnaissance or geologic investigation that was prepared specifically for the development of the project for which these Recommended Grading Specifications are intended to apply.

SECTION 2 - SCOPE OF THE WORK

2-2 PERMITS, FEES, AND NOTICES. To the "WHITEBOOK", ADD the following:

2. The City will obtain, at no cost to you, the following permits:
 - a) Coastal Development Permit

SECTION 3 - CONTROL OF THE WORK

3-2 SELF-PERFORMANCE. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. You shall perform, with your own organization, Contract Work amounting to at least **50%** of the Base Bid.

3-7.3.2 Asset Specific Red-lines. To the "WHITEBOOK", item 1, ADD the following:

- u) Dimensions for all installed remote control valve wires. Include number of spare wires at each location, and wire splice locations (if located other than inside remote-control valve boxes and pull boxes).
- v) Dimensions for all new pressure line tie-in locations to existing mainline. Note any sections and locations of abandoned mainline within project limit of work.

3-7.6.1 Use of Computer Aided Drafting and Design. To the "WHITEBOOK", Item 1, DELETE in its entirety and SUBSTITUTE the following:

1. Use Bentley Connect ORD Version 10.12 format with the ability to convert to AutoCAD for the preparation of Plans and As-Built drawings in accordance with the City's CADD Standards.

ADD:

3-8.4.1 Samples and Mock-ups.

Contractor shall provide samples of the following materials in the quantities required for approval by City with coordination by the Landscape Architect. Materials shall be delivered 60 days minimum prior to their incorporation into the work.

1. Shade fabric sample swatch for each color listed (Sheet L107)
2. Chain Link Fence material and color (Sheet L107)
3. Playground Fence (Sheet L107)
4. Court Surfacing (Sheet L107)

5. Bark Mulch (wood chips) (Sheet L306)
6. Cobble Mulch (Type 10 Mulch) (Sheet L306)
7. Concrete Landscape Wall (Sheet L106. Mock-up required, see Section 303-4.1.3.1 below)

3-8.4.2 Specialty Items.2

Contractor shall provide one (1) complete set of Specialty Items information electronically to the City for approval. It shall include manufacturer's data sheets, testing information, color, texture and finish samples for all the following specialty items:

- 1) Play Area Surfacing
- 2) Permeable Concrete Base (installed beneath Play Area Surfacing)
- 3) Playground Equipment
- 4) Site Furnishings (including, but not limited to trash enclosure, skate stops on concrete landscape wall, trash receptacles, recycling receptacles, bench, type 1 picnic table (standard, accessible), type 2 picnic table, bike racks, basketball goal/backboard/rim/net, court surfacing, playground fence, chain link fence)
- 5) Photographs and nursery sources for all trees and shrubs
- 6) Agricultural Suitability & Fertility Analysis Report

3-9 TECHNICAL STUDIES AND SUBSURFACE DATA. To the "WHITEBOOK", ADD the following:

5. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests at the Work Site:
 - a) Geotechnical Addendum, dated June 21, 2023, by NOVA Services, Inc.
 - b) Drainage Study for South De Anza Park Improvements, dated April 26, 2024 by Nasland Engineering.
 - c) Storm Water Quality Management Plan (SWQMP) dated 04/25/2024 by Nasland.

6. The reports listed above are available for review at the following link:

<https://drive.google.com/drive/folders/1rvt1Zpi4t0rCVup2h9nFHLiewf9dggi>

3-10 SURVEYING. To the "GREENBOOK" and "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

3-10 SURVEYING (DESIGN-BID-BUILD).

3-10.1 General.

1. You shall provide all required site layout and general grade checking work not specified in 3-10.2, "Survey Services Provided by City".

2. Notify the City, in writing, at least 2 Working Days prior to requesting survey services provided by the City.

3-10.2 Survey Services Provided by City.

1. Unless otherwise noted, monument perpetuation, including mark-outs, will be performed by the City. Coordination of these services will be your duty, through the Resident Engineer. If, at any time, an existing survey monument is, or will be, destroyed or disturbed during the course of construction you shall notify the Resident Engineer so that the monument is preserved or perpetuated in accordance with state law.
2. The following surveying services, as defined in Cal. Bus. & Prof. Code §8726, shall be provided by the City:
 - a) Locating or establishing a minimum of 4 project geodetic survey control points that provide horizontal and vertical reference values for site feature and structure layout reference locations.
 - b) Locating, establishing, or reestablishing project site boundary lines, survey monuments, right-of-way lines, or easement lines.
 - c) Locating or establishing building design structure locations (building corners or envelope limits) sufficient for structure construction.

3-10.3 Payment.

1. The payment for site layout and general grade checking Work, coordination, and preservation of all survey related marks shall be included in the Contract Price.

3-12.8.3 Equipment. To the "WHITEBOOK", item 4, DELETE in its entirety and SUBSTITUTE with the following:

4. The dewatering system shall include a suitably sized pipeline to transport extracted groundwater from the Work Site to the indicated point of discharge. All accumulated ground water shall be treated prior to disposal. The alignment of this pipeline shall be subject to the approval by the Engineer. Where the pipeline is allowed to cross roadways or parking areas, you shall be required to install a conduit below the traveled surface. The installation shall provide protection for the temporary pipeline and a smooth transition across the traveled Surface in accordance with Standard Drawing SDG-107, "Pavement Restoration for Asphalt Concrete Surfaced Streets – Type 2".

SECTION 4 - CONTROL OF MATERIALS

4-3.4 Specialty Inspection Paid for by the Contractor. To the "WHITEBOOK", ADD the following:

2. The specialty inspections required are listed as follows:
 - a) Play area/component by Certified Playground Safety Inspector (CPSI)

TRADE NAMES. To the "WHITEBOOK", ADD the following:

11. You shall submit your list of proposed substitutions for an "equal" item **no later than 5 Working Days after the issuance of the Notice of Intent to Award** and on the City's Product Submittal Form available at:

<https://www.sandiego.gov/ecp/edocref/>

SECTION 5 – LEGAL RELATIONS AND RESPONSIBILITIES

5-3.3

Payroll Records. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. You and your Subcontractors shall submit weekly certified payrolls, including a Statement of Compliance signed under penalty of perjury, reflecting the wages of all employees engaged in the Work, utilizing the City's designated web-based contract and labor compliance software.
2. You and your Subcontractors shall submit the following Labor Compliance required documents to the OLSE:
 - a) City of San Diego Labor Compliance Authorized Signatory Form;
 - b) City of San Diego List of Trades and Crafts;
 - c) Labor Compliance Checklist;
 - d) Fringe Benefit Statement;
 - e) DAS 140 Form & Transmittal Confirmation;
 - f) DAS 142 & Transmittal Confirmation;
 - g) State & Federal Apprenticeship Certifications;
 - h) Payroll Confirmations (as requested per CCR 16432); and
 - i) Other Deduction Forms (letter or documentation relating to nonstandard deductions);
3. You and your Subcontractors shall submit the following PLA and Labor Compliance required documents utilizing the City's designated web-based contract and labor compliance software program:
 - a) Letter of Assent (PLA Attachment B);
 - b) Workforce Dispatch Request Form;
 - c) Contractor Core Workforce Form [if required];
 - d) Monthly Proof of Fringe Benefit Payments to Union Trust;
 - e) Certified Payroll Report (Performance Report with Statement of Compliance, Non-Performance Reports);
 - f) Jobs Coordinator Designation Form (Prime Contractor); and

- g) For all dispatched workers, identify the following: race, ethnicity, gender, permanent residence zip code, construction project hours worked, apprenticeship program affiliation, trade classification, and union affiliation.

5-4 INSURANCE. To the “GREENBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

5-4 INSURANCE.

1. The insurance provisions herein shall not be construed to limit your indemnity and defense duties set forth in the Contract.

5-4.1 Policies and Procedures.

1. You shall procure the insurance described below, at your sole cost and expense, to provide coverage against claims for loss including injuries to persons or damage to property, which may arise out of or in connection with the performance of the Work by you, your agents, representatives, officers, employees or Subcontractors.
2. Insurance coverage for property damage resulting from your operations is on a replacement cost valuation. The market value will not be accepted.
3. You shall maintain this insurance as required by this Contract and at all times thereafter when you are correcting, removing, or replacing Work in accordance with this Contract. Your duties under the Contract, including your indemnity obligations, are not limited to the insurance coverage required by this Contract.
4. If you maintain broader coverage or higher limits than the minimums shown below, City requires and shall be entitled to the broader coverage or the higher limits maintained by you. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to City.
5. Your payment for insurance shall be included in the Contract Price you bid. You are not entitled to any additional payment from the City to cover your insurance, unless the City specifically agrees to payment in writing. Do not begin any Work under this Contract or allow any Subcontractors to begin work, until you have provided, and the City has approved, all required insurance.
6. Policies of insurance shall provide that the City is entitled to 30 days advance written notice of cancellation or non-renewal of the policy or 10 days advance written notice for cancellation due to non-payment of premium. Maintenance of specified insurance coverage is a material element of the Contract. Your failure to maintain or renew coverage and to provide evidence of renewal during the term of the Contract may be treated by the City as a material breach of the Contract.

5-4.2 Types of Insurance.

5-4.2.1 General Liability Insurance.

1. Commercial General Liability Insurance shall be written on the current version of the ISO Occurrence form CG 00 01 07 98 or an equivalent form providing coverage at least as broad.
2. The policy shall cover liability arising from premises and operations, XCU (explosions, underground, and collapse), independent contractors, products/completed operations, personal injury and advertising injury, bodily injury, property damage, and liability assumed under an insured's contract (including the tort liability of another assumed in a business contract).
3. There shall be no endorsement or modification limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. You shall maintain the same or equivalent insurance for at least 10 years following completion of the Work.
4. All costs of defense shall be outside the policy limits. Policy coverage shall be in liability limits of not less than the following:

<u>General Annual Aggregate Limit</u>	<u>Limits of Liability</u>
Other than Products/Completed Operations	\$10,000,000
Products/Completed Operations Aggregate Limit	\$10,000,000
Personal Injury Limit	\$5,000,000
Each Occurrence	\$5,000,000

5-4.2.2 Commercial Automobile Liability Insurance.

1. You shall provide a policy or policies of Commercial Automobile Liability Insurance written on the current version of the ISO form CA 00 01 12 90 or later version or equivalent form providing coverage at least as broad in the amount of \$1,000,000 combined single limit per accident, covering bodily injury and property damage for owned, non-owned, and hired automobiles ("Any Auto").
2. All costs of defense shall be outside the limits of the policy.

5-4.2.3 Workers' Compensation Insurance and Employers Liability Insurance.

1. In accordance with the provisions of California Labor Code section 3700, you shall provide, at your expense, Workers' Compensation Insurance and Employers Liability Insurance to protect you against all claims under applicable state workers' compensation laws. The City, its elected officials, and employees will not be responsible for any claims in law or equity occasioned by your failure to comply with this requirement.

2. Statutory Limits shall be provided for Workers' Compensation Insurance as required by the state of California, and Employer's Liability Insurance with limits of no less than \$1,000,000 per accident for bodily injury or disease.
3. By signing and returning the Contract, you certify that you are aware of the provisions of California's Workers' Compensation laws, including Labor Code section 3700, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance, and that you will comply with these provisions before commencing the Work.

5-4.2.4 Contractors Pollution Liability Insurance.

1. You shall procure and maintain at your expense or require your Subcontractor, as described below, to procure and maintain Contractors Pollution Liability Insurance applicable to the Work being performed, with a limit no less than \$2,000,000 per claim or occurrence and \$4,000,000 aggregate per policy period of one year.
2. All costs of defense shall be outside the limits of the policy.
3. You shall obtain written approval from the City for any insurance provided by your Subcontractor instead of you.
4. For approval of a substitution of your Subcontractor's insurance, you shall certify that all activities for which the Contractors Pollution Liability Insurance will provide coverage will be performed exclusively by the Subcontractor providing the insurance. The deductible shall not exceed \$25,000 per claim unless the City has provided prior, written approval.
5. Occurrence based policies shall be procured before the Work commences. Claims Made policies shall be procured before the Work commences, shall be maintained for the Contract Time, and shall include a 12-month extended Claims Discovery Period applicable to this contract or the existing policy or policies that shall continue to be maintained for 12 months after the completion of the Work without advancing the retroactive date.

5-4.2.5 Contractors Hazardous Transporters Pollution Liability Insurance.

1. You shall procure and maintain at your expense or require your Subcontractor, as described below, to procure and maintain Contractors Hazardous Transporters Pollution Liability Insurance, including contractual liability coverage to cover liability arising out of transportation of hazardous or toxic, materials, substances, or any other pollutants by you or any Subcontractor in an amount no less than \$2,000,000 limit per occurrence and \$4,000,000 aggregate per policy period of one year.
2. All costs of defense shall be outside the limits of the policy.
3. You shall obtain written approval from the City from any insurance provided by a Subcontractor instead of you.

4. To obtain City approval of a Subcontractor's insurance coverage in lieu of the Contractor's insurance, the Contractor shall certify that all activities under the Contractor's Hazardous Transporters Pollution Liability Insurance will be performed exclusively by the Subcontractor providing the insurance. The deductible shall not exceed \$25,000 per claim without prior approval of the City.
5. Occurrence based policies shall be procured before the Work commences. Claims Made policies shall be procured before the Work commences, shall be maintained for the duration of this contract, and shall include a 12-month extended Claims Discovery Period applicable to this Contract or the existing policy or policies that shall continue to be maintained for 12 months after the completion of the Work under this Contract without advancing the retroactive date.

5-4.2.6 Contractors Builders Risk Property Insurance.

1. You shall provide at your expense, and maintain until Final Acceptance of the Work, a Special Form Builders Risk Policy or Policies. This insurance shall be in an amount equal to the replacement cost of the completed Work (without deduction for depreciation) including the cost of excavations, grading, and filling. The policy or policies limits shall be 100 percent of the value of the Work under this Contract, plus 15 percent to cover administrative costs, design costs, and the costs of inspections and construction management.
2. Insured property shall include material or portions of the Work located away from the Site but intended for use at the Site and shall cover material or portions of the Work in transit. The policy or policies shall include as insured property scaffolding, falsework, and temporary buildings located at the Site. The policy or policies shall cover the cost of removing debris, including demolition.
3. The policy or policies shall provide that all proceeds shall be payable to the City as Trustee for the insured, and shall name the City, the Contractor, Subcontractors, and Suppliers of all tiers as named insured. The City, as Trustee, will collect, adjust, and receive all monies that become due and payable under the policy or policies, may compromise any and all claims, and will apply the proceeds of this insurance to the repair, reconstruction, or replacement of the Work.
4. Any deductible applicable to the insurance shall be identified in the policy or policies documents. The responsibility for paying the part of any loss not covered because of the deductibles shall be apportioned among the parties, except for the City, as follows: if there is more than one claimant for a single occurrence, then each claimant shall pay a pro-rata share of the per occurrence deductible based upon the percentage of their paid claim to the total paid for insured. The City shall be entitled to 100 percent of its loss. You shall pay the City any portion of the loss not covered because of a deductible; at the same time the proceeds of the insurance are paid to the City as Trustee.

5. Any insured, other than the City, making claim to which a deductible applies shall be responsible for 100 percent of the loss not insured because of the deductible.

5-4.2.8 Architects and Engineers Professional Insurance (Errors and Omissions Insurance).

1. For Contracts with required engineering services, including Design-Build and preparation of engineered Traffic Control Plans (TCP) by you, you shall keep or require all of your employees and Subcontractors, who provide professional engineering services under Contract, to provide to the City proof of Professional Liability coverage with a limit of no less than **\$1,000,000** per claim and **\$2,000,000** aggregate per policy period of one year.
2. You shall ensure the following:
 - a) The policy retroactive date is on or before the date of commencement of the Project.
 - b) The policy will be maintained in force for a period of three years after completion of the Project or termination of the Contract, whichever occurs last. You agree that, for the time period specified above, there will be no changes or endorsements to the policy that affect the specified coverage.
3. If professional engineering services are to be provided solely by the Subcontractor, you shall:
 - 1 Certify this to the City in writing, and
 - 2 Agree in writing to require the Subcontractor to procure Professional Liability coverage in accordance with the requirements set forth here.

5-4.3 Rating Requirements. Except for the State Compensation Insurance Fund, all insurance required by this Contract shall be carried only by responsible insurance companies with a rating of, or equivalent to, at least "A-, VI" by A.M. Best Company, that are authorized by the California Insurance Commissioner to do business in the state of California, and that have been approved by the City.

5-4.3.1 Non-Admitted Carriers. The City will accept insurance provided by non-admitted, "surplus lines" carriers only if the carrier is authorized to do business in the state of California and is included on the List of Approved Surplus Lines Insurers (LASLI list).

All policies of insurance carried by non-admitted carriers shall be subject to all of the requirements for policies of insurance provided by admitted carriers described in this Contract.

5-4.4 Evidence of Insurance. You shall furnish the City with original Certificates of Insurance, including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause), prior to your commencement of Work under this Contract. In addition, The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

5-4.5 Policy Endorsements.

5-4.5.1 Commercial General Liability Insurance.

5-4.5.1.1 Additional Insured. To the fullest extent permitted by law and consistent with the limiting provisions set forth at California Civil Code section 2782, California Insurance Code section 11580.04, and any applicable successor statutes limiting indemnification of public agencies that bind the City, the policy or policies shall be endorsed to include as an Additional Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:

1. Ongoing operations performed by you or on your behalf,
2. your products,
3. your work, e.g., your completed operations performed by you on your behalf, or
4. premises owned, leased, controlled, or used by you.

5-4.5.1.2 Primary and Non-Contributory Coverage. The policy shall be endorsed to provide that the coverage with respect to operations, including the completed operations, if appropriate, of the Named Insured is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives. Further, it shall provide that any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

5-4.5.1.3 Project General Aggregate Limit. The policy or policies shall be endorsed to provide a Designated Construction Project General Aggregate Limit that will apply only to the Work. Only claims payments which arise from the Work shall reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit shall be in addition to the aggregate limit provided for the products-completed operations hazard.

5-4.5.2 Workers' Compensation Insurance and Employers Liability Insurance.

5-4.5.2.1 Waiver of Subrogation. The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from Work performed by the Named Insured for the City.

5-4.5.3 Contractors Pollution Liability Insurance Endorsements.

5-4.5.3.1 Additional Insured. To the fullest extent permitted by law and consistent with the limiting provisions set forth at California Civil Code section 2782, California Insurance Code section 11580.04, and any applicable successor statutes limiting indemnification of public agencies that bind the City, the policy or policies shall be endorsed to include

as an Additional Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:

1. Ongoing operations performed by you or on your behalf,
2. your products,
3. your work, e.g., your completed operations performed by you on your behalf, or
4. premises owned, leased, controlled, or used by you.

5-4.5.3.2 Primary and Non-Contributory Coverage. The policy or policies shall be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

5-4.5.3.3 Severability of Interest. For Contractors Pollution Liability Insurance, the policy or policies shall provide that your insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability and shall provide cross-liability coverage.

5-4.5.4 Contractors Hazardous Transporters Pollution Liability Insurance Endorsements.

5-4.5.4.1 Additional Insured. To the fullest extent permitted by law and consistent with the limiting provisions set forth at California Civil Code section 2782, California Insurance Code section 11580.04, and any applicable successor statutes limiting indemnification of public agencies that bind the City, the policy or policies shall be endorsed to include as an Additional Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:

1. Ongoing operations performed by you or on your behalf,
2. your products,
3. your work, e.g., your completed operations performed by you on your behalf, or
4. premises owned, leased, controlled, or used by you.

5-4.5.4.2 Primary and Non-Contributory Coverage. The policy or policies shall be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

- 5-4.5.4.3 Severability of Interest.** For Contractors Hazardous Transporters Pollution Liability Insurance, the policy or policies shall provide that your insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability, and shall provide cross-liability coverage.
- 5-4.5.5 Builders Risk Endorsements.**
- 5-4.5.5.1 Waiver of Subrogation.** The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City, and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and that arise from Work performed by the Named Insured for the City.
- 5-4.5.5.2 Builders Risk – Partial Utilization.** If the City desires to occupy or use a portion or portions of the Work prior to Acceptance, the City will notify you, and you shall immediately notify your Builder's Risk insurer and obtain an endorsement that the policy or policies shall not be cancelled or lapse on account of any use or occupancy. You shall obtain the endorsement prior to the City's occupation and use.
- 5-4.6 Deductibles and Self-Insured Retentions.** You shall disclose deductibles and self-insured retentions to the City at the time the evidence of insurance is provided. The City may require you to purchase coverage with a lower retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or City.
- 5-4.7 Reservation of Rights.** The City reserves the right, from time to time, to review your insurance coverage, limits, deductibles, and self-insured retentions to determine if they are acceptable to the City. The City will reimburse you, without overhead, profit, or any other markup, for the cost of additional premium for any coverage requested by the Engineer, but not required by this Contract.
- 5-4.8 Notice of Changes to Insurance.** You shall notify the City, in writing, 30 days prior to any material change to the policies of insurance provided under this Contract. This written notice is in addition to the requirements of paragraph 6 of Section 5-4.1.
- 5-4.9 Excess Insurance.** Policies providing excess coverage shall follow the form of the primary policy or policies, including, all endorsements.
- 5-10.2.1 Public Notice by Contractor.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:
- 5-10.2.1 Public Notice by Contractor.**
1. Post Project Identification Signs in accordance with 3-11.2, "Project Identification Signs".

2. No less than 5 and no more than 10 Working Days in advance of Project construction activities and utility service interruptions, you shall notify all critical facilities, businesses, institutions, property owners, residents, or any other impacted stakeholders within a minimum 300-foot (90 m) radius of the Project i.e., work area and any other affected areas as shown on the "Notification of Planned Water Shutdown" when you perform the Work.
3. The notification process must be repeated for delays and long pauses in construction activities. Verbal and written notifications, such as door hangers, shall be sent to critical facilities (including but not limited to police stations, fire stations, hospitals, and schools). A copy of written notifications sent to any critical facility shall also be sent to the Engineer.
4. You shall keep records of the people contacted, along with the dates of notification, and shall provide the record e.g., time-stamped pictures of the notices, to the Engineer upon request. You shall identify all other critical facilities that need to be notified.
5. Verbal and written notifications shall also include specific impacts from the construction of the City facilities, e.g., fire hydrants, air vacuum and blow-off devices, pedestrian ramps, and sidewalks, e.g., the loss of parking, access, and impact to private property, e.g., landscaping.
6. Furnish and distribute public notices in the form of door hangers using the City's format to all occupants and/or property owners along streets and all critical facilities such as police stations, fire stations, hospitals, and schools.
7. Where Work is to be performed at least 5 and at most 10 Working Days before starting construction, survey activities, or impacting the community as approved by the Engineer.
8. Within 5 Working Days of the completion or pausing of your construction activities where Work was performed, you shall distribute public notices in the form of door hangers, which outline the anticipated dates of Asphalt Resurfacing, Slurry Seal, Sidewalk, or Curb Ramp Work. Upon resuming construction activities, you shall redistribute door hangers described in section a) above.
9. "No Parking" signs shall be placed 72 hours before the scheduled construction activities and must include the name and phone number of the Contractor. The Contractor shall document the placement of the signs with time-stamped pictures.
10. Leave the door hanger notices on or at the front door of each dwelling and apartment unit and at each commercial building tenant abutting each street block segment.

11. Where the front doors of apartment units are inaccessible or occupants are unavailable, distribute the door hanger notices to the apartment manager or security officer and leave your contact information, such as business cards.
12. Provide time-stamped pictures of the notices to the Engineer,
13. Door Hanger Material: You shall use Blanks/USA brand, Item Number DHJ5B6WH, 1¼ inch (31.8 mm) Holes (removed), 2-up Jumbo Door Hanger in Bristol White, or approved equal.
14. Door hangers shall include the funding source if project is funded in part by State Gas Tax Revenue (SB1).
15. Mailed Notice Material: You shall use Cougar by Domtar, Item Number 2834, or approved equal.
16. For all Work on private property, contact each owner and occupant individually a minimum of 15 Working Days before the Work. If the Work has been delayed, re-notify owners and occupants of the new Work schedule, as directed by the Engineer.
17. A sample of public notices will be included in the Contract.

5-15.1 General. To the "WHITEBOOK", ADD the following:

12. In the event that Hazardous Materials such as contaminated soil, underground tanks, or asbestos is found or identified during excavation for foundation or conduit installation, contractor shall follow the procedures detailed in "WHITEBOOK".

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

6-1.1 Construction Schedule. To the "WHITEBOOK", ADD the following:

3. Refer to the Sample City Invoice in **Appendix D – Sample City Invoice** and use the format shown.
4. The **90 Calendar Days** Plant Establishment Period is included in the stipulated Contract Time and shall begin with the acceptance of installation of the vegetation plan in accordance with Section 801-6, "MAINTENANCE AND PLANT ESTABLISHMENT".
5. Contractor shall coordinate with Resident Engineer after the issuance of Limited Notice to Proceed (LNTP) regarding permitted events in Mission Bay Park during construction duration.

6-1.2.1 Construction Phasing. To the “WHITEBOOK”, ADD the following:

3. Refer to “Proposed Construction Phasing” in **Appendix G – Proposed Construction Phasing**. Contractor shall coordinate with the Resident Engineer after the issuance of Limited Notice to Proceed (LNTP) to finalize the Construction Phasing Plan.

6-2.1 Moratoriums. To the “WHITEBOOK”, ADD the following:

4. Do not Work in the areas where there is currently a moratorium issued by the City. The areas subject to moratorium are listed below:
 - a) Beach Areas: Summer Moratorium from May 26, 2025 to September 1, 2025 (inclusive).
 - b) Beach Areas: Summer Moratorium from May 25, 2026 to September 7, 2026 (inclusive).

ADD:

6-6.1.1 Environmental Document.

1. The City of San Diego has prepared a **Notice of Exemption for De Anza South Comfort Station, Parking Lot, and Playground Improvements (formerly known as Playa Pacifica Comfort Station, Parking Lot, and Playground Improvements)**, Project No. **B-19162.02.06, B-19172.02.06, and B-19173.02.06**, as referenced in the Contract Appendix. You shall comply with all requirements of the **Notice of Exemption** as set forth in **Appendix A**.
2. Compliance with the City’s environmental document shall be included in the Contract Price unless separate bid items have been provided.

ADD:

6-8.1.3 Site Observation Visits.

Observations herein specified shall be made by the City. The Contractor shall request site observations 48 hours minimum in advance of the time observation is required.

Site observations shall be required for the following parts of the work (completed portions of work shall be combined for single observation visit whenever possible):

- 1) See “Park Construction Inspection Stages”, sheet TS02.

6-9

LIQUIDATED DAMAGES. To the "WHITEBOOK", item 2, DELETE in its entirety and SUBSTITUTE with the following:

2. The execution of the Contract shall constitute agreement between you and the City that the liquidated damage amount described in the table below is the value of the damage caused by your failure to complete the Work within the allotted time. Such sum shall not be construed as a penalty and may be deducted from your payments if such delay occurs.

Contract Value	Liquidated Damages Daily Amount
Less than \$200,001	\$1,000
\$200,001 to \$500,000	\$1,500
\$500,001 to \$1,000,000	\$2,000
\$1,000,001 to \$2,000,000	\$2,500
\$2,000,001 to \$5,000,000	\$3,000
\$5,000,001 to \$10,000,000	\$5,500
\$10,000,001 to \$20,000,000	\$6,500
Greater Than \$20,000,000	\$7,000

SECTION 7 – MEASUREMENT AND PAYMENT

7-3.1

General. To the "WHITEBOOK", ADD the following:

3. The Lump Sum Bid item for "**Construction of South De Anza Improvements – Playground and Site Accessibility**" shall include demolition of existing Playground and Basketball courts, construction of new accessible playground and playground surfacing, walkway accessibility improvements, site furnishings, site irrigation system improvements, walkway lighting, planting, and all associated work as specified in the Plans, Contract Documents, and Technical Specification.
4. The Lump Sum Bid item for "**Construction of South De Anza Improvements – Comfort Station**" shall include demolition of existing and construction of new comfort station, electrical upgrades, security lighting adjacent to the comfort station, and all associated work as specified in the Plans, Contract Documents, and Technical Specification.
5. The Lump Sum Bid item for "**Construction of South De Anza Improvements – Parking Lot**" shall include extension of the concrete boat ramp, parking lot improvements including accessibility improvements,

resurfacing, and striping, new trash enclosure, permanent stormwater BMPs, traffic control, and all associated work as specified in the Plans, Contract Documents, and Technical Specification.

6. The Additive Alternate A Lump Sum Bid item for **“Construction of Basketball Court Including Lights and Benches”** shall include the construction of the new basketball courts, lighting, benches, and all associated work as specified in the Plans, Contract Documents, and Technical Specifications.

7-3.9

Field Orders. To the “WHITEBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

1. If the cumulative total of Field Order items of Work does not exceed the **“Field Orders”** Bid Item, the City shall pay those Field Orders as shown below:

**TABLE 7-3.9
FIELD ORDER LIMITS**

Contract Price	Maximum Each Field Order Work Amount
Less than \$1,000,001	\$10,000
\$1,000,001 to \$5,000,000	\$20,000
\$5,000,001 to \$10,000,000	\$25,000
\$10,000,001 to \$30,000,000	\$40,000
Greater than \$30,000,000	\$70,000

7-3.11

Compensation Adjustments for Price Index Fluctuations. To the “WHITEBOOK”, ADD the following:

5. This Contract **is not** subject to the provisions of The “WHITEBOOK” for Compensation Adjustments for Price Index Fluctuations for paving asphalt.

SECTION 201 – CONCRETE, MORTAR, AND RELATED MATERIALS

201-1.1.2

Concrete Specified by Class and Alternate Class. To the “WHITEBOOK”, item 2, ADD the following:

- d) Concrete class for “Curb, Integral Curb and Pavement, Gutter, Walk, Alley Aprons”, DELETE “520-C-2500” and SUBSTITUTE with “560-C-3250”.
- e) Concrete class for “Extruded Curb, Curb and Gutter”. DELETE “520-C-2500” and SUBSTITUTE with “520-C-3250”.

201-1.1.6.3 Mix Design. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. All concrete materials shall be proportioned to produce a workable mixture in which the water content will not exceed the maximum specified.
2. All concrete except as noted otherwise on the drawings shall have 2,500 psi 28-day compressive strength and a maximum water/cement ratio of 0.45. Up to a maximum of 15% of cementitious material may be fly ash in accordance with ASTM C618.
3. If the concrete mix designs specified herein have not been used previously by the ready-mix supplier or if directed by the Resident Engineer, mix proportions and concrete strength curves for regular cylinder tests, based on the relationship of 7, 14, and 28 day strengths versus slump values of two (2), four (4), and six (6) inches, all conforming to these Special Provisions, shall be established by an approved ready-mix supplier or an independent testing laboratory. A laboratory independent of the ready-mix supplier shall be required to prepare and test all concrete cylinders.
4. Testing of concrete and materials shall be borne by the City, except when materials do not meet specified requirements, in which case such costs shall be borne by the Contractor.
5. The exact proportions by weight of all materials entering into the concrete delivered to the jobsite shall conform to the approved mix design unless specifically so directed by the Resident Engineer or Laboratory for improved specified strength or desired density, uniformity and workability.
6. The proportions of such mix design shall be based on a full cubic yard of hardened concrete.
7. Ready-mix companies or jobsite batch plants shall furnish delivery tickets, signed by a Certified Weighmaster, on which each shall state the weight of aggregates, sand, cement, admixtures and water and the number of cubic yards of concrete furnished, which will be compared against the approved mix design.
8. There shall be no variation in the weights and proportions of materials from the approved mix design.
9. There shall be no variation in the quality and source of materials once they have been approved for the specific mix design.

201-1.2.1 Cement. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Cement to be used or furnished shall be low alkali and shall be Type II or Type V Portland Cement conforming to ASTM C 150.

2. Contractor shall furnish a Certificate of Compliance for the cement.
3. Cement shall be stored to protect against contamination and moisture. Should any cement show evidence of contamination or be otherwise unsuitable, the Resident Engineer may reject it and require that it be removed from the site.
4. Cement used in concrete for any individual structure shall be of the same brand and type, unless otherwise approved by the Resident Engineer.

201-1.2.2 Aggregates. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

ASTM C33 and as herein specified. Provide aggregates from a single source for all exposed concrete.

Local aggregates not complying with ASTM C33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to the Resident Engineer.

1. Fine Aggregate - Clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances. Dune sand, bank-run sand and manufactured sand are not acceptable.
2. Coarse Aggregate - Clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter, as follows:
 - a. Crushed stone processed from natural rock or stone.
 - b. Washed gravel, either natural or crushed. Use of pit or bank run gravel is not permitted.
 - c. Maximum Aggregate Size - Not larger than one-fifth (1/5) of the narrowest dimensions between sides of forms, one-third (1/3) of the depth of slabs, nor three-fourths (3/4) of the minimum clear space between individual reinforcing bars or bundles of bars.
3. Aggregate for exposed aggregate concrete shall consist of selected aggregate of washed clean river gravel in color range of medium to dark in browns and grays; material uniformly sized 5/8-inch to 3/4-inch.

201-1.2.4 Chemical Admixtures. To the "GREENBOOK", subsection "a", Water-Reducing, Set-Retarding, and Hydration Stabilizing Admixtures, ADD the following:

1. Integral Colored Concrete.
 Admixture for all integral-colored concrete shall be the following:
 - a) Admixture: Solomon Color (Mix-Ready bags), or approved equal
 - b) Manufacturer: Solomon Color, or approved equal
 - c) 1-800-483-9628 www.solomoncolors.com
 - d) Color/ Finish: As indicated on drawings and Section 201-1.2.8.
 - e) Sealer: Per SSP Section 201-1.2.7

- f) Minimum Standards: ASTM C 494
ASTM C 979
AASHTO M 194
CRD C 87

2. Prior to construction, provide concrete sample panel per 3-8.4.1. Samples and Mock-ups for all above color/finishes above for approval by Resident Engineer with coordination by the Landscape Architect.
3. Integral color shall consist of colored admixtures developed for use in ready mixed concrete. The product shall be made of the highest quality synthetic pigments, as well as other ingredients designed to enhance the color and improve the pigment dispersion, workability and finishing performance of the concrete.
4. Colored admixture shall be water-reducing, set controlling for horizontal or vertical architectural concrete that are compatible with a variety of finishes (broom finishes, sandblast finishes, smooth finishes.) Pigment shall be a permanent coloration, uniform throughout the concrete surface and interior, and shall be highly UV and fade resistant.
5. Admixture products and procedures for installation shall be in strict accordance with the manufacturer's specifications and recommendations, and those published by the American Concrete Institute (ACI) and the Portland Cement Association (PCA).

To the "GREENBOOK", subsection b, DELETE in its entirety and SUBSTITUTE with the following:

- b) **Accelerating Admixtures.** Calcium chloride is not permitted in concrete, unless otherwise authorized in writing by the Resident Engineer. No accelerators shall be used for mass concrete.

ADD:

201-1.2.7

Concrete Sealers.

1. Concrete Sealer shall conform to the following specifications:
 - a) Product: Solomon Colors/Brickform Gem-Guard, or approved equal
 - b) Manufacturer: Solomon/Brickform, or approved equal
 - c) When to Apply: After concrete has FULLY cured, - 28 days.
 - d) Surface Preparation: Power wash clean of compounds, oil, and debris. Allow surfaces to DRY completely.
 - e) Spray Applicator Guidelines: Airless Spray: 1500-2500 psi with 0.013-0.015 inch fan tip
 - f) HVLP Spray: 5-40 psi with 1.3-1.5 mm tip
 - g) Dried Color: Semi-transparent
 - h) Coating: Uniform
 - i) Coverage: Per Manufacturer's Recommendations

- j) VOC Content: Meet ASTM C 309 Requirements <100g/L (0.82./gal.)
 - k) Second Coat: Per Manufacturer's Recommendations
 - l) Drying Time: Min. 24 hrs. foot traffic
 - m) Temperature: Apply above 45°F, Store from 45°F - 120°F
 - n) Shelf Life: 1 Year
2. Concrete Sealer shall be designed for application on exterior natural concrete and integral colored concrete of variable architectural finishes. Sealer shall be suitable for freshly placed (CIP or PIP) or existing concrete with little to no alteration of concrete color. When dry, sealed surface shall resist staining from other construction materials and common food products. Sealer shall be slip resistant.
 3. A brushed, rolled, or sprayed method of application shall leave the finish surface with adequate wet and dry slip resistance. The method of application shall be approved by the Landscape Architect or Resident Engineer.
 4. Sealer shall leave no visible material between the concrete surface and sealer. The sealer shall be absorbed and locked into the pores surfaces and installed per manufacturer's directions.
 5. Contractor shall prepare concrete paving surfaces per Davis Color Seal II product specifications or approved equal.
 6. Contractor shall apply sealer Davis Color Seal II per product specifications or approved equal.
 7. Sealer shall be applied to half of all concrete mockups 28 days after curing time for review of performance and adherence to finishes.

ADD:

201-1.2.8

Surface Retarder.

1. For exposed aggregate concrete, the retardant shall be a water-based, top-surface retarder available in 11 depths of etch. Product shall be ideal for poured-in-place flatwork with etch selections ranging from simulated light acid wash or sand blast finish to full exposure of 1-1/4" aggregate. Surface retarder shall comply with the following specifications:
 - a) Product: Top-Cast, or approved equal.
 - b) Manufacturer: Dayton Superior, or approved equal
1-877-2663-7732 www.daytonsuperior.com
 - c) Etch Depth: Per Plans
 - d) Surface Preparation: Protect surrounding features not to receive etching solution. Protect during application and removal.

- e) When to Apply: Apply uniformly to wet concrete after the evaporation of initial bleed water.
- f) Spray Applicator: Low-pressure sprayer (plastic)
- g) Precautions: Protective clothing, gloves, and eye protection. Use with adequate ventilation.
- h) Coating: Thoroughly mix prior to application. Apply uniform coating over entire concrete surface until a complete hiding coat is applied. Do not apply too sparingly.
- i) Pigment: Product is pigmented for visibility of application.
- j) When to Remove: Varies based on concrete mix, site conditions, finishing technique. As early as 4 hours, up to 16 hours; Fast-setting concrete mixes or warmer weather, especially for lightest etches, wash away same day for best results. Early conditions-wash away with hose and brush. Normally wash away the next day using pressure washer and or brush. Do not wait too long to remove Top Cast as concrete will eventually harden.
- k) Coverage: 200-300 Sq. Ft/Gal.
- l) Clean-up: Water
- m) VOC Content: Meet ASTM C 309 Requirements< 100g/L (0.82./gal.)
- n) Drying Time: 1-2 hours after application
- o) Shelf Life: 5-gallon size unopened, 2 Years from manufacture date. Discard opened product.
- p) Test Panels: Provide test panel using accepted concrete matrix and similar project conditions.

ADD:

201-1.2.9

Concrete Stain.

1. Penetrating, acid stains for coloring new. Chemical stains applied to cured concrete shall be water solutions of metallic salts that penetrate and react with the concrete to produce insoluble, abrasion-resistant color deposits in the pores. Stains shall contain dilute acid to etch the concrete surface lightly so that the staining ingredients can penetrate deeper and react more uniformly.
 - a) Product: Chemstain Classic, or approved equal
 - b) Manufacturer: Lithochrome (Sika), or approved equal
www.usa.sika.com
 - c) Install per manufacturer's recommendations.

ADD:

201-1.2.10

Court Surfacing.

1. The following specifications pertain to the application of SportMaster Color Coating Systems (or approved equal) over concrete sport surfaces. Refer to Product Technical Data sheets for specific mixing and application instructions.
2. Color coating systems are designed for use on properly built sport surfaces. Refer to the American Sports Builders Association for recommended guidelines on construction of athletic & recreational surfaces.
3. The concrete surface shall be constructed with a suitable vapor barrier beneath the slab and adequate perimeter drainage to prevent moisture accumulation beneath the surface.
4. Surface Preparation - New concrete surfaces must cure 28 days. Concrete surfaces shall have a medium broom finish. They shall never be steel trowelled.
5. Contractor shall thoroughly remove all dust, dirt, debris and loose materials.
6. Etch concrete surface with muriatic phosphoric acid solution. Rinse clean with water after the etching is complete.
7. Fill all cracks with SportMaster CrackMagic, Acrylic Crack Patch, Acrylic Patch Binder or other suitable crack fillers as approved by Resident Engineer.
8. Repair spalled areas and level depressions or "bird baths" (1/8 inch or deeper) with SportMaster Acrylic Patch Binder or other suitable crack fillers as approved by the Resident Engineer.
9. Apply SportMaster Acrylic Adhesion Promoter or suitable primer over new or uncoated surfaces.
10. Apply one (1) or more coats of Acrylic Resurfacer (or approved equal) to provide a smooth underlayment for application of the color coating systems.
11. Over properly prepared concrete surface apply a minimum of two (2) coats of SportMaster Color Concentrate or ColorPlus System in accordance with manufacturer's mixing and application instructions. See detail for areas that require additional coats.
12. After masking tape has been laid apply SportMaster Stripe Rite line primer to seal voids between masking tape and court surface to prevent "bleed under" when SportMaster Line Paint is applied.
13. Apply a minimum of one coat of SportMaster Line Paint or approved equal.

- 201-1.4.4 Hand Mixing.** To the "GREENBOOK", ADD the following:
- Hand mixing is not permitted for concrete elements detailed in the Structural Drawings or for concrete supporting structural masonry walls, steel columns, or light poles.
- ADD:**
- 201-2.2.4 Reinforcing Supports.** All horizontal reinforcing shall be supported on approved chairs or supports to the specified height and locations.
- ADD:**
- 201-2.4.5 Tie Wire.** Tie wire shall be 16 gauge, black annealed.
- ADD:**
- 201-2.5 Supports for Reinforcement.** Provide supports for reinforcement including bolsters, chairs, spacers, and other devices for spacing, supporting and fastening reinforcing bars in place. For slabs-on-grade, use supports with sand plates or horizontal runners where wetted base materials will not support chair legs. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs that are hot-dip galvanized, after fabrication, or plastic protected or stainless steel protected.
- 201-4 CONCRETE CURING MATERIALS.** To the "GREENBOOK", ADD the following:
- Concrete curing materials shall be in accordance with ACI 301 Section 5 and ACI 308.1 Section 2.
1. Water-based resin curing compound: W.R. Meadows, Inc. 1100; Euclid Kurez DR VOX, or approved equal.
 2. Acrylic curing and sealing compound: W.R. Meadows, Inc. CS-309-30, or approved equal.
 3. Water emulsion acrylic curing and sealing compound formulated of acrylic polymers of water-based carrier: W.R. Meadows, Inc. VOCOMP-20, Euclid, or approved equal.
- 201-4.1.1 General.** To the "GREENBOOK", ADD the following:
- Curing compound shall be Dayton Superior Day-Chem Rez Cure (J-11-W) or approved equal.
- 201-5.3 Sand.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:
1. Sand shall conform to requirements of 200-1.5.3 with exceptions noted in these Special Provisions.
 2. Sand for mortar shall be clean, sharp, well graded, and free from salt, loam, clay, and other foreign matter.

3. In proportioning the sand, it shall be measured loose (without shaking or compacting) in measuring boxes or other suitable containers of known capacity.
4. Sand shall conform to ASTM C144 for mortar.
5. Sand shall be graded as follows:

Sieve Size	Percent Passing
4	100
8	95 – 100
16	70 -100
30	40 – 75
50	15 – 35
100	2 – 15
200	0

201-5.5 **Admixtures.** To the “GREENBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

- a. **Waterproofing admixture.** Waterproofing admixture shall be powder type: Grace Hydratite Plus, CemMaster Hydrolox 400, BASF Rheomix, BASF Rheopel, or approved equal.
- b. **Accelerator or retardant.** Accelerator may be added when required by weather conditions and shall be Anti-Hydro, Grace Dehydratine 80 or Dehydratine 80M, BASF Pozzoloth, Sika Plastiment, Sonneborn Sonotard, Trimex, or approved equal.
- c. **Intrusion (water-reducing) admixture.** Water-reducing admixture for mortar shall be BASF Rheomix, or approved equal.
- d. **Mortar Color.** Mortar color shall be pure, natural, finely milled, inert, water insoluble, non-bleeding, and free of deleterious fillers or extenders. Color shall be as shown on the Drawings. Color shall be selected by Resident Engineer from manufacturer’s standard range of colors.

ADD:

201-5.6 **Lime.** Lime used shall be hydrated type conforming to ASTM C207, Type S.

SECTION 202 – MASONRY MATERIALS

202-3.1.1 **General.** To the “GREENBOOK”, ADD the following:

1. Conform to ASTM C270 and be of the type and color specified.
2. Type S with minimum 28-day compressive strength of 1,800 psi minimum.

3. Mixed by volume in ratio of 1-part Portland cement (6 sacks per cubic yard minimum), 1/4 to 1/2-part lime, 2-1/4 to three (3) parts (to cement-lime combined volume) sand.
4. Pointing mortar shall be one part cement, 1/4 lime, three (3) parts sand by volume. Add one (1) pound of water-reducing admix for mortar per bag of cement and one pound per cubic foot of lime.
5. Add waterproofing in amounts recommended by manufacturer, 0.2 pounds of waterproofing per 100 pounds of cement minimum.
6. Do not use admixtures containing more than 0.2 percent chloride ions.
7. Limit the maximum percentage of mineral oxide or carbon black job site pigments by weight of cement as follows: For pigmented Portland cement-lime mortar; 10 percent maximum mineral oxide pigment or 2 percent maximum carbon black pigment.

202-3.2.1 General. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Masonry grout.
 - a. Conform to ASTM C476.
 - b. Minimum 28 days compressive strength greater than or equal to 2,500 psi, seven (7) sacks of cement minimum per cubic yard.
 - c. Waterproofing admix and intrusion admix in amounts recommended by manufacturer, 0.2 lb. of waterproofing per 100 pounds of cement minimum.
2. Masonry grout for pouring.
 - a. Fluid consistency, seven (7) to eight (8) inches slump.
 - b. Accurately mix by volume 1-part Portland cement: two (2) parts minimum to three (3) parts maximum of damp loose sand: two (2) parts maximum of 3/8-inch minus aggregate.
 - c. For masonry grout spaces less than three (3) inches in any dimension, omit 3/8-inch minus aggregate.
3. Masonry grout for pumping.
 - a. Without segregation of the constituent parts.
 - b. Mixed to a consistency that has a slump between eight (8) to eleven (11) inches.
4. Empty bags for waterproofing and intrusion admixtures shall be retained for verification prior to their disposal. Use accelerator or retardant in strict accordance with manufacturer's printed instructions.
5. Masonry cleaner. Masonry cleaner shall be Sure Kleen #101 Lime Solvent or approved equal.

**ADD:
202-4**

SUBMITTALS.

1. Masonry Grout design: Indicating type and proportions of the ingredients according to the proportion requirements herein and ASTM C 476.
2. In lieu of Masonry Grout design, submit the mix designs and grout strength test performed in accordance with ASTM C 476.
3. Mortar design: Indicating type and proportions of ingredients in compliance with the proportion specification herein and ASTM C 270.
4. In lieu of mortar design, submit the mix design and mortar tests performed in accordance with the property specification of ASTM C 270.
5. Color samples for OWNER selection of mortar color.
6. Material certificates certifying each material complies for all Mortar and Grout materials and admixtures.
7. Masonry Cleaner: Product information.

SECTION 203 - BITUMINOUS MATERIALS

203-6.1 General. To the "WHITEBOOK" and "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

203-6.1 General. Asphalt concrete shall be the product of mixing mineral aggregate and reclaimed asphalt pavement (RAP) with asphalt binder at a central mixing plant.

When specified in the Special Provisions, asphalt concrete may be produced using a warm mix asphalt (WMA) technology.

Unless otherwise specified in the Special Provisions or shown on the Plans, asphalt concrete mixtures shall conform to 203-6.4.

If the asphalt concrete mixture contains more than 15% RAP, refer to Caltrans Standard Specifications Section 39, "Asphalt Concrete" for "Materials" and "Construction" requirements only unless specified otherwise in these (1) Supplementary Special Provisions, (2) The WHITEBOOK, and (3) The GREENBOOK in that order of precedence. Replace all references to actions by the "Department" with actions by the "City."

203-6.2.1 Asphalt Binder. To the "GREENBOOK", ADD the following:

Unless otherwise specified, for mixtures containing 15 percent or less RAP, the performance grade of the virgin asphalt binder shall be the grade specified in the Special Provisions with the upper and lower temperature classification of Performance Grade (PG) 64-10.

For mixtures containing greater than 15 percent and not exceeding 25 percent RAP, the performance grade of the virgin binder shall be the grade specified in the Special Provisions with the upper and lower temperature classification of PG 58-16.

For mixtures containing greater than 25 percent RAP, the performance grade of the asphalt binder shall be determined based on viscosity and blending charts developed in accordance with AASHTO M323.

203-6.2.2 Rock Products for Asphalt Concrete Mixtures. To the "GREENBOOK", ADD the following:

Aggregates must be clean and free from deleterious substances. The aggregates for a leveling course must comply with the gradation specifications for Type A HMA in Caltrans Standard Specification Section 39-2.02B.

203-6.2.3 Rock Products for Type III Asphalt Concrete Mixtures. To the "GREENBOOK", ADD the following:

Aggregate gradation must be determined before the addition of asphalt binder and must include supplemental fine aggregates. Test for aggregate gradation under AASHTO T 27. Do not wash the coarse aggregate. Wash the fine aggregate only. Use a mechanical sieve shaker. Aggregate shaking time must not exceed 10 minutes for each coarse and fine aggregate portion. Choose a TV within the TV limits shown in the tables titled "Aggregate Gradations." Gradations are based on nominal maximum aggregate size.

203-6.2.5.1 General. To the "GREENBOOK", ADD the following:

RAP shall be defined as asphalt concrete pavement that has been processed to a maximum of 1 inch (25 mm) in size and is free of contaminants. RAP may be substituted for part of the virgin aggregate in a quantity up to the lowest level allowed in the Caltrans Standard Specifications by dry weight of the combined aggregates.

Unless otherwise specified, RAP may be substituted for part of the virgin aggregate at or above the level allowed in the Caltrans Standard Specifications; currently, 25 percent by dry weight of the combined aggregates.

203-6.2.5.2 RAP Stockpiles. To the "GREENBOOK", ADD the following:

Fractionated RAP stockpiles shall be isolated from other materials. Fractionated RAP shall be stored in conical or longitudinal stockpiles. Fractionated RAP shall not be agglomerated or be allowed to congeal.

203-6.2.5.3 Fractionation. To the "GREENBOOK". DELETE in its entirety and SUBSTITUTE with the following:

203-6.2.5.3 Fractionation. Fractionation is the processing of RAP into 2 or more sizes. For RAP substitution of 15 percent or less, fractionation is not required. For RAP substitution greater than 15 percent, RAP shall be fractionated into 2 sizes conforming to the requirements shown in Table 203-6.2.5.3. The RAP stockpile fractionation gradation shall conform to the requirements shown in Table 203-6.2.5.3.

Table 203-6.2.5.3

Size	Test Method	Requirement
Coarse (% passing the 1-inch sieve)	California Test 202 ^a	100
Fine (% passing the 3/8-inch sieve)	California Test 202 ^a	98-100

^a Maximum mechanical shaking time is 10 minutes.

If RAP is from multiple sources, the RAP shall be thoroughly and completely blended before fractionating.

The coarse fractionated stockpile, the fine fractionated stockpile, or a combination of the coarse and fine fractionated stockpile may be used.

203-6.2.5.4 Testing. To the "GREENBOOK", ADD the following:

The mix design RAP stockpile shall be sampled and tested in accordance with California Test 384. The average shall be reported on the mix design submittal. When the mix design RAP stockpile is augmented, RAP used to augment the stockpile shall be sampled at a minimum frequency of 1 sample per 500 tons in accordance with California Test 384 before augmenting. Each sample shall be tested to determine the uncorrected binder content in accordance with AASHTO T 308. The same ignition oven shall determine the uncorrected asphalt binder content reported on the mix design submittal.

The augmented RAP sample, when tested under AASHTO T 209, shall be within ± 0.06 of the average maximum specific gravity reported on the mix design submittal.

For startup of a project:

1. Less than 5,000 tons of a QC test from another City approved submittal from the same plant within the last 90 days may be submitted for review.
2. For greater than 5,000 tons the following QC test must be completed and submitted to the Engineer:

Quality Characteristic	Test Method
Asphalt binder content	AASHTO T 308, Method A
HMA moisture content	AASHTO T 329
Combined Aggregate Gradation	California Test 384
Combined Aggregate Sand equivalent	California Test 217 or ASTM D2419
Combined Aggregate Moisture content	AASHTO T 255
Air voids content	AASHTO T 269
Voids in mineral aggregate	MS-2 Asphalt mixture volumetrics
Dust proportion	MS-2 Asphalt mixture volumetrics
Hveem Stability	MS-2 and OBC CT 367
Hamburg wheel track	AASHTO T 324 (modified)
Gyrations Compaction	AASHTO T 312

During production, RAP QC testing shall be sampled twice daily and the following additional tests shall be performed with the minimum frequency:

Quality Characteristic	Test Method	Minimum Frequency
Asphalt binder content	AASHTO T 308, Method A	1 per day with a minimum of 500 tons
Aggregate Gradation – combined with RAP	California Test 384	1 per day with a minimum of 100 tons
Aggregate Sand equivalency	California Test 217 or ASTM D2419	1 per day with a minimum of 100 tons
Aggregate Moisture content	AASHTO T 255	1 per day with a minimum of 100 tons
Hveem Stability	MS-2 and OBC CT 367	1 per day with a minimum of 100 tons
Hamburg wheel track	AASHTO T 324 (modified)	1 per 5,000 tons or 1 per project, whichever is greater
Nuclear gauge density	California Test 375	1 per 50 tons

203-6.2.5.5 Quality. To the "GREENBOOK", ADD the following:

For RAP content higher than 15% in HMA, refer to Sections 39-2.01, "General"; 39-2.02, "Type A Hot Mix Asphalt," and 39-2.03, "Rubberized Hot Mix Asphalt--Gap Graded," of the Caltrans Standard Specifications in effect at the time of Bid for the quality assurance requirements. Under this process, the contractor performs quality control testing, and the City performs acceptance testing and inspection. The acceptance decision is based on the City's test results only.

RAP shall conform to the requirements shown in Table 203-6.2.5.5:

Table 203-6.2.5.5

Quality Characteristic	Test method	Requirement
Uncorrected Binder Content (% within the average value reported) ^a	AASHTO T 308	±2.00
Specific gravity (within the average value reported)	AASHTO T 209	±0.06
Combined Aggregates Sand Equivalent (min)	California Test 217 or ASTM D2419	50

^a Average uncorrected binder content of 3 ignition oven tests performed.

^a Average maximum specific gravity reported on the JMF.

203-6.3.1 General. To the "GREENBOOK" and "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

203-6.3.1 General.

1. The Contractor shall submit in accordance with 3-8.4 a JMF that summarizes each asphalt concrete mix design for each class and grade of asphalt concrete required to construct the Work. Supporting information for the warm mix asphalt (WMA) technology and/or recycling agent, if included in a mixture, shall also be submitted e.g., C2 PG 58-16 (½ inch) (12.5 mm) and B3 PG 58-16 (¾ inch) (19 mm) asphalt concrete.
2. Asphalt concrete for JMF and Mix Designs shall be Type III and shall not exceed the allowable RAP level.
3. The JMF shall identify the source and the individual grading of each material used to produce the mix design (including the percentage and individual gradation of any manufactured or natural sands), the combined gradation, the optimum binder content (OBC), void content, reclaimed asphalt pavement (RAP) percentage, RAP gradation, RAP binder content, stability value, plant identification, mix number, WMA technology, and the source and performance grade of the paving asphalt. Upon request, the mix design test data represented by the JMF shall be immediately made available to the Engineer.
4. When greater than 25 percent RAP is to be included in a mixture, a mix design shall be submitted on Caltrans Forms CEM-3511 and CEM-3512 or another format as approved by the Engineer. The submittal shall include supporting information showing the viscosity of the individual binders (both the virgin paving asphalt grade and that of the binder recovered from the RAP); and the amount of recycling agent, if any, and the blended final viscosity in accordance with AASHTO M323.
5. For all mixtures, the asphalt binder content shall be defined as the total bituminous material present in the mix consisting of the blend of virgin paving asphalt, residual paving asphalt from RAP, and recycling agent.
6. Refer to Caltrans Standard Specifications, 39-2.01A(3)(b), "Job Mix Formula" for additional requirements for modifications, renewal, authorization, and quality control plan.
7. A new mix design shall be prepared and a new JMF submitted if:
 - a) the combined aggregate gradation is not within ± 3 percentage points of the gradation shown on the referenced mix design on any sieve,
 - b) the source of any aggregate is changed,
 - c) the performance grade of paving asphalt is changed,

- d) the average binder content in a new fractionated RAP stockpile varies by more than ± 2.00 percent from the average RAP binder content reported on the JMF,
 - e) the average maximum specific gravity in a new fractionated RAP stockpile varies by more than ± 0.060 from the average maximum specific gravity value reported on the JMF.
8. AASHTO T 324 (Modified) is AASHTO T 324 (Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures) with the following parameters:
- a) Target air voids must equal 7.0 ± 1.0 percent.
 - b) Specimen height must be 60 ± 1 mm.
 - c) Number of test specimens must be 4 to run 2 tests.
 - d) Do not average the 2 test results.
 - e) Test specimen must be a 150 mm gyratory compacted specimen.
 - f) Test temperature must be set at:
 - 1. 113 ± 2 degrees F for PG 58 for use of 25% RAP
 - 2. 122 ± 2 degrees F for PG 64 for use of 15% RAP
 - 3. Measurements for impression must be taken at every 100 passes along the total length of the sample.
 - g) Inflection point is the number of wheel passes at the intersection of the creep slope and the stripping slope at maximum rut depth.
 - h) Testing shut off must be set at 25,000 passes.
 - i) Submersion time for samples must not exceed 4 hours.
9. Take samples under California Test 125.

ADD:

203-6.3.3

Asphalt Binder Replacement. Asphalt binder replacement shall be defined as the asphalt binder from RAP expressed as a percent of the total asphalt binder in the mixture. The asphalt binder replacement shall be calculated as a percentage of the approved JMF target asphalt binder content. The maximum asphalt binder replacement for mixtures containing RAP shall be 25 percent of the optimum binder content (OBC) for surface courses and 40 percent for leveling and base courses.

For Type A HMA with a binder replacement percent less than or equal to 25 percent of your specified OBC, you may request that the performance-graded asphalt binder

grade with upper and lower temperature classifications be reduced by 6 degrees C from the specified grade.

Once the City has approved a mix design, the asphalt binder content shall be within 0.5% of the identified target binder contents for each mix design submitted.

Each approved asphalt plant and location shall perform an annual verification process with the City.

ADD:

203-6.4.5

Miscellaneous Areas and Dikes. For miscellaneous areas and dikes:

1. Choose the aggregate gradation from:
 - a) 1/2-inch Type A HMA aggregate gradation.
 - b) Dike mix aggregate gradation.
2. Choose asphalt binder Grade PG 58-16 or 64-10.
3. Minimum asphalt binder content must be:
 - a) 5.70 percent for 1/2-inch Type A HMA aggregate gradation.
 - b) 6.00 percent for dike mix aggregate gradation.

If you request and the Engineer authorizes, you may reduce the minimum asphalt binder content. Aggregate gradation for dike mix must be within the TV limits for the specified sieve size as shown below:

Sieve size	Target value limit	Allowable tolerance
1/2"	100	--
3/8"	---	95 - 100
No. 4	73-77	TV ± 10
No. 8	58-63	TV ± 10
No. 30	29-34	TV ± 10
No. 200		0 - 14

For HMA used in miscellaneous areas and dikes, sections 203-6.3.1 do not apply.

203-6.7

Production. To the "GREENBOOK", ADD the following:

1. Before production, the HMA plant must have a current qualification under the City's Material Plant Quality Program for each mix design.

203-6.7.1

General. To the "GREENBOOK", ADD the following:

During production, the hot- or cold-feed proportion controls for virgin aggregate and RAP may be adjusted. For RAP substitution of 15 percent or less, RAP must be within ± 5 of the RAP percentage shown in the approved JMF form without exceeding 15

percent. For RAP substitution of greater than 15 percent, RAP must be within ± 5 of the RAP percentage shown in the approved JMF form without exceeding 25 percent.

Do not start HMA production before verification and authorization of JMF. The HMA plant must have a current qualification under the City's Material Plant Quality Program. Weighing and metering devices used to produce HMA modified with additives must comply with the City's MPQP. If a loss-in-weight meter is used for dry HMA additive, the meter must have an automatic and integral material delivery control system for the refill cycle.

Calibrate the loss-in-weight meter by:

1. Including at least 1 complete system refill cycle during each calibration test run
2. Operating the device in a normal run mode for 10 minutes immediately before starting the calibration process
3. Isolating the scale system within the loss-in-weight feeder from surrounding vibration
4. Checking the scale system within the loss-in-weight feeder for accuracy before and after the calibration process and daily during mix production
5. Using a minimum 15 minute or minimum 250 lb. test run size for a dry ingredient delivery rate of less than 1 ton per hour
6. Complying with the limits of City's Conveyor Scale Testing

Proportion aggregate by hot or cold-feed control. The aggregate temperature must not be more than 375 degrees F when mixed with the asphalt binder. Asphalt binder temperature must be from 275 to 375 degrees F when mixed with aggregate. Mix HMA ingredients into a homogeneous mixture of coated aggregates.

HMA must be produced at the temperatures shown in the following table:

HMA compaction	Temperature (°F)
Density based Method	Not to exceed 325

If you stop production for longer than 30 days, a production start-up evaluation is required.

SECTION 204 – LUMBER AND TREATMENT WITH PRESERVATIVES MATERIALS

204-1.1.1 General. To the “GREENBOOK”, ADD the following:

MDO - APA-rated Medium Density Overlay exterior glue.

Use only glued-laminated structural members having a maximum moisture content of 15% throughout the entire piece before surfacing and bonding.

204-1.1.4 Plywood. To the “GREENBOOK”, ADD the following:

Minimum sheathing shall be Exposure 1, 1/2-inch or greater, grade CDX. Span rated 32/16 per APA.

ADD:

204-1.1.5 Glued-Laminated Construction.

- a) Provide structural glued-laminated timber complying with AITC 113, ANSI 117, ANSI A190.1, and AWC NDS.
- b) Provide structural glued-laminated timber manufactured from a single species and solid laminations; do not use laminated veneer lumber. Manufacture in accordance with ANSI 117 and ANSI A190.1.
- c) Bond glued-laminated members with a waterproof adhesive conforming to the test requirements of ASTM D2559 and ANSI 405 for waterproof glue, shear strength and durability.
- d) Glued-laminated members shall be treated with a minimum Category UC4C preservative system in accordance with the AWPB Book of Standards and inspected for conformity in accordance with AWPB Standard M2

204-2 TREATMENT WITH PRESERVATIVES.

204-2.2 Wood Preservatives. To the "GREENBOOK", subsection "c", ADD the following:

- c) Treat structural members to attain a UL flame spread rating not greater than 25, showing no evidence of progressive combustion when tested for 30 minutes in accordance with UL 723 and ASTM E84.

Ensure penetration of fire-retardant material in treated wood in accordance with QPL-19140. Determine depth of penetration by borer cores taken from 20 pieces of each charge and test. If 80 percent of the borings meet the penetration requirements, the charge is acceptable.

Kiln dry the wood after treatment to remove the moisture injected during treatment. Average moisture content is not to exceed 19%.

204-2.5 Handling and Protection of Treated Materials. To the "GREENBOOK", ADD the following:

1. Immediately upon delivery to Site, place materials in an area protected from weather.
2. Store materials a minimum of six (6) inches above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation or ventilation.
3. Do not store seasoned materials in wet or damp portions of building.

ADD:

204-3 QUALITY ASSURANCE.

1. Provide factory glued-laminated structural wood members produced by an American Institute of Timber Construction (AITC) or American Plywood Association (APA) licensed manufacturer. Factory mark every member of the

structural glued-laminated timber with AITC Quality Mark or APA-EWS trademark and provide a certificated of conformance. Manufacture the laminated timber meeting the requirements of APA E30, ASTM D3737, ANSI/AITC A190.1, and WWP A Tech Guide.

2. Submit certificates for glued-laminated structural members include a laboratory report of the laminated wood and for the laminated adhesives as follows:
 - a. Checking of moisture content
 - b. Surfacing
 - c. Temperature of lumber at time of gluing
 - d. Adhesive mixing and spread
 - e. Adhesive pressure and curing conditions during the manufacturing process
3. Include in report the results of tests, shear strength, and durability of the glue line. Ensure material tested is typical of a production run of the same material used in the project. Conduct tests within 6 months prior to delivery of the wood.
4. Provide certification that structural members meet the requirements of ASTM D3737 and AITC 200.

204-4 BUILDING PAPER. Building paper shall be asphalt-saturated felt conforming to ASTM D 226 or D 250, Type I, plain non-perforated.

SECTION 206 – MISCELLANEOUS METAL ITEMS.

206-1.4.3 Anchor Bolts. To the “GREENBOOK”, ADD the following:

1. All post-installed anchors shall be epoxy anchors or expansion anchors as shown in the Drawings.
2. Manufacturers.
 - a. Hilti, Inc.
 - b. Simpson Strong-Tie Co., Inc.
 - c. DeWalt, Inc.
 - d. Proprietary products as named in the Drawings.
 - e. Or Approved Equal

ADD:

206-1.6 Finishes.

1. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
2. Do not prime surfaces in direct contact with concrete or where field welding is required.

3. Prime-paint items with one coat, except where galvanizing is specified.
4. Galvanizing for Rolled, Pressed and Forged Steel Shapes, Plates, Bars and Strips: ASTM A123; hot dip galvanize after fabrication.
5. Galvanizing for Fasteners, Connectors, and Anchors:
 - a. Hot-Dip Galvanizing: ASTM A153.
 - b. Mechanical Galvanizing: ASTM B695; Class 50 minimum.
6. Bolts: Hot dip galvanized.
7. Nuts: Hot dip galvanized.
8. Washers: Hot dip galvanized.
9. Touchup Primer for Galvanized Surfaces: ASTM A780 (A780M), A1. Repair Using Zinc-Based Alloys (Heat and Stick Method).

ADD:

206-6.10

Playground Fence.

1. The Contractor shall provide all labor, materials, and appurtenances necessary for installation of the industrial ornamental steel fence system defined herein.
2. The manufacturer shall supply a total industrial ornamental steel fence system of the Ameristar® Aegis II® Majestic design, or equal as approved by Resident Engineer. The system shall include all components (i.e., pickets, rails, posts, gates, and hardware) required.
3. Upon receipt at the job site, all materials shall be checked to ensure that no damages occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism, and theft.
4. All structural fence components (i.e., rails, pickets, and posts) shall be warranted within specified limitations, by the manufacturer for a period of 10 years from date of original purchase. Warranty shall cover any defects in material finish, including cracking, peeling, chipping, blistering, or corroding.
5. Reimbursement for labor necessary to restore or replace components that have been found to be defective under the terms of manufactures warranty shall be guaranteed for five (5) years from date of original purchase.

ADD:

206-6.11

Material and Fabrication.

1. Steel material for fence framework (i.e., tubular pickets, rails and posts), shall be galvanized prior to forming in accordance with the requirements of ASTM A653/A653M, with minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.90 oz/ft² (276 g/m²), Coating Designation G-90.

2. Material for pickets shall be 1" square x 14 Ga. tubing. The cross-sectional shape of the rails shall conform to the manufacturer's ForeRunner™ double wall design with outside cross-section dimensions of 1.75" square and a minimum thickness of 14 Ga. Picket holes in the ForeRunner rail shall be spaced 4.715" o.c., except for Invincible style 6' long, which shall be, spaced 4.98" o.c. Picket retaining rods shall be 0.125" diameter galvanized steel. High quality PVC grommets shall be supplied to seal all picket-to-rail intersections. Fence posts and gateposts shall meet the minimum size requirements per manufacturer's recommendations.
3. Pickets, rails and posts shall be precut to specified lengths. ForeRunner rails shall be pre-punched to accept pickets. Pickets shall be predrilled to accept retaining rods.
4. Grommets shall be inserted into the pre-punched holes in the rails and pickets shall be inserted through the grommets so that predrilled picket holes align with the internal upper raceway of the ForeRunner rails (Note: This can best be accomplished by making an alignment jig). Retaining rods shall be inserted into each ForeRunner rail so that they pass through the predrilled holes in each picket.
5. The manufactured galvanized framework shall be subjected to the PermaCoat® thermal stratification coating process (high-temperature, in-line, multi-stage, multi-layer) including, as a minimum, a six-stage pretreatment/wash, an electrostatic spray application of an epoxy base, and a separate electrostatic spray application of a polyester finish. The base coat shall be a thermosetting epoxy powder coating (gray in color) with a minimum thickness of 2 mils (0.0508mm). The topcoat shall be a "no-mar" TGIC polyester powder coat finish with a minimum thickness of 2 mils (0.0508mm). The color shall be Black. The stratification-coated framework shall be capable of meeting the performance requirements for each quality characteristic per manufacturer's recommendations.
6. Completed sections (i.e., panels) shall be capable of supporting a 600 lb. load applied at midspan without permanent deformation. Panels shall be biasable to a 25% change in grade.
7. Swing gates shall be fabricated using 1.75" x 14ga Forerunner double channel rail, 2" sq. x 12ga. gate ends, and 1" sq. x 14ga. pickets. Gates that exceed 6' in width will have a 1.75" sq. x 14ga. intermediate upright. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding. Gusset plates will be welded at each upright to rail intersection. Cable kits will be provided for additional trussing for all gates leaves over 6'.
8. Pedestrian swing gates shall be self-closing, having a gate leaf no larger than 48" width. Integrated hinge-closer set (2 qty) shall be ADA compliant that shall include a variable speed and final snap adjustment with compact design (no greater than 5" x 6" footprint). Hinge-closer set (2 qty) shall be tested to a minimum of 500,000 cycles and capable of self-closing gates up to a maximum

gate weight of 260 lbs. and maximum weight load capacity of 1,500 lbs. Hinge-closer device shall be externally mounted with tamper-resistant security fasteners, with full range of adjustability, horizontal (.5" - 1.375") and vertical (0 - .5"). Maintenance free hinge-closer set shall be tested to operate in temperatures of negative 20 F to 200 F degrees, and swings to negative 2 degrees to ensure reliable final lock engagement.

206-6.12 Installation.

1. Fence post shall be spaced per manufacturer's recommendations, plus or minus ½". For installations that must be raked to follow sloping grades, the post spacing dimension must be measured along the grade. Fence panels shall be attached to posts with brackets supplied by the manufacturer. Posts shall be set in concrete footers having a minimum dimension per Drawings/Details. Posts setting by other methods such as plated posts or grouted core-drilled footers are permissible only if shown by Contractor-provided engineering analysis to be sufficient in strength for the intended application.
2. When cutting/drilling rails or posts adhere to the following steps to seal the exposed steel surfaces; 1) Remove all metal shavings from cut area. 2) Apply zinc-rich primer to thoroughly cover cut edge and/or drilled hole; let dry. 3) Apply 2 coats of custom finish paint matching fence color. Failure to seal exposed surfaces per steps 1-3 above will negate warranty. Ameristar spray cans or paint pens shall be used to prime and finish exposed surfaces; it is recommended that paint pens be used to prevent overspray. Use of non-Ameristar parts or components will negate the manufactures' warranty.
3. Gate posts shall be spaced according to the manufacturers' gate drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected. Type and quantity of gate hinges shall be based on the application, weight, height, and number of gate cycles. The manufacturers' gate drawings shall identify the necessary gate hardware required for the application. Gate hardware shall be provided by the manufacture of the gate and shall be installed per manufacturer's recommendations.
4. Contractor shall obtain tables for post sizing, post spacing, bracket type, and coatings from manufacturer type.

ADD:

206-7 BOLLARDS.

206-7.1 Description.

1. See Sheet L111, install bollard per WM-04 San Diego Regional Standard Drawings.

206-7.2 Concrete Fill.

1. Minimum Compressive Strength: 2,500 psi.
2. As specified in Section 201-1.1.6.3 of these Special Provisions.

206-7.3 Anchors. Concealed type as indicated on Drawings.

206-8 ACCESSIBLE SIGNAGE.

206-8.1 General.

1. Signs shall be fabricated in conformance with the SDM-117 standards for signs. Signs shall be fabricated in conformance with the City of San Diego standards for signs. In the event there SDM-117 does not illustrate sign mounting details, refer to San Diego Regional Drawing M-45 for installation. Signs shall include:
 - a) Accessible Parking Sign
 - b) Tow Away Sign

206-9 STEEL ROOF DECK.

206-9.1 General. This section pertains to steel roof deck and accessories as shown on the contract documents, including basic layout, types of deck units, and attachments required.

206-9.2 Material. Steel roof deck shall be manufactured by a member of the Steel Deck Institute. Sheet steel for deck and accessories shall conform to ANSI/SDI RD-2017, Section 2.1.A, 2.1.B, 2.1.C, and 2.1.D. Galvanized steel deck shall be ASTM A653 SS Grade 50 with a minimum metallic coating weight of G90.

206-9.3 Deck Type. Steel roof deck shall be 1.5PLB steel roof deck as produced by Vulcraft or an approved equal with dimensions 36" wide, 1-1/2" deep, and gage as specified on the plans.

206-9.4 Accessories. Ridge caps, eave strips, edge closures, and cell closures shall be fabricated of metal of same type and finish as deck.

SECTION 207 – GRAVITY PIPE

207-17.2.1 Identification Marks. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

207-17.2.1 Identification Marks. Polywrap shall not be used as pipe color identification for plastic pipe. All pipe, fittings, and couplings shall be clearly marked at intervals not to exceed 5 feet as follows:

- a. Color: Green (for wastewater applications).
- b. Nominal pipe diameter.
- c. PVC cell classification.
- d. Company, plant, shift, ASTM, SDR, and date designation.
- e. Service designation or legend.
- f. For fittings and couplings, the SDR designation is not required.

SECTION 209 – PRESSURE PIPE

209-1.1.1 General. To the “GREENBOOK”, ADD the following:

1. PVC products, specifically type C900 and C905, as manufactured or distributed by J-M Manufacturing Company or JM Eagle shall not be used on the Contract for pressurized pipe.
2. Refer to AWWA C900-16 for all references to AWWA C905.

209-7.2 Requirements. To the "GREENBOOK", Table 209-7.2, DELETE in its entirety and SUBSTITUTE with the following:

TABLE 209-7.2

Function	Type	Materials/Method
Pipe Contents Identification	Pipe Color (Plastic Pipe or Polywrap ¹)	Blue for Potable Water. Purple for Recycled Water. Green for Sewage.
	AND	
	Stenciling	Stenciling marked on pipe in contrasting color to background color of pipe stating: "POTABLE WATER", "CAUTION RECYCLED WATER - DO NOT DRINK" or "CAUTION SEWER" as appropriate.
		5/8" (16 mm) high letters.
		Repeated at 1 foot (300 mm) intervals.
	OR	
	Identification Tape	Polyethylene tape 6" (150 mm) wide and 4 mils (100 μm) minimum thickness with 2" (50 mm) high letters stating: "POTABLE WATER", "CAUTION RECYCLED WATER - DO NOT DRINK" or "CAUTION SEWER" as appropriate. For pipe > 12" (300 mm) diameter, use 12" (300 mm) wide tape.
		Color - Blue With white letters for potable water, Purple With white letters for recycled water, Green with white letters for sewage.
		Attached to top of pipe with adhesive tape.
Pipe Warning and Locating	Warning and Locating Tape	Polyethylene tape 6" (150 mm) Wide and 4 mils (100 μm) minimum thickness with 2"(50 mm) high letters stating: "CAUTION: WATERLINE BURIED BELOW", "CAUTION RECLAIMED WATERLINE BURIED BELOW - DO NOT DRINK", or "CAUTION: SEWER BURIED BELOW" as appropriate. For pipe > 12" (300 mm) diameter, use 12" (300 mm) wide tape.
		Color - blue with black or white letters for potable water, Purple With black or white letters for recycled water, Green with black or white letters for sewage.
		Place in pipe trench 18" (450 mm) above pipe.
		Tape shall contain metallic strip that can be registered by magnetic field locating device.
		OR
	Locating Wire	In lieu of installing metallic warning tape; non-metallic warning tape 18" (450 mm) above pipe and 10-gauge copper wire attached to top of pipe and accessibly terminated may be used.

¹Polywrap shall not be used as pipe color identification for plastic pipe.

ADD:

SECTION 219 – SITE FURNISHINGS, PLAYGROUND EQUIPMENT, AND RESILIENT PLAY SURFACING

219-1 PLAYGROUND EQUIPMENT.

219-1.1 Play Structures.

1. Play Structures shall conform to these Special Provisions. Products identified with "OR AN APPROVED EQUAL" have been specifically designed for this project or have had areas specifically designed to accommodate them and substitutions shall not be allowed without written approval from the City.
2. Contractor and/or installer is required to have current CPSI (Certified Playground Safety Inspector) certified to install play equipment and resilient surfacing to recognized safety and workmanship standards. Due to the complexity of the main playground play structures, the Contractor shall list various manufactures as subcontractors for the installation of the play structure with specific license requirements of Class A or C-61/D-34. Written approval from the City shall be required before alternative installation procedures or subcontractors are used.
3. The design of the play structures is specified for user age groups, the configuration of the play space, and Americans with Disabilities Act (ADA)/Title 24/Consumer Product Safety Council requirements. Special features of the system include consideration given to safety zone requirements.
4. Play structure and equipment colors shall be as indicated on sheet L107. Color selections shall not differ in any shade and/or tone.
5. All clamps, T's and deck hangers shall carry a LIFETIME WARRANTY. All post caps shall carry a 25 YEAR WARRANTY. All posts shall carry a 15 YEAR WARRANTY. All decks, rails and loops shall carry a 10 YEAR WARRANTY. These criteria combined are considered consistent components within the overall product.

Burke

Innovative Playgrounds Company

"OR APPROVED EQUAL"

Contact: Vanessa Larios – (562) 693-5200

6. The contract price for the Play Structures shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing the Play Structures complete in place as shown in the plans, and as specified in these special provisions and as directed by the City, including clean - up, repairs, and guarantees. No additional compensation will be allowed.

219-1.2 Freestanding/Independent Play Equipment.

1. Contractor shall provide shop drawings, manufacturer's cut sheets and specifications, including color charts, to the City for review and approval for all freestanding play equipment as listed in the drawings. Location of all freestanding play equipment shall be approved by the City.
2. Play structure and equipment colors shall be as indicated on sheet L107 Color selections shall not differ in any shade and/or tone.

Gametime

Great Western Recreation

"OR APPROVED EQUAL"

Contact: KJ Lesesne – (619) 876-6623

Burke

Innovative Playgrounds Company

"OR APPROVED EQUAL"

Contact: Vanessa Larios – (562) 693-5200

Landscape Structures, Inc.

Coast Recreation, Inc.

"OR APPROVED EQUAL"

Contact: Gregg Rogers – (714) 619-0100

Playcraft, ID Sculpture

Pacific Play Systems, Inc.

"OR APPROVED EQUAL"

Contact: Salina Tuladhar – (760) 599-7355

3. The contract price paid for freestanding/independent play event shall include full compensation for furnishing all submittals labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing freestanding/independent play equipment and project components complete in place as shown in the plans, and as specified in these special provisions and as directed by the City, including clean - up, repairs, and guarantees. No additional compensation will be allowed.

219-1.3 Performance Requirements.

1. Safety: Play Surfacing within playground equipment zones shall meet or exceed the performance of CPC and ASTM -F1292 that a surface yield both a peak declaration of now more than 200 g's, and a Head Injury Criteria (HIC) value of no more than 1,000 for a head first fall from the highest accessible portion of play equipment being installed as shown on drawings.
2. Manufactured Resilient Play Surface: For surfaces manufactured for the purpose of playground safety surface, the impact attenuation performance of the on-site installed play surface shall be tested and documented by a certificate of compliance. The testing shall be conducted by a technician certified by the manufacturer of the testing equipment used.

3. Audit: Contractor shall be responsible for providing an independent third-party audit of the playground area, surfacing, and all play equipment. The audit shall be conducted by a NRPA/NPSI certified playground safety inspector in accordance with NPSI standards. The audit shall determine compliance of the playground area, surfacing, and all play equipment with the most current versions of accessibility and safety standards, including ADA, CPSC, ASTM, ASTM F1487, ASTM F1292, ASTM F1951. The manufacturer's letter of certification is not acceptable.
4. The Contractor shall be responsible for correcting any items found not to be in compliance with the above standards as a result of the audit, at no charge to the City. The contractor shall provide to the Resident Engineer a signed letter stating that the playground area, surfacing, and play equipment comply with all current applicable standards. The letter shall include an itemized list corresponding to each audit item, describing all corrections and the date each correction was completed. If applicable, the letter may state that any equipment in question is certified by IPEMA, providing manufacturer's proof of IPEMA certification.

219-1.4 Accessibility.

1. Children's outdoor play areas shall be in compliance with the Uniform Federal Accessibility Standards (UFAS) FED-STD-795 and the Architectural and Engineer Instructions (9AEI0 Design Criteria. The requirements of the Americans with Disabilities Act Accessibility Guidelines (9ADAAG) 28 DFR Part 36 that provide equal or greater accessibility then the requirements of UFAS must also be met with children's outdoor play areas.
2. Safety surfaces intended to serve as accessible paths of travel for persons with disabilities shall be fire stable and slip resistant, and shall meet the requirements of FED-STD-795, 28 CFR Part 36, ASTM F1487, and ASTM F1292.

219-2 SITE FURNISHINGS.

1. Contractor shall provide shop drawings, manufacturer's cut sheets and specifications, including color charts, to the City for review and approval for all site furnishings. Location of all site furnishings shall be approved by the City.
2. All furnishings shall be as listed in the Drawings:
 - a) Trash Enclosure
 - b) Concrete Landscape Wall
 - c) Trash Receptacle
 - d) Recycling Receptacle
 - e) Bench
 - f) Type 1 Picnic Table (standard, accessible)
 - g) Type 2 Picnic
 - h) Bike Racks

- i) Basketball Goal/backboard/rim/net/posts
 - j) Basketball Court Surfacing
 - k) Playground Fence
 - l) Chain Link Fence
- 3. Contractor shall provide shop drawings, manufacturer's cut sheets and specifications, including color charts, to the City for review and approval for all site furnishings. Location of all site furnishings shall be approved by the City.
- 4. Concrete products manufactured by QCP / Outdoor Creations, or approved equal:
 - a) Concrete mix design to include a mixture of Portland Cement, water, coarse and fine aggregates, pure mineral oxide coloring agents (when applicable) to yield a minimum compressive strength of 5000 psi.
 - b) Final product shall be reinforced with #4 and #5 rebar grid.
 - c) Product is cast in 1-piece with no assembly required.
 - d) Hairline cracks may develop over time. These are not structural failures, but inherent characteristics of the material itself.
 - e) Air pockets are a common occurrence in precast products. The frequency and size of air pockets are variable and to be expected, especially on vertical surfaces.
 - f) Concrete corners and edges will chip if not handled according to guidelines. Patch kits are available but may or may not blend and can be variable.
 - g) See Material and Finish Schedule (Sheet L1.07) for color, material, and finish.
- 5. The contract price paid for Site Furnishings shall include full compensation for furnishing all labor, materials, tools, equipment, and all incidentals for doing all the work involved in installing Site Furnishings. No additional compensation will be allowed.

219-3 PLAYGROUND RESILIENT PLAY SURFACING MATERIALS.

219-3.1 Material Types.

219-3.1.1 Play Surfacing (Play Surfacing Over Permeable Concrete).

- 1. Resilient Multi-Layered Interlocking Playground Safety Surfacing Tiles shall meet the requirements of CPSC and ASTM for play areas.
- 2. Play Surfacing shall consist of a colored top mat, UV stabilized geotextile fabric, edge piece, shock pad (foam). Colors as indicated on the drawings. Additional information as follows:
 - a) Surfacing System: Play Matta™ Original (Recover, A, B and A+ Systems), or approved equal.

- b) Wear Layer: Play Matta™ Original Tile (All Systems), or approved equal.
Description: Resilient, playground safety surfacing tiles. Injection-molded virgin PVC. Tile Locking: 0.75-inch 9 lug interlocking configuration on all 4 sides for locking with adjacent tiles. Top Edges: 90-degree rebate groove located around all for top sides of tiles to receive 4-6mm PVC weld rod for hot air welding procedure. Tile Bottom: 145 hollow compression columns per tile. Manufactured Size: 19.75" x 19.75" (+/- .25") (excluding lugs) Thickness: 1 inch (1 ft critical fall height). Weight: 5.7 lbs. Colors (100% through tile):
- c) Attenuation Layer: Play Matta A1, B1, PP-F35, PP-F55 Foam Shock Pads, or approved equal.
Description: Resilient, playground safety surfacing shock pad. Compliance: Meet and exceed CPSC guidelines for impact attenuation. Material: PP-F35 / PP-F55 Shock Pads: closed-cell crosslinked polyethylene foam. Manufactured dimensions: A1 / B1 Shock Pads: 42 x 37 inches. PP-F35 / PP-F55 Shock Pads: 35.5 x 88.5 inches.
 - i. Manufactured Thickness:
PP-F35 Shock Pad: 1.38 inches
PP -F55 Shock Pad: 2.17 inches
 - ii. Manufactured Weights:
PP-F35 Shock pad: 16 pounds
PP-F55 Shock pad: 23 pounds
- d) Summary System Critical Fall Heights (PP-F35 and PP-F55 Foam Shock Pads)

Play Matta F35 System (Tile + PP-F35 Shock pad), or approved equal: 2.4" thick – 5' CFH

Play Matta F55 System (Tile + PP-F55 Shock pad), or approved equal: 3.15" thick – 6' CFH

Play Matta F70 System (Tile + 2 x PP-F35 Shock pad) , or approved equal: 3.75" thick – 7' CFH

Play Matta F90 System (Tile + PP-F35 + PP-F55 Shock pad) , or approved equal: 4.5" thick – 8' CFH

Play Matta F110 System (Tile + 2 x PP-F55 shock pads), or approved equal: 5.3" thick – 9' CFH
- e) Corners (Black): Prefabricated Interlocking Inside and Outside Corner Ramp. Material: Same as playground safety surfacing tiles
- f) Ramps (Black): Interlocking Ramps: Material: same as playground safety. Prefabricated ADA-Compliant Ramps. Material: Same as playground safety surfacing tiles plus recycled rubber buffings
- g) T / U Channel. Material: PVC

- h) Adhesive. Matta-fix/Bostik Unigrip 8400, or approved equal
- i) Welding Rod. Material: Same as playground safety surfacing tiles
- j) Fixing Pins. Material: Nylon feathered pins
- k) Geotextile. Mirafi FW402, or approved equal
- l) Skimming / Buffin. Recycled rubber and bonding agents.
- m) Post rings. Material: PVC
- n) Play Surfacing shall be Play Matta as shown in the drawings OR APPROVED EQUAL.

219-3.2 Definitions.

Critical Fall Height: A critical fall height (CFH) is the maximum height of fall from play equipment to the ground. It is important to note that safety surfaces do not prevent injury but aim to lessen the severity of any injury that may occur on falls from height.

Fall Height: Fall height is a measurement defined as the “vertical distance between a

219-3.3 Qualifications.

Prospective manufacturers and/or installers of the poured-in-place safety surfacing system shall be required to comply with the following:

1. The manufacturer must be experienced in manufacturing a resilient, multi-layered interlocking playground safety surfacing tile system similar to the type shown in the drawings and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. Playground safety surfacing tiles shall be manufactured in accordance with ISO 9001 (Quality) and ISO 45001 (Health and Safety), or approved equal quality, health, and safety manufacturing requirements, as approved by the Resident Engineer.
2. The installer must provide competent people skilled in this specific type of play surfacing tile system. The designated supervisory personnel on the project must be competent in the installation of this material, including mixing of the materials, and spreading and compacting the materials correctly.
3. A qualified installer that is approved, authorized, or licensed to install the manufacturer's product and that is eligible to receive manufacturer's warranty. Persons working on project shall hold current manufacture issued Certified Installer certificate.
4. Manufacturer shall provide written instructions for recommended maintenance and repair practices.

219-3.4 Submittals.

The following shall be submitted:

- a) Sample box including tiles, geotextile fabric, shock pads, color samples/chart per the Drawings.

- b) Manufacturer's descriptive data and installation instructions, including cleaning and preventative maintenance instructions. Manufacturer's certificate of compliance indicating materials comply with specified requirements.
- c) Drawings showing shop details of the safety surfacing system, including depths of materials, anchoring system, and edge details.
- d) A list of all materials and components to be installed as part of the system, by weight and/or volume and recommended coverage, including manufacturer's name, shipment date, storage requirements, and precautions, and shall state chemical composition and test results to which material has been subjected in compliance with these specifications.
- e) Statement signed by an officer authorized to certify on behalf of the manufacturer of the play surfacing attesting that the surfacing meets the requirements of ASTM F1292 for a headfirst fall from the highest accessible portion of specified playground equipment. The statement shall provide the name, address, and telephone number of the testing company, the date of the test, and the test results.
- f) Statement signed by the manufacturer of the play safety surfacing attesting that all materials under this section shall be installed by the Manufacturer's employees or persons trained for installation of safety surfacing tiles who hold current manufacturer issued Certified Installer certificate.
- g) A Certificate of Insurance, shall be provided by manufacturers of play surfacing for use as safety surfacing, covering both product and general liability, of not less than \$1,000,000. The issuing underwriter shall be AA rated.
- h) Manufacturer shall submit color sample of each type/color shown in the Drawings for Resident Engineer verification. Color samples shall be 6" x 6" minimum size.
- i) Two copies of color charts displaying manufacturer's color selections and finishes proposed for use. Colors shall be as shown on Materials Schedule.
- j) Submit manufacturer's standard warranty.
- k) Submit certified installation certificate issued by the Manufacturer.

219-3.5 IPEMA Certifications and ASTM Testing Standards.

The play surfacing shall meet the following standards:

1. Installation of play (safety) surfaces shall be in accordance with ASTM F1951 – Determination of accessibility of surface systems under and around playground equipment and ASTM F1292 for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment.
2. The system shall be installed in compliance with the Critical Fall Height as determined by the Playground Equipment.

The surfacing shall meet IPEMA Certification specific to resilient, multi-layered interlocking, playground safety surfacing tiles. Manufacturer shall provide proof of certification as follows: In the interest of public playground safety, Independent Playground Equipment Manufacturer's Association (IPEMA) provides an independent laboratory which validates a manufacturer's certification of conformance to ASTM F1292 and ASTM F2075. A list of current validated products, their thickness and critical heights may be viewed at www.ipema.org

Standards that shall be met as follows:

1. ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials
2. ASTM E303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
3. ASTM F1292 Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment
4. ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment
5. ASTM C1028 Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull Meter Method – This standard replaces ASTM D2047
6. US Consumer Product Safety Commission (CPSC) Handbook for Playground Safety
7. IPEMA Certification

219-3.6 Warranty and Maintenance.

1. The bidder and/or manufacturer shall provide a full, non-prorated warranty (minimum 6 years from date of Final Acceptance) for defects in materials and workmanship in accordance with manufacturer's warranty documentation.
2. Submit manufacturer's maintenance and cleaning instructions.

219-3.7 Quality Assurance and Compliance.

Play/safety surfaces must meet the following quality assurance standards (latest published version):

1. Accessibility of Surface Systems -ASTM F1951: Determination of accessibility of surface systems under and around playground equipment.
2. Impact Attenuation -ASTM F1292: Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment

219-3.8 Delivery, Storage, and Handling.

1. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

2. Playground Safety Surfacing Tiles: Store tiles in a dry area prior to installation and protect tiles from dust (or other contaminants) and direct sunlight before installation.
3. Adhesive: Store adhesive in a dry area at a minimum temperature of 40°F. Avoid adhesive applications below 40°F and above 105°F.
4. Handling: Protect materials during handling and installation to prevent damage.

SECTION 300 - EARTHWORK

ADD:

300-1.1

General. To the "WHITEBOOK", ADD the following:

10. Prior to submittal of a Bid for this Work, the Contractor shall inspect the project site to verify the magnitude and cost of all clearing and grubbing required to accomplish this Work. Clearing and grubbing shall also include the removal and disposal of all miscellaneous materials: Buried pavements and other materials, old subsurface pavements and other materials encountered under existing pavements, which are within designated excavation areas on the plans.
11. The work includes demolition and removal (unclassified demolition) of all materials and facilities indicated or specified. Do not begin demolition until authorization is received from the Resident Engineer. Remove rubbish and debris daily, unless otherwise directed. Store materials that cannot be removed daily in areas approved by the Resident Engineer.
12. In addition to the above items, clearing and grubbing shall include, but not be limited to the following items as shown on the plans or specified in these Special Provisions:
 - a) Clearing and grubbing shall also include saw cutting, demolition, removal, and disposal of all existing improvements or otherwise required to perform the work, or as directed by the Resident Engineer.
 - b) Providing continuous pedestrian and vehicular access within the project area, and as directed by the Resident Engineer.
 - c) Saw cutting of concrete and asphalt concrete at joints and construction limits.
 - d) Protection of existing improvements designated to remain in place. Contractor shall be responsible for replacement of any improvements damaged during clearing and grubbing or construction activities at no additional cost.

- e) Prior to submittal of a Bid for this Work, the Contractor shall inspect the project site to verify the magnitude and cost of all clearing and grubbing to accomplish the Work.
- f) All holes, depressions, or disturbances left by the Contractor's demolition and transplant activities shall be backfilled and brought up to existing grade by the Contractor and landscaped/hardscaped per the Drawings. See Drawings for required backfill type and compaction, and the Special Provisions for required topsoil class.

ADD:

300-1.5 Removal and Disposal of Materials.

300-1.5.1 General.

- 6. Section 4216/4217 of the Government Code requires a Dig-Alert identification number be issued at least two (2) working days prior to a "Permit To Excavate" will be valid. For your Dig-Alert identification number, Contractor shall call the following Underground Service Alert, services, and utilities:

Underground Service Alert	1-800-422-4133
Police	531-2000
Streets	527-7500
Drainage	527-7500
Water and Sewer	1-800-422-4133
San Diego Gas & Electric	239-7511
Cable T.V.	236-9251 ext. 5212

300-2.1 General. To the "GREENBOOK", ADD the following:

In general, the on-site soils are suitable for reuse as fill if free from vegetation, debris, and other deleterious matter.

300-2.9 Payment. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE the following:

- 1. Unclassified Excavation shall include full compensation for furnishing all labor, materials, tools, equipment, and incidents, and for doing all the work involved in the excavation and embankments to achieve the subgrades and final grades as shown on the plans and as specified and as directed by the Resident Engineer.
- 2. The contractor shall be required to prepare their own earthwork for bidding and construction purposes. Any reference to earthwork quantities on the plans is strictly for bonding purposes and shall not be used by the contractor for a price basis. No additional compensation for excavation, embankment, import, or export of material shall be allowed.
- 3. Payment for Unclassified Excavation shall be included in the Lump Sum bid items pertinent to the work and shall include full compensation for furnishing

all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in the excavation and embankments to achieve the subgrades and final grades as shown on the plans and as specified and as directed by the Resident Engineer.

300-3.5.1 Requirements. To the "WHITEBOOK", ADD the following:

3. Bituminous pavement shall be cut and removed in such a manner so as not to tear, bulge, or displace adjacent paving by use of construction machinery. Wheel type pressure cutters and drop hammer cutters will not be permitted for final edge cut. Saw cutting of edges to be joined is required. Where only the surface of existing bituminous pavement is to be removed, the method of removal shall be approved by the Engineer, and a minimum laying depth of 25 mm (1 inch) of new pavement material shall be provided at the join line. Where bituminous pavement adjoins a trench, the edges adjacent to the trench shall be trimmed to neat straight lines before resurfacing to ensure that all areas to be resurfaced are accessible to the rollers used to compact the subgrade or paving materials.
4. Miscellaneous materials: Buried pavements, old subsurface pavements and other materials encountered under existing pavements, which are within designated excavation areas on the demolition plans shall be removed.

**ADD:
300-12**

FINISH GRADING.

1. Finish grades shall be measured at the top surface of materials.
2. The Contractor shall take every precaution to protect and avoid damage to underground utilities during his grading and conditioning operations.
3. The Contractor shall coordinate all drainage work with all other trades. Established site drainage shall be maintained by the Contractor during all phases of landscape construction.
4. Final finish grades shall ensure positive drainage of the site with all surface drainage away from trails, buildings, play areas, walls, and toward, drainage facilities, and catch basins or water courses.
5. Final grades shall be acceptable to the Resident Engineer. Grading operations shall conform with the Geotechnical Report.

SECTION 301 – SUBGRADE PREPARATION, TREATED MATERIALS, AND PLACEMENT OF BASE MATERIALS

301-2.1 General. To the "GREENBOOK", ADD the following:

Class II Aggregate Base shall be installed per Section 301.

301-2.4 Measurement and Payment. To the "GREENBOOK", ADD the following:

Payment for Class II Aggregate Base shall be at the contract unit price per cubic yard and shall be included in the overall project cost, and shall include full compensation for furnishing all labor, materials, equipment, and incidentals necessary to perform the work as specified to the satisfaction of the Engineer, in accordance with the plans and these specifications.

SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION

303-1 CONCRETE STRUCTURES.

303-1.1 General. To the "GREENBOOK", ADD the following:

This work shall consist of preparing the area on which the concrete work is to be placed, which may include preparation of sub-grade, removal of tree roots, and placement of base materials in accordance with these Specifications and as shown on the plans. The following types of miscellaneous concrete items are included:

- a) Concrete Catch Basin

303-1.11 Measurement. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

Payment for concrete structures shall be included in the associated Lump Sum bid items pertinent to the work project price and shall include the complete structural section, reinforcing, subgrade preparation, compaction, form work, and all specified finishes, admixtures, sealants, etc. and no other payment allowed, therefore.

303-1.2 Subgrade for Concrete Structures. To the "GREENBOOK", ADD the following:

- 7. Provide a vapor barrier over all prepared base material for concrete slabs-on-grade – occurs at Comfort Station, Post Tension Slab, and Closure Strip between Post Tension Slabs locations only. Vapor barrier shall be ASTM E1745 Class C polyethylene sheeting with a minimum 15 mil thickness, maximum permeance rating of 0.01 perms per ASTM E96, minimum puncture resistance of 3000 grams per ASTM D1709 B, and a tensile strength of 70 lbs/in per ASTM E154 Section 9. Provide W.R. Meadows, Inc. Polyolefin Vapor Barrier – Perminator, or approved equal.

303-1.3 Forms. To the "GREENBOOK", ADD the following:

Design formworks to be readily removable without impact shock, or damage to cast-in-place concrete surfaces and adjacent materials.

Construct forms complying with ACI 347, to sizes, shapes, lines, and dimensions shown, and to obtain accurate alignment, location, grades, level, and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages, inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent leakage of cement paste.

Fabricate forms for easy removal without hammering or prying against the concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

Erect falsework and support; brace and maintain it to safely support vertical, lateral, and asymmetrical loads applied until such loads can be supported by in-place concrete structures.

Provide shores and struts with positive means of adjustment capable of taking up formwork settlement during concrete placing operations, using wedges or jacks or a combination thereof. Provide trussed supports when adequate foundations for shores and struts cannot be secured.

Support form facing materials by structural members spaced sufficiently close to prevent deflection. Fit forms placed in successive units for continuous surfaces to accurate alignment, free from irregularities and within allowable tolerances.

- a) **Forms for Exposed Concrete.** Drill forms to suit ties used and to prevent leakage of concrete mortar around tie holes. Do not splinter forms by driving ties through improperly prepared holes. Do not use metal cover plates for patching holes or defects in forms. Provide sharp, clean corners at intersecting planes, without visible edges or offsets. Back joints with extra studs or girts to maintain true, square intersections. Use extra studs, walers and bracing to prevent bowing of forms between studs and to avoid bowed appearance in concrete. Do not use narrow strips of form material, which will produce bow. Assemble forms so they may be readily removed without damage to exposed concrete surfaces. Form molding shapes, recesses, and projections with smooth-finish materials, and install in forms with sealed joints to prevent displacement.

Chamfer exposed corners and edges using wood, metal, PVC, or rubber strips fabricated to produce uniform smooth lines and tight edge joints. A ½ inch chamfer at exposed edges is typical unless noted otherwise.

- b) **Provisions for Other Trades.** Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such ties. Accurately place and securely support items built into forms.

Retighten forms after concrete placement if required to eliminate mortar leaks.

303-1.4.4 Standard Structures. To the "GREENBOOK", ADD the following:

Remove shores and reshore in a planned sequence to avoid damage to partially cured concrete. Locate and provide adequate reshoring to safely support the work without excessive stress or deflection.

Keep reshores in place a minimum of 15 days after placing upper tier, and longer if required, until the concrete has attained its required 28-day strength and heavy loads due to construction operations have been removed.

Formwork not supporting weight of concrete, such as sides of beams, walls, columns and similar parts of the work, may be removed after cumulative curing at not less than 50°F for 24 hours after placing concrete. Providing the concrete is sufficiently hard to not be damaged by form removal operations and provided curing and protection operations are maintained.

Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28 days.

Determine potential compressive strength of in place concrete by testing field-cured specimens representative of concrete location or members.

Form facing material may be removed four (4) days after placement only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

Re-use of Forms. Clean and repair surfaces of forms to be re-used in the work. Split, frayed, delaminated, or otherwise damaged form facing material will not be acceptable. Apply new form coating compound material to concrete contact surfaces as specified for new formwork.

When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close all joints. Align and secure joints to avoid offsets.

No forming material will be allowed to be built permanently into exposed visible surfaces.

303-1.7 Placing Reinforcement.

303-1.7.1 General. To the "GREENBOOK", paragraph (8), DELETE in its entirety and SUBSTITUTE with the following:

Bar spacing shall be center to center of bars. Bar cover shall be the clear distance between surface of bar and face of concrete and shall be 3 inches for bars against formed surfaces. Detail and place according to ACI Manual SP-66. Bars at concrete surfaces poured against earth shall have a cover of 3 inches. Unless otherwise noted, bend all horizontal reinforcing a minimum of two (2) feet at wall footing corners and intersections.

Clean reinforcement of loose rust and mill scale, earth, and other materials which reduce or destroy bond with concrete.

Place reinforcement to obtain at least the minimum coverages for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces. Do not place

reinforcing bars more than two inches beyond the last leg of continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

303-1.8.1 General. To the "GREENBOOK", ADD the following:

Before placing concrete, inspect and complete the formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other crafts involved to provide ample time to permit the installation of their work; cooperate with other trades in setting such work as required. Notify Resident Engineer in time for inspection prior to pouring. Remove all garbage and debris from the base of formwork. Items such as aluminum cans, food containers, plywood, and their like are to be cleaned-up and disposed.

Place concrete in compliance with the practices and recommendations of ACI 304 and as herein specified.

1. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness within the section. If a section cannot be placed continuously, provide construction joints as specified herein. Perform concrete placing at such a rate that concrete, which is being integrated, with fresh concrete is still plastic. Deposit concrete as nearly as practicable to its final location to avoid segregation due to rehandling or flowing. Do not subject concrete to any procedure, which will cause segregation.
2. Screed concrete which is to receive other construction to the proper level to avoid excessive skimming or grouting.
3. Do not use concrete which becomes non-plastic and unworkable or does not meet the required quality control limits or which has been contaminated by foreign materials. Do not use retempered concrete. Remove rejected concrete from the project site and dispose of in an acceptable location. Do not use concrete after allowable mixing time has been exceeded.

303-1.8.6 Joints. To the "GREENBOOK", paragraph (6), DELETE in its entirety and SUBSTITUTE the following:

Continue all reinforcement across construction joints. Unless otherwise specified, reinforcement shall be lapped in accordance with ACI Standards.

Joints in Slabs-on-Ground. Construct Expansion Joints, Control Joints, and Weakened Plane Joints per Drawings, see Materials and Finish Schedule.

303-1.10 Curing. To the "GREENBOOK", ADD the following:

Protect freshly placed concrete from premature drying, excessive cold or hot temperature, and maintain without drying at a relatively constant temperature for the period of time necessary for hydration of the cement and proper hardening of the concrete.

Start initial curing as soon as free moisture has disappeared from the concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 72 hours.

Begin final curing procedures immediately following initial curing and before the concrete has dried. Continue final curing for the time period covered in Section 3-10.3 and in accordance with ACI 301 procedures. Avoid rapid drying at the end of the final curing period.

ADD:

303-1.10.1 Curing Methods.

Perform curing of concrete by moisture curing (continuous wetting), by moisture-retaining cover curing (damp sand, burlap, canvas, or straw), by liquid membrane curing (liquid membrane-forming compound) or covering concrete with protective sheet materials (polyethylene plastic sheeting "visqueen" or approved equal) or by combinations thereof, as herein specified. Provide the curing methods indicated as follows:

1. For concrete floor slabs provide moisture curing, moisture cover curing or liquid membrane/chemical curing-hardening curing. If liquid membrane curing is used, it must be compatible with concrete hardening compounds to be applied later.
2. For other concrete work, provide moisture curing, moisture-retaining cover curing, membrane curing, or protective sheet covering. Do not use liquid membrane or chemical curing-hardening curing on any concrete work to receive any applied finishes.
3. Inspect concrete, regardless of current method selected, do not permit the concrete to become surface-dry at any time. For formwork left in place, ensure the wood formwork is wetted throughout the curing process.
4. For curing, use only water that is free of impurities, which could etch or discolor exposed, natural concrete surfaces.
5. Provide moisture curing by any of the following methods:
 - a. Keeping the surface of the concrete continuously wet by covering with water.
 - b. Continuous water-fog spray.
6. Provide moisture-retaining cover curing by covering the concrete surface with the specified absorptive cover thoroughly saturated with water and keeping the absorptive cover continuously wet. Place absorptive cover to provide coverage of the concrete surfaces and edges with a 4-inch lap over adjacent absorptive covers.
7. Provide sheet material cover curing as follows - Cover the concrete surfaces with the specified moisture-retaining cover for curing concrete placed in the widest practicable width with sides and ends lapped at least three (3) inches and sealed by waterproof tape or adhesive. Immediately repair any

holes or tears during the curing period using cover material and waterproof tape.

- a. Use minimum 4 mil thickness, clear or translucent polyethylene sheets "visqueen" or approved equal.
- b. Support sheet material to prevent marking of the concrete surface.

8. Provide liquid membrane curing as follows:

- a. Apply the specified membrane-forming curing compound to damp concrete surfaces as soon as the water film has disappeared. Apply uniformly in a coat continuous operation by power spray equipment in accordance with the manufacturer's directions. Recoat areas, which are subjected to heavy rainfall within three (3) hours after initial application. Maintain the continuity of the coating and repair damage to the coat during the entire curing period.
- b. Do not use membrane-curing compounds on surfaces, which are to be covered with a coating material applied directly to the concrete or with a covering material bonded to the concrete. Such as other concrete, liquid floor hardener, waterproofing, damp proofing, membrane roofing, flooring, painting, and other coatings and finish materials, unless otherwise acceptable to the Resident Engineer.

9. Curing formed Surfaces - Cure formed concrete surfaces, including the undersides of girders, beams, supported slabs and other similar surfaces by moist curing with the forms in place for the full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.

10. Curing Unformed Surfaces

- a. Initially cure unformed surfaces, such as slabs, floor topping and other flat surfaces by moist curing, whenever possible.
- b. Final cure unformed surfaces, unless otherwise specified, by any of the methods specified above, as applicable.
- c. Final cure concrete surfaces to receive liquid floor hardener or finish flooring by use of moisture-retaining cover, unless otherwise acceptable to the Resident Engineer.

11. Provide liquid curing-hardening compound as follows: Apply to horizontal surfaces when concrete is dry to touch by means of power spray, hand spray or hair broom in accordance with manufacturer's directions.

303-1.10.2 Temperature of Concrete during Curing.

- 1. When the atmospheric temperature is 80°F, and above, or during other climatic conditions which will cause too rapid drying of the concrete, make arrangements before the start of concrete placing for the installation wind breaks or shading, and for fog spraying, wet sprinkling or moisture-retaining covering. Protect the concrete continuously for the concrete

curing period. Provide hot weather protections complying with the requirements of ACI 305.

2. Maintain concrete temperature as uniformly as possible and protect from rapid atmospheric temperature changes. Avoid temperature changes in concrete, which exceed 5°F in any one-hour and 50°F in any 24-hour period.

303-1.10.3 Curing Time.

1. Cure concrete for ASTM C150 Type II concrete. Cure for 10 days after placement.
2. When permitted by the ENGINEER, curing operations can be ended once the results of two (2) cylinder tests show that the concrete has reached a strength of 85% f'c. However, no less than 3 days of curing shall occur.

303-1.10.4 Protection from Mechanical Injury. During the curing period, protect concrete from damaging mechanical disturbances including load stresses, heavy shock, excessive vibration and from damage caused by rain or flowing water. Protect all finished concrete surfaces from damage by subsequent construction operations.

303-4.1.2 Construction. To the "GREENBOOK", ADD the following:

Masonry shall be laid in stack bond pattern. Concrete masonry units shall be dry when laid. Each unit shall be adjusted to final position in the wall while mortar is still soft and plastic. Any unit disturbed after mortar has stiffened shall be removed and re-laid with fresh mortar. Chases shall be built in and not cut in. Chases shall be plumb and shall be minimum one unit length from jambs of openings. Chases and raked-out joints shall be kept from mortar or debris. Spaces around metal door frames and other built-in items shall be solidly filled with mortar as each course is laid. Anchors, wall plugs, accessories, flashings, and other items to be built in shall be installed as the masonry work progresses. Where fresh masonry joins masonry that is partially set or totally set, clean the exposed surface of the set masonry, and remove all loose mortar. If it is necessary to "stop off" a horizontal run of masonry, this shall be done by raking back one-half brick or block length in each course. Toothing will not be permitted.

Provide level and solid bearing in masonry walls under all bearing roof elements. Solid bearing shall be bond beams unless otherwise indicated.

All masonry walls shall extend to underside of roof framing unless otherwise indicated.

If blowouts, misalignment, or cracking of face shells occurs during construction, the wall shall be torn down and rebuilt at no additional cost to the City.

Hollow units shall be laid with full mortar coverage on horizontal and vertical face shells, except that webs shall also be bedded in all courses of the starting course on footings and solid foundation walls, and where adjacent to cells or cavities to be reinforced and/or filled with grout or concrete.

Mortar joints in exposed or painted surfaces shall be tooled when thumbprint hard to a flush joint. Joints in unparged masonry below grade shall be pointed tight with a

trowel. Mortar protrusions extending into cells or cavities to be reinforced and filled shall be removed.

303-4.1.3 Placing Reinforcing Steel. To the "GREENBOOK", ADD the following:

Vertical reinforcement shall be rigidly secured at the top and bottom of CMU wall and at intervals necessary to hold the reinforcing in proper position.

Reinforcement shall be placed at the wall centerline unless indicated otherwise.

ADD:

303-4.1.3.1 Wall Construction.

1. Excavations for concrete landscape walls shall be as shown in the drawings, per the project specific Geotechnical Report dated May 4, 2022, Project Number 2021102 prepared by NOVA Science.
2. Wall Description: Concrete landscape walls per landscape construction detail sheets L108-L116.
3. Design: Walls and foundations shall be designed using the design parameters shown in the Drawings, in accordance with California Building Code requirements. Contractor shall reference the Geotechnical Report, which will be provided to the Contractor by the City.
4. Samples: sample skate stop for Resident Engineer's review and approval
5. Mock-up: 4' long section of concrete landscape wall demonstrating concrete color(s), finishes, jointing, reveals, chamfers, corners, edges, etc. for Resident Engineer's review and approval. If initial mock-up is not acceptable to Resident Engineer, additional mock-up(s) shall be provided until satisfactory workmanship is demonstrated, and the mock-up is approved by the Resident Engineer.
6. Foundation: construct per Drawings, in accordance with Geotechnical Report recommendations.
7. Preparation: Identify required lines, levels, contours, and datum. Protect benchmarks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic. Prepare sub-grade and base aggregate in per the Drawings, in accordance with Geotechnical Report recommendations.
8. Installation: Prepare subgrade, install foundation reinforcement, and pour foundation after reinforcement inspection. Install walls after foundations have cured for a minimum of 72 hours.

9. Quality Assurance: Perform all work in accordance with the Drawings, in accordance with the Geotechnical Report recommendations. Perform all work in accordance with the requirements of the California Building code, latest edition.

303-5 CONCRETE CURBS, WALK, GUTTER, CROSS GUTTERS, ALLEY INTERSECTIONS ACCESS RAMPS, AND DRIVEWAYS.

303-5.5.3 Walk. To the "GREENBOOK", ADD the following:

The forms shall be set to place the finish surface in a plane sloping from one edge of paving to the other edge a maximum of 1.5 percent right angle to the edge of paving.

Expansion joints shall be placed as indicated on Drawings, per Materials and Finish Schedule. Expansion joints shall be filled with Premolded Joint Filler: Nonextruding and Resilient Filler (Bituminous) (ASTM D1751). See Section 303-1.8.6 Joints.

To the "GREENBOOK", Paragraph (3), sentence (1), DELETE in its entirety and SUBSTITUTE with the following:

Walk shall be steel troweled to a smooth and even finish. Contractor shall then finish per Materials and Finish schedule. All formed edges shall be rounded to a radius of 1/8 inch.

To the "WHITEBOOK", ADD the following:

3. Upon final curing walk surface shall meet or exceed a static coefficient of friction of 0.6 wet and approximately 0.8 dry. Finished surface shall meet ADAAG 4.5 requirements for paving."

303-5.10.1 Installation. To the "WHITEBOOK", ADD the following:

8. Where it is infeasible for a curb ramp run to intersect the street grade at the maximum allowable slope, a slope steeper than 8.33% may be used to limit the ramp run length to 15 ft. The 15-foot measurement excludes landings and shall measure the inside back edge of a sidewalk radius.

303-5.10.2 Payment. To the "WHITEBOOK", item 1 and item 2, DELETE in their entirety and SUBSTITUTE with the following:

1. The payment for each curb ramp shall include:
 - a. Ramp runs & transition areas (up to 15 ft),
 - b. Landings,
 - c. DWTs,
 - d. Demolition and disposal,
 - e. Forming,
 - f. Relocating or raising items in conflict to grade,
 - g. Protecting and preserving existing survey monuments and improvements,
 - h. Restoring pavement.

2. Additional concrete sidewalk and curb quantities beyond 15 feet (4.6 m), measured from the inside back edge of the sidewalk radius where it intersects with the landing, shall be included in the Bid items for **"Additional Sidewalk"** and **"Additional Curb"**.

ADD.

303-9

CONCRETE MOW CURBS.

303-9.1

Concrete Mow Curb Installation. To the "GREENBOOK", ADD the following:

Concrete Mow Curbs shall be constructed as indicated on the plans. Concrete shall be cast in place using smooth forms set to provide the smooth radius curves as indicated on the plans. Reinforcing bar shall conform to section. Top surface of mow curb shall be medium broom finish with trowelled edge radii as indicated on the plans. Mow curbs shall be formed to provide smooth flowing curves free of kinks and irregularities. Mow curb height shall be set to be flush with the adjacent finished grade.

SECTION 304 – METAL FABRICATION AND CONSTRUCTION

ADD:

304-1.5

Workmanship. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

304-1.5

Workmanship.

304-1.5.1

General.

1. Use materials of the size and thicknesses shown in the Drawings or, if not shown, of the required size and thickness to produce adequate strength and durability in the finished product for the intended use as approved by the Resident Engineer.
2. Work to the dimensions shown in the Drawings or accepted on Shop Drawings, using proven details of fabrication and support.
3. Use the type of materials shown in the Drawings or specified for the various components of work.
4. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.
5. Ease exposed edges to a radius of approximately 1/32-inch, unless otherwise shown in the Drawings.
6. Form bent-metal corners to the smallest radius possible without causing grain separation or otherwise impairing the Work.
7. Fit and shop-assemble items in largest practical sections for delivery to Site.
8. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
9. Loose Bearing and Leveling Plates:

- a. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction, made flat, free from warps or twists, and of required thickness and bearing area.
 - b. Drill plates to receive anchor bolts and for grouting as required.
 - c. Galvanize after fabrication.
10. Tolerances:
- a. Squareness: 1/8-inch maximum difference in diagonal measurements.
 - b. Maximum Offset between Faces: 1/16-inch.
 - c. Maximum Misalignment of Adjacent Members: 1/16- inch.
 - d. Maximum Bow: 1/8-inch in 48 inches.
 - e. Maximum Deviation from Plane: 1/16-inch in 48 inches.

ADD:

304-7 STEEL ROOF DECK.

304-7.1 General. Materials for steel roof deck shall conform to 206-9.

304-7.2 Preparation. Examine support framing and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work of this section. All OSHA rules for erection must be followed.

Verify that surfaces to receive roof deck are free of debris.

304-7.3 Installation. Install deck panels and accessories according to ANSI/SDI RD-2017, manufacturer's instructions, and in accordance with approved installation drawings and requirements of this Section.

Place deck panels on structural supports and adjust to final position with ends aligned. Attach firmly to the supports immediately after placement.

Bearing: Install deck ends over supports with a minimum end bearing of 1-1/2 inches and 3 inches at interior supports unless otherwise shown on approved installation drawings or manufacturer's literature.

Side Closures: Fasten to supporting structure and deck in accordance with approved installation drawings.

Ridge plates shall be fastened to the deck in accordance with approved installation drawings.

304-7.4 Attachment. Fasten deck in accordance with the attachment schedule in the approved installation drawings. Fasten deck to steel support members at ends and intermediate supports with SDI recognized #12 self-drilling screws.

304-7.5 **Side-laps.** Fasten deck side-laps with fastener and spacing designated on the approved installation drawings.

SECTION 306 - OPEN TRENCH CONDUIT CONSTRUCTION

306-5 **DEWATERING.** To the "GREENBOOK", ADD the following:

Dewatering shall comply with Section 3-12.6.4, and 3-12.8 of the GREENBOOK/WHITEBOOK, and Project Plans. Dewatering shall be applied to all excavations for proposed project improvements.

See the Geotechnical Investigation in Section 3-9 for more information related to groundwater levels. This information is to be used for reference only. The Contractor shall assume the groundwater level to be at an elevation 4 for all work within the park. Contractor shall make his own judgement regarding the transmissivity of the ground to convey groundwater unto open excavations. Contractor's bid price for groundwater dewatering shall be deemed by the City to cover all costs associated with groundwater dewatering (including pre-treatment) regardless of the actual depth to groundwater and regardless of the actual volume of groundwater that is pumped and disposed of.

306-15.7 **Buried Structures.** To the "WHITEBOOK", ADD the following:

Payment for buried structures shall include exterior waterproofing in accordance with section 201-10.4 and 306-16.4 of the WHITEBOOK.

ADD:

SECTION 318 – PROTECTION OF WORK.

318-1 **PROTECTION OF WORK.**

1. During construction, the Contractor shall properly grade all excavated surfaces to provide positive drainage and prevent ponding of water. Drainage of surface water shall be controlled to avoid damage to adjoining properties or to finished work on the site. The Contractor shall take remedial measures to prevent erosion of freshly graded areas until such time as permanent drainage and erosion control features have been installed. Areas subjected to erosion or sedimentation shall be properly prepared in accordance with the Specifications prior to placing additional fill or structures.

ADD:

SECTION 319 – SITE FURNISHINGS, PLAYGROUND EQUIPMENT, AND PLAYGROUND RESILIENT PLAY SURFACING

319-1 **INSTALLATION OF RESILIENT PLAY SURFACING.**

319-1.1 **Project/Site Conditions.** Examine areas to receive playground safety surfacing tiles. Notify responsible parties if areas are not acceptable or otherwise unable to receive playground safety surfacing tiles in accordance with manufacturer's instructions. Do not begin installation until unacceptable conditions have been corrected.

Atmospheric temperature is above 40°F for a minimum of 24 hours before and during installation, preferably climbing.

Tile and Air Temperature: Consult manufacturer's installation instructions for all installations procedure when tile or air temperatures are above 90 degrees F.

319-1.2 Sequencing and Scheduling. Play surfacing shall be installed after the playground equipment is installed. The installation shall be coordinated with playground equipment and site furnishings installation.

319-1.3 Site Preparation and Requirements.

1. Subgrades must be free of stones, roots, and other vegetation.
2. Finished Grade: Verify that finished elevations of adjacent areas are as indicated on the drawings and safety surfacing manufacturer's direction, that the subgrade elevation has been established for the safety surface to be installed, and that the subsurface has been installed in a true, even plane, and sloped to drain as indicated on drawings. Verify that all surface irregularities have been corrected.

3. Subsurface: Tolerance of compacted subgrade shall be within 3 mm (1/8-inch) 1/8-inch in 3050 mm (10 feet) 10 feet. Tolerance of aggregate subsurface shall be within 10 mm (3/8-inch) 3/8 inch in 3050 mm (10 feet) 10 feet. Verify that aggregate subsurface have been fully compacted to 95 percent.

Prepare subsurface in accordance with manufacturer's instructions to ensure proper slope, support and drainage for playground safety surfacing tiles.

4. Concrete Subsurface: Concrete Subsurface shall be installed in accordance with the Drawings and Specifications

Concrete shall be as specified. Ensure concrete is stable with no loose particles or cracks. Ensure Concrete is clean and dry before installing matting. Install pervious concrete slab as indicated on the Drawing details/plans, and per Section 303-8 Pervious Concrete (GREENBOOK).

5. Border Nailer / Attachment Points: Consult Manufacturer for pinning and border recommendations. Ensure nailer and attachment points are outside of use zones and installed as per manufacture site plan

319-1.4 Synthetic Safety Surface Installation.

319-1.4.1 Interlocking Heat Welded Tile System. Installation of "interlocking heat welded tile system" in accordance with manufacturers recommendations. Installation shall be completed by manufacturer certified installer.

319-1.4.2 Clean-up. Do not allow adhesives on adjacent surfaces. Immediately clean up spills or excess adhesives. Clean surface in accordance with Manufacturers ongoing maintenance instructions

319-1.4.6 Protection. The synthetic safety surface shall be allowed to fully cure in accordance with manufacturer's instructions. The surface shall be protected from all traffic during the curing period for 48 hours or as instructed by the manufacturer. Protect playground matting from damage during construction by surrounding trades and vehicle.

319-1.4.7 Manufacturer's Service. The services of a manufacturer's representative who is experienced in installation of the specified safety surface shall be provided. The representative shall supervise the installation to ensure that the safety surfacing meets the impact attenuation requirements as specified herein.

The contract price for play/safety surfacing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing play/safety surfacing as shown on the plans, and as specified in these special provisions and as directed by the City, including clean-up, repairs, and guarantees.

SECTION 400 – PROTECTION AND RESTORATION

ADD:

400-1.4 Interruption of Existing Water Service.

1. Do not interrupt water service to facilities occupied by the Owner unless permitted under the following conditions and then only after arranging to provide temporary water service according to requirements indicated:
 - a. Notify Resident Engineer no fewer than seven (7) days in advance of proposed interruption of water service.
 - b. Do not proceed with interruption of water service without Resident Engineer's written permission.
 - c. Obtain Resident Engineer's written approval of exact length of time for each shut-off or work session.
 - d. Notify Resident Engineer when temporary interruption of water service has been completed.
 - e. Contractor shall coordinate directly with Resident Engineer for access to existing controllers, coordinating and providing watering schedules, close monitoring and adjustment of watering schedules to maintain appropriate soil moisture content for each landscape area. Should natural precipitation be absent or ineffective, between 1 to 2 weeks prior to planting, coordinate to schedule irrigation systems to apply moisture to a depth of 6" throughout landscape area.
 - f. Contractor shall coordinate directly with Resident Engineer for access to existing controllers, and prior to any demolition work, verifying with

Resident Engineer the location and operational status of existing stations and systems affected by new construction. Verify with Resident Engineer the work to reconnect existing station wires, and provide watering for those stations with a minimum of 3 days maximum delay interruption. Contractor shall repair, replace and add any wire which will reconnect service for the existing station valves affected by new construction.

- g. Work to take place includes replacement of sections of mainline pipe and control wires. This work may affect the existing irrigation systems outside the construction area. Contractor shall take utmost caution not to disturb existing irrigation systems. Where disturbed, Contractor shall repair or replace existing system to the satisfaction of the Resident Engineer.
- h. Contractor shall observe existing adjacent irrigation systems with Resident Engineer to determine state of condition and operation.
- i. Contractor shall field identify with the Resident Engineer, and provide written documentation on the irrigation plans all existing irrigation systems / components to be protected in place. Note the irrigation equipment, control wire and fully expose pipeline tie-in locations for approval by the Resident Engineer before any work begins.
- j. Prior to the commencement of any construction activities, the Contractor shall erect a 6-foot-high chain link fence around the water and control wire tie in locations to protect the entire area within the construction zone from outside access.
- k. No material shall be stored nor shall equipment be permitted within the site area outside the construction area limits.
- l. No interruption of water service and automatic electrical operation of the systems shall be permitted without prior written agreed upon day(s) and time(s) approved by the Resident Engineer.
- m. Failure to properly protect the existing irrigation system may result in charges against Contractor's account based on the assessed value of work to perform and damages valued by the Resident Engineer.
- n. Contractor shall comply with all irrigation system protection notes on the plans.

SECTION 402 – UTILITIES

402-2 **PROTECTION.** To the "WHITEBOOK", item 2, ADD the following:

- 2) Refer to **Appendix H - Advanced Metering Infrastructure (AMI) Device Protection** for more information on the protection of AMI devices.

SECTION 800 – MATERIALS

ADD:

800-1.1.5 Project Top Soil. Topsoil shall be Class A. Where grading impacts the existing topsoil, topsoil shall be removed to a depth of 12" and stockpiled. Existing topsoil shall be tested and shall be amended as required per Whitebook requirements for Class A Topsoil, then re-installed.

In general, the on-site soils are suitable for reuse as fill if free from vegetation, debris, and other deleterious matter and if they can be amended to meet Class A topsoil requirements.

800-1.2.3.1 Pre-plant Fertilizer and Tablets. To the "WHITEBOOK" item 1, DELETE in its entirety and SUBSTITUTE with the following:

Pre-plant fertilizer shall be a fast-release, 6-20-20 commercial, dust-free, homogeneous pellet fertilizer having the following guaranteed analysis:

Nitrogen	6%
Phosphorus	20%
Potassium	20%

800-1.2.3.2 Post-plant Fertilizer. To the "WHITEBOOK", item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. Post-plant fertilizer shall have 5-3-1 NPK analysis with 50% humus, 15% humic acids, soil strain bacteria, micronutrients, and 1% soil penetrant.

Product: Gro-Power Plus or approved equal.

800-1.2.4 Organic Soil Amendment. To the "WHITEBOOK", ADD the following:

1. The following specified soil amendments, fertilizers, and application rates are guidelines for bidding purposes only. At the time of rough grade, the Contractor shall meet with the City to determine the locations of soil samples to be taken. The soil tests/analysis are the responsibility of the Contractor. The Contractor shall submit soil samples from the site to an approved soil-testing laboratory for agricultural suitability analysis. The Contractor shall submit the results of the soil tests/analysis to the Resident Engineer for interpretation and recommendations. If the test results reduce or increase the quantities specified, then the Resident Engineer shall be notified. The contract prices shall be adjusted to reflect any differences between the amendments as specified below and the recommendations of the soil-testing laboratory.
2. Type 4 organic soil amendment shall be a fine textured, dark brown soil conditioner made from composted yard trimmings. The ground yard trimmings shall be composted for a minimum period of one month.

Temperatures shall be maintained between 132 degrees F and 155 degrees F throughout the thermophilic stage to kill pathogens and weed seeds. This process meets California Title 14 regulations, "Process to Further Reduce Pathogens". Curing phase is up to two months.

3. Organic Soil Amendment shall be blended, commercially processed soil conditioner consisting of an organic-based conditioner, prepared by mixing a light, friable, siliceous material with nitrogen-fortified, finely ground bark, wood chips and/or saw dust. The material shall contain a long-lasting form of iron and shall have the following analysis:

Total nitrogen	0.5%	
Ph	4.6 to 6.8	
Salinity (Ece)	less than 2.0	
Organic matter (dry weight basis)	85.0% min.	
Particle size: percent passing	9.50 mm screen	100%
	6.35 mm	100%
	2.38 mm	83%
	0.50 mm	31%
Soil conditioner:	4 cu.yd. Per 1,000 sq. Ft.	
Gypsum:	100 lbs. Per 1,000 sq. Ft.	
Soil sulfur:	20 pounds per 1,000 sq. Ft.	
Iron sulfate:	20 pounds per 1,000 sq. Ft.	
Triple superphosphate (0-45-0)	4 pounds per 1,000 sq. Ft.	
Potassium sulfate (0-0-50)	8 pounds per 1,000 sq. Ft.	

4. And shall be treated with a non-ionic wetting agent Sarvon or approved equal.
5. Material shall be equal to or better than Loamex or BFI Organics' "Organo-Life" soil amendment.

ADD:

800-1.2.4.1

Agricultural Suitability & Fertility Analysis Report. Contractor shall collect soil and it shall be identified and labeled specific to the project with contractor's contact information. Once three (3) samples from different locations on site are collected, provide a prepaid and preaddressed shipping bag or envelope addressed to the testing company. The bag or envelope shall be dropped off to the shipping source by the contractor to ensure that the material shipped to the testing company is the actual on-site material tested. Submit a copy of the planting plan and plant legend to the laboratory with the samples. Sample locations shall be approved by the City.

- a. No planting shall begin until test results confirm the agricultural suitability of the topsoil. Contractor is responsible for all third-party independent laboratory testing expenses.
- b. Testing methods shall comply with the United States Department of Agriculture handbook publication No. 60, methods of soil analysis published

by the Soil Science Society of America and peer-viewed methods published in scientific journals. Evaluations and recommendations shall be based on University of California publications and peer-viewed articles published in scientific journals.

- c. Soil test: contractor shall have import soil and on-site soil tested for fertility, agricultural suitability, and appraisal by Wallace Labs, Soil and Plant Laboratory Inc., or alternative lab as approved by City.
- d. The test results shall provide the following information:
 - 1. Date of testing
 - 2. Project name
 - 3. The contractor's name
 - 4. Source of materials and supplier's name
 - 5. Estimate of quantity needed in cubic yards
 - 6. Soil gradation
 - 7. Fertility
 - 8. Heavy Metals
 - 9. Soil Permeability in Inches per Hour
 - 10. Toxic elements
 - 11. Chloride content
 - 12. Ph
 - 13. Ece (electrical conductivity)
 - 14. Sar (sodium absorption ratio)
 - 15. Organic content by Dry Weight
 - 16. Carbon: Nitrogen Ratio
 - 17. Water-soluble Nutrient Levels
 - 18. Recommendations for adding amendments, chemical corrections, or both. Laboratory shall provide interpretation and recommendations for correction of nutritional deficiencies/excesses and potential toxicities.

800-1.2.5 Mulch. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

- 1. Mulch shall be Type 7 Mulch (Natural Log Chips) from supplier Miramar Greenery, or approved equal.
- 2. Mulch shall be free from animal waste, metal pieces, rubbish, or other undesirable materials.
- 3. Mulch shall be sized 2-inch to 4-inches with 95% by volume conforming.

4. Apply mulch to the depth specified on plans, see sheet L306.
5. Mulch shall be Type 10 Mulch (Malibu Cobble) from supplier Southwest Boulder & Stone, or approved equal. Color and sizes shall be per Planting Materials and Finish Schedule, sheet L306.

800-1.4.1 General. To the "WHITEBOOK", ADD the following:

8. Plants shall be in accordance with the California State Department of Agriculture's regulations for nursery inspections, rules, and grading.
9. The City is the sole judge as to acceptability for each plant. Vigorous, healthy, well-proportioned plants are the intent of this specification. Plants which are even moderately "overgrown," or are showing any signs of decline or lack of vigor are subject to rejection.
10. The size of the plants will correspond with that normally expected for species and variety of commercially available nursery stock, or as specified in the Special Conditions or drawings. Plants larger in size than specified may be used with the approval of the City, but the use of larger plants will make no change in contract price. If the use of larger plants is approved, the ball of earth and spread of roots for each plant shall be increased proportionately.
11. Rejection or substitution. All plants not conforming to the requirements herein specified, shall be considered defective, and such plants, whether in place or not, shall be marked as rejected and immediately removed from the site of the work and replaced with new plants by the Contractor, at his expense.
12. Right to changes. The City reserves the right to change the species, variety, and/or sizes of plant material to be furnished, provided that the cost of such plant changes does not exceed the cost of plants in the original bid, and with the provision that the Contractor shall be notified, in writing, at least thirty (30) days before commencement of planting operations.
13. Pruning. At no time shall the trees or plant materials be pruned, trimmed or topped prior to delivery, and any alteration of their shape shall be conducted only with the approval and in the presence of the City.
14. Handling and protection. All plants at all times, shall be handled and stored so that they are adequately protected from drying out, from wind burn, or from any other injury. Any plant determined by the City to be wilted shall be rejected at any time during this project, whether in the ground or not. All plants shall be handled solely by their containers. Any plant that has been handled by its stem or trunk shall be rejected. The Contractor's on-site plant storage area shall be approved by the City prior to the delivery of any plant material.
15. Guarantees. All trees shall be guaranteed for one (1) year from final acceptance of project (at the completion of the plant establishment and

maintenance period). All other plant material shall be guaranteed for six (6) months from final acceptance.

16. Plant installation shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally accepted horticultural practice. No planting shall be done in any area until the area concerned has been satisfactorily prepared in accordance with these specifications.
17. Soil moisture level prior to planting shall be no less than 75% of field capacity. The determination of adequate soil moisture for planting shall be the sole judgment of the City. The Contractor shall obtain approval of planting pits before planting operations shall begin. If the soil moisture level is found to be insufficient for planting, all planting pits shall be filled with water and allowed to drain before starting planting operations.
18. No more plants shall be distributed in the planting area on any day than can be planted and watered on that day. All plants shall be planted and watered as herein specified immediately after the removal of the containers. Containers shall not be cut prior to placing the plants in the planting area.
19. Prior to any excavation, the exact positioning and location of trees to be planted in existing lawn areas shall be done on site with Resident Engineer. Contractor shall flag all existing rotor sprinkler locations in the proximity of the proposed tree locations on the plans prior to meeting with the Resident Engineer. Trees shall not be placed closer than 20 feet from any rotor, unless otherwise directed by Resident Engineer.

ADD:

800-1.7

Filter Fabric. Filter fabric shall be non-woven type, fully stabilized UV-resistant and shall prevent soil particles from clogging, entering, or blocking subsurface perforated pipe drains.

- a. Geotextile filter fabric shall be a nonwoven geotextile composed of polypropylene fibers, formed into a stable network such that fibers retain their relative position.
- b. Geotextile filter fabric shall be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids.
- c. Geotextile filter fabric shall be Mirafi #180N, or approved equal.

ADD:

800-1.8

Weed Barrier Fabric. Weed barrier fabric shall be 2.8 oz. polypropylene, UV-treated fabric, or approved equal.

800-2.4

Sprinkler Equipment. To the "WHITEBOOK", ADD the following:

3. Bubbler heads and spray heads shall have fixed output and pressure compensating control.

4. Heads used for modifications/repairs shall match the equipment manufacturer, model, nozzle type and performance characteristics on the irrigation zone attached to.

SECTION 801 – INSTALLATION

ADD:

801-1.1

Site Access. The Contractor shall not close or obstruct roadways, drive isles or other access lanes without the written approval of the City. The Contractor is cautioned that portions of the site will remain open to the general public and Owner's employees, personnel, vendors, etc. The Contractor shall exercise extreme care to protect the health and safety of these users. The Contractor shall be responsible for the erection of warning lights and barricades in areas in which the Contractor's construction activities may pose a health threat.

ADD:

801-1.2

Maintenance.

1. The Contractor shall be responsible for the care and maintenance of all existing trees to remain within the project area and all trees from planting to final acceptance of each phase of work. Contractor shall also be responsible for the care and maintenance of landscaping on irrigation zones that are affected by Contractor's irrigation work, whether this landscape is within the project area or outside it.
2. Maintenance personnel shall be specifically assigned to monitor the health of all trees/palms under the Contractor's responsibility. It shall be required as part of this contract that key maintenance personnel be approved by the City. These personnel shall be assigned specific and sole responsibility to continuously monitor the health of the trees. In order to maintain continuity these key personnel shall not be dismissed or reassigned to other projects without the written permission of the City.
3. Maintenance shall include but not be limited to fertilization, watering, pruning of dead or sick branches, maintaining stakes and cables to maintain transplanted trees in an upright plumb position, pest/disease control and monitoring, and any other acceptable maintenance practice to maintain the trees in a healthy and vigorous state.

801-4.2

Protection and Storage. To the "WHITEBOOK", ADD the following:

3. The Contractor's on-site plant storage area shall be approved by the City prior to the delivery of any plant materials. Any plant determined by the City to be wilted or otherwise damaged shall be rejected at any time during the project, whether in the ground or not. All plants that have been handled by trunk or stem shall be rejected.

ADD:

801-4.10 Bark Mulching. All areas to receive shrubs, grasses, and ground covers shall be mulched by covering the entire surface of the planting area with a three inch (3") deep minimum layer of mulch, see planting plans for locations.

801-5.1 General. To the "GREENBOOK", ADD the following:

Work on the irrigation system including hydrostatic tests, backfill and densification of trenches, and other excavations shall be performed before topsoil placement. Preliminary operational tests of the automatic control system and coverage tests shall be performed after topsoil placement.

Work on the existing irrigation system including verifying components and their condition, mainline and wire location to be connected thereto, and functional (operational) condition of all components shall be included in the scope of work. A written record of the findings shall be created as part of the project records, aside from as-built drawings. This shall set in place the identified existing conditions.

All irrigation systems affected by this work, existing and new, shall be checked for proper operation electrically from the controller with City Staff. Contractor is responsible for diagnosing and repairing any system components deemed non-functional by the end of construction.

801-5.4 Installation of Valves, Valve Boxes, and Special Equipment. To the "WHITEBOOK", ADD the following:

8. Connect all existing wires of the existing remote-control valves to the new remote-control valves as required. Provide approved wire splices and wire extensions as required to complete the work.

801-7.1 Tree Trimming. To the "WHITEBOOK", ADD the following:

7. Pruning shall be limited to the minimum necessary to remove injured twigs and branches, and to compensate for loss of roots during transplanting, but never to exceed one-tenth the branching structure. Pruning may be done only with the approval of, and in the presence of, the City. Cuts over three-quarters of an inch (3/4") shall be painted with an approved tree wound paint.

SECTION 1001 - CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs)

1001-2.10 BMP Inspection, Maintenance, and Repair. To the "WHITEBOOK", ADD the following:

5. Maintenance activities shall be documented by the QSP or QSD in the Construction BMP Maintenance Log for projects subject to SWPPP requirements. See **Appendix I - SWPPP Construction BMP Maintenance Log**.

SECTION 1002 – PERMANENT BEST MANAGEMENT PRACTICES (BMPs)

ADD:

1002-9 MODULAR SUBSURFACE FLOW WETLAND SYSTEM.

1002-9.1 General.

1. Modular Subsurface Flow Wetland Systems (MSFWS) are used for filtration of stormwater runoff including dry weather flows. The MSFWS is a pre-engineered biofiltration system composed of a pretreatment chamber containing filtration cartridges, a horizontal flow biofiltration chamber with a peripheral void area and a centralized and vertically extending underdrain, the biofiltration chamber containing absorptive media mix which does not contain any organic material and a layer of plant establishment media, and a discharge chamber containing an orifice control structure. Treated water flows horizontally in series through the pretreatment chamber cartridges, biofiltration chamber and orifice control structure.
2. The manufacturer of the MSFWS shall be one that is regularly engaged in the engineering design and production of systems developed for the treatment of stormwater runoff, and which have a history of successful production, acceptable to the engineer of work. In accordance with the drawings, the MSFWS(s) shall be a filter device manufactured by Contech Engineered Solutions, or approved equal.

Contech Engineered Solutions LLC
905 Centre Point Drive
West Chester, OH 45069 Phone: 1 800 338 1122

1002-9.2 Submittals.

1. Shop drawings are to detail the MSFWS, and all components required and the sequence for installation, including:
 - a) System configuration with primary dimensions
 - b) Interior components
 - c) Any accessory equipment called out on shop drawings
2. Inspection and maintenance documentation.

1002-9.3 Work Included with MWFWS.

1. Specification requirements for installation of MSFWS
2. Manufacturer to supply components of the MSFWS(s):
 - a) Pretreatment chamber components (pre-assembled)
 - b) Concrete Structure(s)
 - c) Biofiltration chamber components (pre-assembled)
 - d) Flow control discharge structure (pre-assembled)

1002-9.4 Reference Standards

ASTM C 29	Standard Test Method for Unit Weight and Voids in Aggregate
ASTM C 88	C 88 Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C131	C 131 Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregates by Abrasion and Impact in the Los Angeles Machine
ASTM C 136	C 136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C 330	C 330 Standard Specification for Lightweight Aggregate for Structural Concrete
ASTM D 698	Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft.-lbf/ft ³ (600 kN-m/m ³))
ASTM D 1621	10 Standard Test Method for Compressive Properties Of Rigid Cellular Plastics
ASTM D 1777	ASTM D1777 - 96(2007) Standard Test Method for Thickness of Textile Materials
ASTM D 4716	Standard Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
ASTM A 615	Standard Specifications for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A 706	Standard Specifications for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement
AASHTO T 99-01	Standard Method of Test for Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in) Drop
AASHTO T 104	Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
AASHTO T 260	Standard Method of Test for Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials.
AASHTO T 288	Standard Method of Test for Determining Minimum Laboratory Soil Resistivity
AASHTO T 289	Standard Method of Test for Determining pH of Soil for Use in Corrosion Testing

AASHTO T 291	Standard Method of Test for Determining Water Soluble Chloride Ion Content in Soil
AASHTO T 290	T 290 Standard Method of Test for Determining Water Soluble Sulfate Ion Content in Soil

1002-9.5

Materials.

1. The Modular Subsurface Flow Wetland System (MSFWS)

- a. The Modular Subsurface Flow Wetland Systems (MSFWS) and all of its components shall be self-contained within a concrete structure constructed of concrete with a minimum 28-day compressive strength of 5,000 psi, with reinforcing per ASTM A 615 or ASTM A 706, Grade 60, and supports and H20 loading as indicated by AASHTO. Each Chamber shall have appropriate access hatches for easy maintenance and sized to allow removal of all internal components without disassembly. All water transfer system components shall conform with the following:
 - i. Filter netting shall be 100% Polyester with a number 16 sieve size, and strength tested per ASTM D 3787.
- b. Drainage cells shall be manufactured of lightweight injection- molded plastic and have a minimum compressive strength test of 6,000 psi and a void area along the surface making contact with the filter media of 75% or greater. The cells shall be at least 2" in thickness and allow water to freely flow in all four directions.

2. Pretreatment Chamber Components

- a. Filter Cartridges shall operate at a loading rate not to exceed 3 gallons per minute per square foot surface area.
- b. Drain Down System shall include a pervious floor that allows water to drain into the underdrain pipe that is connected to the discharge chamber.

3. Biofiltration Chamber Components.

- a. Media shall consist of ceramic material produced by expanding and vitrifying select material in a rotary kiln. Media must be produced to meet the requirements of ASTM C330, ASTM C331, and AASHTO M195. Aggregates must have a minimum 24-hour water absorption of 10.5% mass. Media shall not contain any organic material. Flow through media shall be horizontal from the outer perimeter of the chamber toward the centralized and vertically extending underdrain. The retention time in the media shall be at least 3 minutes. Downward flow filters are not acceptable alternatives. The thickness of the media shall

be at least 19" from influent end to effluent end. The loading rate on the media shall not exceed 1.1 gallons per minute per square foot surface area. Media must be contained within structure that spaces the surface of the media at least 2" from all vertically extending walls of the concrete structure.

4. **Discharge Chamber.**

- a. The discharge device shall house a flow control orifice plate that restricts flows greater than designed treatment flow rate. All piping components shall be made of a high-density polyethylene. The discharge chamber shall also contain a drain down filter if specified on the drawing.

1002-9.6 Performance.

1. **Function:** The MSFWS has no moving internal components and functions based on gravity flow, unless otherwise specified. The MSFWS is composed of a pretreatment chamber, a biofiltration chamber and a discharge chamber. The pretreatment device houses cartridge media filters, which consist of filter media housed in a perforated enclosure. The untreated runoff flows into the system via subsurface piping and or surface inlet. Water entering the system is forced through the filter cartridge enclosures by gravity flow. Then the flow contacts the filter media. The flow through the media is horizontal toward the center of each individual media filter. In the center of the media shall be a round slotted PVC pipe of no greater than 1.5" in diameter. The slotted PVC pipe shall extend downward into the water transfer cavity of the cartridge. The slotted PVC pipe shall be threaded on the bottom to connect to the water transfer cavity. After pollutants have been removed by the filter media the water discharges the pretreatment chamber and flows into the water transfer system and is conveyed to the biofiltration chamber. Once runoff has been filtered by the biofiltration chamber it is collected by the vertical underdrain and conveyed to a discharge chamber equipped with a flow control orifice plate. Finally, the treated flow exits the system.
2. **Pollutants:** The MSFWS will remove and retain debris, sediments, TSS, dissolved and particulate metals and nutrients including nitrogen and phosphorus species, bacteria, BOD, oxygen demanding substances, organic compounds and hydrocarbons entering the filter during frequent storm events and continuous dry weather flows.
3. **Treatment Flow Rate and Bypass:** The MSFWS operates in-line. The MSFWS shall treat 100% of the required water quality treatment flow based on a minimum filtration capacity listed in on the plans. The MWFWS must meet the required bypass flow rate as listed on the plans. The size of the system must match those provided on the drawing to ensure proper performance and hydraulic residence time.

4. System must be capable of treating flows to the specified treatment flow rate on the drawings. The flow rate shall be controlled by an orifice.

1002-9.7 Construction Methods.

1. The installation of the MSFWS shall conform to all applicable national, state, state highway, municipal and local specifications.

1002-9.7.1 Shipping, Handling, and Storage.

1. Shipping – MWSWS shall be shipped to the Contractor's address or job site. It is the responsibility of the contractor to offload the unit and place in the exact site of installation.
2. Storage and Handling - The Contractor shall exercise care in the storage and handling of the MSFWS and all components prior to and during installation. Any repair or replacement costs associated with events occurring after delivery is accepted and unloading has commenced shall be borne by the contractor. The MSFWS(s) and all components shall always be stored indoors and transported inside the original shipping container until the unit(s) are ready to be installed. The MSFWS shall always be handled with care and lifted according to OSHA and NIOSA lifting recommendations and/or contractor's workplace safety.

1002-9.7.2 Installation.

1. The soil condition and groundwater elevation must be evaluated prior to You ordering the modular wetland unit (MWU). You shall excavate a hole 8'Lx4'Wx8"D at the location of the proposed MWU so the City and the project Geotechnical Engineer can assess the ground water elevations and the soil conditions. The excavation and soil evaluation shall be completed within 3 weeks after issuance of Notice to Proceed (NTP) under the supervisions of the Geotechnical Engineer and Resident Engineer. See sheet C303 for additional details.
2. Grading and Excavation site shall be properly surveyed by a registered professional surveyor, and clearly marked with excavation limits and elevations. After site is marked it is the responsibility of the contractor to contact local utility companies and/or DigAlert to check for underground utilities. All grading permits shall be approved by governing agencies before commencement of grading and excavation. Soil conditions shall be tested in accordance with the governing agencies requirements. All earth removed shall be transported, disposed, stored, and handled per governing agencies standards.
3. Compaction – All soil shall be compacted per registered professional soils engineer's recommendations prior to installation of MSFWS components. Compaction shall be to 95% of Standard Proctor or 90% of Modified Proctor.

4. Bedding shall be placed according to a registered professional soils engineer's recommendations, and with a minimum of 6" of $\frac{3}{4}$ " crushed rock under all concrete structures.
5. Concrete Structures – After backfill has been inspected by the governing agency and approved the concrete structures shall be lifted and placed in proper position per plans.
6. Subsurface Flow Wetland Media shall be carefully loaded into area so not to damage the Wetland Liner or Water Transfer Systems. The entire wetland area shall be filled to a level 9 inches below finished surface.
7. Planting layer (if Applicable) shall be installed per manufacturer's drawings and consist of a minimum 3" grow enhancement media that ensures greater than 95% plant survival rate, and 6" of wetland media. Planting shall consist of native plants recommended by manufacturer and/or landscape architect. Planting shall be drip irrigated for at least the first 3 months to insure long term plant growth. No chemical herbicides, pesticides, or fertilizers shall be used in the planting or care and maintenance of the planted area.

1002-9.7.3 Maintenance and Inspection.

1. Inspection – After installation, the contractor shall demonstrate that the MSFWS has been properly installed at the correct location(s), elevations, and with appropriate components. All components associated with the MSFWS and its installation shall be subject to inspection by the engineer at the place of installation. In addition, the contractor shall demonstrate that the MSFWS has been installed per the manufacturer's specifications and recommendations. All components shall be inspected by a qualified person once a year and results of inspection shall be kept in an inspection log.

1002-9.8 Measurement and Payment.

1. Payment for the Modular Subsurface Flow Wetland System shall be included in the lump sum bid items for **Construction of South De Anza Improvements - Playground and Site Accessibility, Construction of South De Anza Improvements - Comfort Station, and Construction of South De Anza Improvements - Parking Lot** and shall include full compensation for furnishing all labor, materials, equipment, installation, and tools associated with this item of work per the Plans, the Standard Specifications, these Special Provisions, and as directed by the Resident Engineer, and no additional compensation will be allowed therefor.
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SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.
- B. San Diego Greenbook current edition: Refer to section 802 Construction and Demolition Waste Management for additional requirements.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.
 - 3. Salvage of existing items to be reused or recycled.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

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

1.5 INFORMATIONAL SUBMITTALS

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

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- B. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
- C. Pre demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.

1.6 FIELD CONDITIONS

- A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- B. Notify Owner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Notify Owner immediately if concealed water damage or structural deficiencies are encountered during selective demolition.
- D. Hazardous Materials: If suspected hazardous materials are encountered, refer to section 5-15.1 of the Special Provisions.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
 - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 - 1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

3.2 UTILITY SERVICES AND ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. Arrange to shut off utilities with utility companies.
 - 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 4. Disconnect, demolish, and remove plumbing, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.

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- b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
- c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
- d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
- e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect equipment that has not been removed.
- B. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain fire watch during and for at least 2 hours after flame-cutting operations.
 - 6. Maintain adequate ventilation when using cutting torches.
 - 7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.

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8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 10. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Protect items from damage during transport and storage.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition, and cleaned, and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove roofing debris from building by chute, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

3.6 CLEANING

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

END OF SECTION 02 41 19

SECTION 03 30 53 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture.

1.4 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. Provide Action Submittal for Concrete Mock-Ups listed in Construction Plans.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. Comply with the following sections of ACI 301 unless modified by requirements in the Contract Documents:
 - 1. "General Requirements."
 - 2. "Formwork and Formwork Accessories."
 - 3. "Reinforcement and Reinforcement Supports."
 - 4. "Concrete Mixtures."
 - 5. "Handling, Placing, and Constructing."
- B. Comply with ACI 117.

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Plain-Steel Wire: ASTM A 1064/A 1064M, as drawn.
- C. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.
- D. Deformed-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, flat sheet.

2.3 CONCRETE MATERIALS

- A. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- B. Cementitious Materials:
 - 1. Portland Cement: ASTM C 150/C 150M, Type I.
- C. Lightweight Aggregate: ASTM C 330/C 330M, 1-inch nominal maximum aggregate size.
- D. Water: ASTM C 94/C 94M and potable.

2.4 FIBER REINFORCEMENT

- A. Synthetic Micro-Fiber: Fibrillated polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116/C 1116M,
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Euclid Chemical Company (The); an RPM company.
 - b. Grace Construction Products; W.R. Grace & Co. -- Conn.
 - c. Sika Corporation.
 - d. Or Equal.

2.5 RELATED MATERIALS

- A. Vapor Retarder: Plastic sheet, ASTM E 1745, Class A or B.
- B. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.6 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BASF Corporation-Construction Systems.
 - b. Euclid Chemical Company (The); an RPM company.
 - c. Sika Corporation.
 - d. Or Equal.
- B. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.

2.7 CONCRETE MIXTURES

- A. Comply with ACI 301.
- B. Normal-Weight Concrete:
 - 1. Minimum Compressive Strength: 3500 psi at 28 days.
 - 2. Maximum W/C Ratio: 0.45.
 - 3. Cementitious Materials: Use fly ash, pozzolan, slag cement, and silica fume as needed to reduce the total amount of Portland cement, which would otherwise be used, by not less than 40 percent.
 - 4. Slump Limit: 4 inches, plus or minus 1 inch.
 - 5. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of trowel-finished floor slabs to exceed 3 percent.

2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
 - 1. When air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
 - 1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
 - 2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.

3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

- A. Design, construct, erect, brace, and maintain formwork according to ACI 301.

3.2 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR-RETARDER INSTALLATION

- A. Install, protect, and repair vapor retarders according to ASTM E 1643; place sheets in position with longest dimension parallel with direction of pour.

1. Lap joints 6 inches and seal with manufacturer's recommended adhesive or joint tape.

3.4 STEEL REINFORCEMENT INSTALLATION

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.5 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

- B. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8-inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

- C. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.

3.6 CONCRETE PLACEMENT

- A. Comply with ACI 301 for placing concrete.
- B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
- C. Consolidate concrete with mechanical vibrating equipment according to ACI 301.

3.7 FINISHING FORMED SURFACES

- A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8-inch.
 - 1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.
- B. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.8 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 301 for hot-weather protection during curing.
- B. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- C. Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

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FINAL SUBMITTAL**

2. **Moisture-Retaining-Cover Curing:** Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
3. **Curing Compound:** Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

END OF SECTION 03 30 53

SECTION 03 38 00 – POST-TENSIONED CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. This Section describes the requirements for furnishing and installing post-tensioned slabs on grade, including required record keeping, inspections and tests.
- B. Drawings and special provisions of Contract apply to this section.

1.2 SCOPE OF WORK

- A. The post-tensioning supplier and installer shall furnish all labor, materials, services, and equipment required to produce a complete post-tensioned structural system. The work shall include the following items:
 - 1. Furnishing all post-tensioning materials including prestressing steel, anchorages, wedges, pocket formers, couplers, plates, support bars, chairs, tendon enclosures, and bursting reinforcement.
 - 2. Placing of all items listed above.
 - 3. Performing all post-tensioning operations including stressing, anchoring, trimming, encapsulating tendon anchors, and grouting pockets.
 - 4. Cooperating with the Owner's Testing Laboratory in their function of recording and reporting tendon elongation and tension applied to the prestressing steel.
 - 5. Performing all engineering required to fully design a post-tensioning system that complies with the final force and tendon profiles as shown on the structural drawings and to prepare complete shop drawings and field placing drawings.
- B. Tendons shall be unbonded and encapsulated as shown on the drawings.

1.3 REFERENCE STANDARDS AND CODES

- A. American Concrete Institute (ACI):
 - 1. ACI 117 Specifications for Tolerances for Concrete Construction and Materials
 - 2. ACI 301. – Specification for Structural Concrete
 - 3. ACI 308.1 – Standard Specification for Curing Concrete
 - 4. ACI 318. – Building Code Requirements for Structural Concrete and Commentary
- B. ASTM International

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1. ASTM A370 – Standard Test Methods and Definitions for Mechanical Testing of Steel Products
 2. ASTM A416/A416M – Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete
 3. ASTM A1061/A1061M – Standard Test Methods for Testing Multi-Wire Steel Strand
 4. ASTM B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus
 5. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
 6. ASTM D92 – Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
 7. ASTM D95 – Standard Test Method for Water in Petroleum Products and Bituminous Materials by Distillation
 8. ASTM D512 – Standard Test Methods for Chloride Ion In Water
 9. ASTM D566 - Standard Test Methods for Dropping Point of Lubricating Grease
 10. ASTM D610 – Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
 11. ASTM D638 - Standard Test Method for Tensile Properties of Plastics
 12. ASTM D792 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
 13. ASTM D2265 - Standard Test Method for Dropping Point of Lubricating Grease Over Wide Temperature Range
 14. ASTM D3867 - Standard Test Methods for Nitrite-Nitrate in Water
 15. ASTM D4289 - Standard Test Method for Elastomer Compatibility of Lubricating Greases and Fluids
 16. ASTM D4658 - Standard Test Method for Sulfide Ion in Water
 17. ASTM D6184 - Standard Test Method for Oil Separation from Lubricating Grease (Conical Sieve Method)
- C. Concrete Reinforcing Steel Institute (CRSI): “Manual of Standard Practice”, CRSI MSP-2.
- D. International Code Council Evaluation Service (ICC-ES)
1. ICC AC303, Post-Tensioning Anchorages and Couplers of Prestressed Concrete

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- E. International Organization for Standardization (ISO)
 - 1. ISO/IEC Guide 65, General Requirements for Bodies Operating Product Certification Systems
- F. Post-Tensioning Institute (PTI)
 - 1. PTI-CRT20 G1 - Manual for Certification of Plants Producing Unbonded Single Strand Tendons
 - 2. PTI DC10.2 - Construction and Maintenance Manual for Post-Tensioned Slab-on-Ground Foundations
 - 3. PTI DC10.3 – Design, Construction, and Maintenance of Post-Tensioned Concrete Courts
 - 4. PTI M10.6 - Specification for Unbonded Single Strand Tendons Used for Slab-on-Ground Construction

1.4 SYSTEM DESCRIPTION

- A. Unbonded post-tensioning system described herein is intended to perform without long-term corrosion or other distress in an aggressive environment as defined in the Specification for Unbonded Single-Strand Tendons. Post-tensioning strand, couplers, intermediate, and end anchorages shall be completely protected with a watertight, encapsulated system. Tendon sheathing and grease shall be as specified herein.

1.5 SUBMITTALS

- A. Due to the interdependent nature of the Special Provisions, the Contractor shall review all supplier's shop drawings/field-placing drawings against each other and inform Architect/Engineer of any potential interferences or conflicts.
- B. Drawings, Reports, and Procedures: Submittals shall be submitted for review and approval and shall include but not be limited to the following:
 - 1. Tendon layout, including dimensions, which locates the tendons in the horizontal plane. Detail horizontal curvature of tendons at block-outs and anchorages and show all openings in slabs. Clearly designate each tendon.
 - 2. Size and grade of tendon profiles showing support heights and locations, and any required reinforcing support steel. Clearly show the location of each tendon and the method of support.
 - 3. Location and height of chairing devices.
 - 4. Details of reinforcement around stressing pockets and closures, including bursting reinforcement, and any interference with tendons. Coordinate with mild reinforcing steel drawings as required.

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5. Details of anchorages, the positive connection between the anchorage and sheathing, pocket formers, couplers, and other related hardware.
6. Furnish method of burning off excess tendon, after anchorage.
7. Details of the method for sealing the anchorage recesses after the tendon stressing tails have been removed.
8. Clearance requirements for the hydraulic equipment and the dimensions of any stressing pockets required.
9. Sequence of construction, including installation, pouring, jacking procedure, and stressing sequences.
10. Furnish complete prestressing procedure, to include the following:
 - a. Jacking force and jacking pressure.
 - b. Maximum temporary jacking force and jacking pressures.
 - c. Certified jack calibrations and method of identification. Non-calibrated jack and pump combination will not be permitted. Submit certificates of calibration from approved testing laboratory to the Developer Design/Builder for all jacks used on project.
 - d. Method of determining slack.
 - e. Method of determining anchor force, or force remaining in tendons after anchor.
11. Samples of forms to be used for field record of stressing operations.
12. Type and thickness of post-tensioning sheathing.
13. Type and chemical analysis of P-T coating showing compliance with Table 1 of the "Specification for Unbonded Single Strand Tendons".
14. Elongation of strands.
15. Shop drawings shall be signed and sealed by a qualified professional engineer, licensed in the state of California who is in responsible charge of the drawing preparation.
16. Furnish manufacturer's written guarantee that post-tensioning material is of strength specified.

C. Manufacturer's Data: Submit for review and approval.

1. Sample hardware, including but not limited to: Anchorage system, coated strand, wedges, pocket formers, and other sub-assemblies required for complete

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installation including all accessories required to complete the system. Submit valid Evaluation Service Report (ESR) from ICC Evaluation Service, Inc for each product.

2. Post-tensioning system brochures.
3. Complete post-tensioning procedure, including but not limited to: Stressing system, method of determining anchor force, method of determining tendon slack, and method of cutting off excess strand after anchorage.
4. Mill Certificates: Submit certified mill reports of post-tensioning steel immediately upon shipment indicating compliance with specified requirements for all material that is to be delivered to the project.
5. Equipment Calibration: Submit certification of the calibration of all ram and gauge sets to the Architect/Engineer as specified herein.
6. Certifications and other data as may be further required to demonstrate compliance with other items in this section.

D. Calculations:

1. Submit calculations showing all engineering required to fully design the post-tensioning system, including friction loss calculations, bursting reinforcement calculations, number of prestressing tendons, anchorage and coupling systems, tendon supports, and tendon stressing procedures, as required to fully comply with the final force and tendon profiles as shown on the structural drawings. The design shall be in accordance with the requirements of ACI 318. Submit tendon manufacturer's data that documents the wobble and curvature friction coefficients used in the friction loss calculations.
2. Post-Tensioning Supplier shall secure the services of a qualified professional engineer, licensed in the state of California, to provide the design as specified above. Calculations shall be signed and sealed by the professional engineer and shall be submitted to Architect/Engineer for Owner's record only.
3. Review of shop drawings and calculations by the Architect/Engineer will not relieve the Post-Tensioning Supplier of responsibility for final design as specified herein.
4. By offering a proposal or entering into a contract for work of this Section, Post-Tensioning Supplier accepts the general design shown on the drawings as adequate for compliance with performance requirements at no additional cost to the Owner. Final design shall meet or exceed the minimum requirements in the structural drawings.

- E. Stressing Records: The contractor shall provide the appropriate cooperation and access to the Owner's Testing Laboratory to allow them to measure, record, and report the following information. In the absence of a Testing Laboratory representative, the post-tensioning installer shall measure, record, report and submit the information described below. Submit

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records to the Architect/Engineer for approval within 24 hours after stressing.

1. Floor, pour, and tendon identification numbers.
 2. Calculated elongation and actual measured elongation for each jacking point, and totals for each tendon.
 3. Stressing ram number, initial and final gauge load reading during stressing for each tendon.
 4. Date of stressing operation and signature of the Contractor's stressing personnel and inspector witnessing the operation.
 5. Range of allowable elongations for jacking force or a measure of the deviation of the measured elongations from the calculated elongations. Deviations that do not comply with the specified tolerances shall be noted for the Architect/Engineer to review.
 6. Obvious irregularities or stress loss during anchoring procedures.
 7. Required and actual concrete strength at time of jacking.
- F. Record Drawings: The Contractor shall provide record drawings to the Owner, in care of the Architect/Engineer, of any approved changes from the contract documents. Form of record drawings may be legible marked-up prints of contract drawings, or separate drawings of same scale.
- G. Review:
1. After review, shop drawings/field-placing drawings and data shall not be changed nor shall construction operations be deviated from, unless resubmitted under a cover letter delineating such change and reapproved.
 2. Review of details and construction operations will not relieve the Contractor of his responsibility for completing the work successfully in accordance with the contract drawings and specifications.

1.6 QUALITY ASSURANCE

- A. Qualifications: The supply and installation of post-tensioning shall be executed by organizations that can demonstrate adequate experience with such work as determined by the Owner. The Contractor shall submit supporting evidence acceptable to the Architect/Engineer that this qualification has been met. Post-tensioning shall be performed using methods and related equipment that are in conformance with generally accepted systems of post-tensioning. Experienced individuals shall control and supervise all operations.
- B. Fabrication Quality Assurance: The post-tensioning material shall be fabricated by a plant that is fully PTI-certified at the time of bidding, and that shall maintain this certification

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throughout the duration of this project as described in the Post-Tensioning Institute's "Manual for Certification of Plants Producing Unbonded Single Strand Tendons."

- C. **Installer Quality Assurance:** All installers of unbonded post-tensioned tendons shall be certified under the Post-Tensioning Institute's "Post-tensioning Certification Program of Field Personnel for Unbonded Post-tensioning Installers".
- D. **Inspection and Testing:** Inspection and testing shall be provided in accordance with the structural drawings and as specified in the following sections.
- E. **Source Quality Control:**
 - 1. If requested by the Architect/Engineer, take two (2) strand samples from one end of each coil at the fabrication plant prior to greasing and sheathing. The Post-Tensioning Supplier shall notify the Architect/Engineer when the coils are ready to be sampled.
 - 2. Submit certified mill reports indicating compliance with ASTM A416, and if requested, the test data showing evidence of compliance with the Low Relaxation Strand requirement of ASTM A416, to the Architect/Engineer immediately upon shipment for all material delivered to the project. The mill report shall be based upon a minimum of two (2) tests for each reel, heat or lot, and shall include as a minimum the breaking load, modulus of elasticity, elongation at rupture, load at 1% extension, diameter and area of strand, standard chemical analysis and drawing mill.
 - 3. Furnish all materials and handling which testing agency requires. Submit certification by the Post-Tensioning Supplier that any submitted samples are representative of the material to be furnished.
 - 4. Package the post-tensioning strands at the supplier's fabrication facility in a manner that prevents damage to strand and protects strand from moisture during transportation and storage.
- F. **Field Quality Control:**
 - 1. The Contractor shall maintain a consistent and good standard of workmanship. Check bulkheads, position of anchorages, tendon chairing and tying, location, size and placement of reinforcement, and tendon quantity.
 - 2. Identify wedges and anchorages by individual concrete placement areas, floor sequence or both. Use materials only in their identified concrete placement areas. In the event materials intended for one concrete placement area are exchanged into another concrete placement area, notify architect/engineer and testing agency for tracking purposes.
 - 3. Prior to pouring concrete, at a frequency established for the project defined in the drawings, an inspection of the tendons and mild reinforcing steel shall be made by the Architect/Engineer, or Independent Testing Agency. Placement of concrete shall not begin until acceptance of conditions is documented by the

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Architect/Engineer, or Independent Testing Agency.

4. Inspection of stressing operations shall also be performed as directed by the Architect/Structural Engineer or an Independent Testing Agency.
5. The Contractor shall cooperate with the Owner's Testing Laboratory in their efforts to record tendon elongations. The Contractor shall keep a copy of the stressing records with the shop drawings.
6. Submit certificates of all ram and gauge calibrations used on the project to the Architect/Engineer. Use of non-calibrated ram and gauge sets are not allowed on this project. If requested by the Architect/Engineer, Owner, or Field Inspector, the Contractor shall have the ram and gauge sets calibrated by an Independent Testing Agency, the cost of which shall be borne by the Contractor.
7. Manufacture and deliver tendons in sequence and quantity so as to avoid lengthy job site storage. Deliver tendons as close as practicable to the designated storage area to avoid excessive handling. Do not use chains or hooks to handle tendons.
8. Satisfactorily protect all prestressing steel from all moisture and rust or other physical damage prior to placement and keep steel free from deleterious substances, such as chlorides, fluorides, sulfites and nitrates. Provide protection for exposed prestressing steel beyond ends of members to prevent deterioration by rust or corrosion.
9. Do not store post-tensioning strand in such a manner that it is in direct contact with soil or fresh concrete or exposed to rain, snow, de-icing salts or other corrosive elements. Protect plastic materials planned to be stored for more than one month from exposure to sunlight.
10. Damage to tendon sheathing in excess of 2% of its length shall be grounds for rejection of sheathing.
11. Contractor shall inspect tendon sheathing for damage and to verify watertight seal between sheathing and anchor. Repair all damaged sheathing to the satisfaction of the Architect/Engineer.

PART 2 - PRODUCTS

2.1 POST-TENSIONING STEEL

A. Prestressing Steel and Accessories:

1. Post-tensioned Reinforcing Steel: ASTM A416, 1/2-inch diameter, 7-wire, high-tensile, cold-drawn, stress relieved strand:
 - a. Minimal ultimate strength: 270,000- psi.
 - b. Nominal steel area: 0.153-square inches.
 - c. F (ult.): 41.3-kips.

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- d. E: 27,500- to 28,500-kips per square inch.
 - e. Normal weight of strands: 525-pounds per 1,000-feet.
 - 2. Oil-tempered wire will not be permitted.
 - 3. Tendon wires: Clean and free of corrosion or injurious marks. Sharp kinks in tendons will not be permitted.
 - 4. Secure post-tensioning steel at the ends by means of anchoring devices capable of developing 95% of the specified tensile strength of the strand.
 - 5. Anchoring Hardware: ACI 318 or PCI "Standard Building Code for Prestressed Concrete".
 - 6. Grease and wrap tendons in plastic sheath to prevent bond, reduce friction and resist corrosion. Before concreting begins, repair by rewinding all tears or holes in the sheathing larger than 3-inches in length.
 - 7. Remove and replace broken strands and strands showing severe fabrication defects.
- B. Distribution Plates and Anchorages:
- 1. Secure post-tensioned prestressing steel at the ends with approved anchoring devices which will not kink, breakdown, or otherwise damage the wires.
 - 2. When headed wires are used the outside edge of holes for prestressing wire in stressing washer shall be not less than 1/4-inch from the root of the thread at the edge of the anchor, or as otherwise approved according to acceptable laboratory tests.
 - 3. Distribution Plates: Welded steel or cast steel bearing assemblies that will permanently support and distribute the load from the anchoring devices as follows:
 - a. Maximum concentrated bearing stress in concrete: Not to exceed that permitted by American Concrete Institute Building Code.
 - b. Bending Stresses in plates induced by the pull of prestressing steel: Not to exceed 20,000- psi for structural steel and 15,000-psi for cast steel, except as experimental data may indicate that higher stresses are satisfactory. For higher strength steel, corresponding higher stresses may be permitted.
 - c. Materials: ASTM A36 for structural shapes, or ASTM A148 for cast steel, or higher quality as required to meet stress requirements.
 - d. Design, fabrication, and erection: AISC standards.
 - e. Welding: AWS Standards.
 - f. Welders: Qualified in accordance with qualification tests specified in AWS Standards.
 - g. Bolts and Nuts: ASTM A325, high strength, use where shown.
 - h. Distribution plates may be omitted, if the bearing area of any anchoring

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device is sufficiently large so that the local concentrated bearing compressive stresses do not exceed the stresses permitted above or cause local failure.

C. Bonded Reinforcing Steel: ASTM A615.

1. Ties, stirrups and accessories: Grade 40.
2. All other bars: Grade 60.

D. Concrete:

1. Before the post-tensioning tendons are stressed concrete shall have obtained 75-percent of its design strength or as otherwise dictated by a bearing stress design in accordance with ACI 318.
2. Admixtures: Use only with prior written approval of the Engineer/Architect. Admixtures containing chloride ions will not be permitted.
3. Concrete Work: Comply with Section 303 of the current Whitebook/Greenbook Specifications for Public Works Construction and as amended by the project special provisions.
4. The concrete shall have a minimum 28-day strength as specified on the drawings. Components or admixtures with chloride, fluoride, sulphite, or nitrate ions or any other substance deleterious to prestressing steel shall not be used.
5. The chloride ion content of the concrete used in post-tensioned concrete contributed from the water, aggregate, cementitious materials and admixtures used in the mix shall not be greater than 0.06 percent by weight of cement.

E. Identification: All prestressing steel within every group or in the same member shall be of the same heat where practical. All tendons shall be assigned a proper heat and coil number and so identified on fabrication lists that are to be sent to the field with each shipment. Identify tendons in accordance with placing drawings. Unidentified steel shall not be allowed unless approved by the Architect/Engineer and tested.

F. Sheathing: All post-tensioning tendons shall be coated and sheathed with an approved slippage sheathing designed to prevent the intrusion of cement paste and the loss of the P-T coating material and be watertight and impermeable to water vapor over the entire length. Such sheathing shall enclose the prestressing steel that shall then be placed in the forms prior to placement of concrete. The sheathing shall be continuously extruded polyethylene or polypropylene with a minimum density of 0.034 lb./in., a minimum thickness of 50 mils, and an inside diameter at least .03 inches greater than the maximum diameter of the strand. The sheathing shall not rupture due to normal temperature changes, coiling and field handling. The sheathing material shall be chemically stable, without embrittlement or softening over the anticipated exposure temperature range and service life of the structure. It shall be non-reactive with concrete, prestressing steel, reinforcing steel, and corrosion preventive P-T coating. Heat-sealed or plastic-wrapped sheathing is not acceptable.

- G. P-T Coating: The corrosion preventive coating shall lubricate the tendon and permanently protect the prestressing steel against corrosion. It shall resist flow caused by gravity within the anticipated temperature range of exposure and provide non-brittle coating at the lowest anticipated temperature of exposure. It shall be chemically stable and non-reactive with prestressing steel, reinforcing steel, sheathing material, and concrete. The coating shall be applied under pressure to ensure the filling of the interstices between the individual wires of the strand. There shall be no voids or pockets between the sheathing and the coated strand for water or air to collect. The minimum amount of coating on the prestressing strand shall be 2.5 pounds of material per 100 feet of strand for a 0.5-inch diameter strand and 3.0 pounds per 100 feet for a 0.6-inch diameter strand. The P-T coating shall satisfy the requirements of table 1 of the "Specification for Unbonded Single-Strand Tendons and Commentary".
- H. Repair tape: The tape used to repair damaged sections of sheathing or to wrap exposed strand shall be a minimum of 2 inches wide and shall be of a color that contrasts with the sheathing. The tape shall be self-adhesive and moisture-proof and shall be non-reactive with the sheathing, P-T coating, prestressing steel, or concrete.

2.2 ANCHORAGES AND COUPLERS

A. Performance and Specification:

1. Anchoring hardware shall be steel and shall meet the minimum requirements set forth in ACI 318, except as modified herein. The anchorage shall be capable of developing at least 95% of the minimum specified ultimate strength of the prestressing steel without exceeding anticipated set and shall be capable of passing the static and dynamic tests as outlined in the PTI Post-Tensioning Manual. All anchorages, couplers, and miscellaneous hardware shall be the standard products as manufactured by the Post-Tensioning Supplier, unless shown otherwise, and shall be evaluated by the ICC Evaluation Service and be listed in a current Evaluation Service Report (ESR).
2. Anchors and couplers used shall include design features permitting a positive mechanical and watertight connection of the sheathing to the anchorage, and watertight closing of the wedge cavity, for stressing and non-stressing (fixed) anchorages. Friction connections between the anchor and the sheathing shall not be allowed. Intermediate stressing anchorages shall be designed to permit complete watertight encapsulation of the prestressing steel.
3. All anchorages shall have the demonstrated ability to remain watertight when subjected to a hydrostatic pressure of 1.25 psi over a period of 24 hours.
4. Sleeves used to connect the sheathing to the anchorages shall meet the same requirements as the sheathing for durability during fabrication, transportation, handling, storage, and installation; and have a minimum thickness of 50 mils. The overlap between the end of the extruded sheathing and the end of the sleeve and seal shall be a minimum of 4 inches. The sleeve shall be translucent or have another method to verify both that the P-T coating material is free of voids and the proper overlap with the sheathing.

- B. Size: Anchorages and distribution (bearing) plates shall be sized according to ACI 318 unless certified test reports are submitted proving acceptable deviation. Bursting steel shall be designed by the Post-Tensioning Supplier consistent with the anchorage to be provided.
- C. Anchorages at Construction Joints: At construction joints, all anchorages or tendon force distribution plates (bearing plates) shall be embedded in the first of the consecutive pours. Flat back castings, plates, etc. which are placed against previously cast concrete and then stressed shall not be allowed. Washer type grommets shall be used at construction joints if grout exclusion is necessary for the embedded item. Normal depth pockets at intermediate construction joints shall not be used unless adequate measures are taken to ensure that the pocket is completely filled with concrete during subsequent pours.
- D. Seating loss: Maximum allowable anchor slip or seating loss shall be 1/4 inch.

2.3 TENDON SUPPORT SYSTEM

- A. Slab Tendons: Support points shall consist of a bar support and continuous orthogonal steel as shown on the Contract Drawings. Bar supports shall be plastic, plastic tipped, epoxy coated, or stainless steel.
- B. For exterior exposure conditions, any supports that come in contact with the forming surface shall be plastic tipped stainless steel or high density plastic (grey in color).

2.4 PRE-CONSTRUCTION CONFERENCE

- A. Schedule and make arrangements with the manufacturer of post-tensioning strands for initial job site instruction of his personnel in placing strands.

PART 3 - EXECUTION

3.1 POST-TENSIONING STEEL PLACEMENT

- A. Profile: Post-tensioning tendons shall conform to the control points shown on the Contract Drawings and approved shop drawings and shall have a parabolic drape between supports unless noted otherwise. Harped tendons shall be straight between control points as shown on the drawings. Dimensions locating this profile apply to the center of gravity of the tendons. Low points of the tendons are at mid-span unless noted otherwise. Place the tendons normal to and concentric with anchorage plates. The transition curvature in tendon profile shall not start closer than 1 foot from end anchorages.
- B. Interference: Slight deviation in spacing of the slab tendons is permitted where required to avoid openings and inserts that are specifically located. Horizontal sweeps to miss openings, inserts, etc. shall have minimum radius of 480 strand diameters. Where radius of curvature less than 480 diameters is necessary, contact the Architect/Engineer before moving those tendons. Coordinate the placement of mild steel reinforcement with placement of post-tensioning tendons. Proper tendon location has priority. Maintain sufficient concrete cover around tendons. Coordinate bursting steel requirements with details and post-tensioning subcontractor.

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- C. Tolerances: Firmly support tendons and anchorages to prevent displacement during subsequent operations. Place them with a vertical tolerance of plus or minus 1/4 inch in concrete members with depths of 8 inches or less, plus or minus 3/8 inch in concrete depths over 8 inches but less than 24 inches, and plus or minus 1/2 inch in concrete depths over 24 inches. In no case shall tendons violate the absolute minimum cover stated in ACI 117. Maintain a minimum clearance of 6 inches at all openings. Twisting or entwining of individual tendons within a bundle is not permitted.
- D. Tendon Spacing: Maximum spacing of slab tendons shall be eight (8) times the thickness of the slab, but not greater than 54 inches, unless otherwise noted on the Contract Drawings. Bundle tendons in such a manner to allow proper concreting and the maintenance of the center of gravity of steel.
- E. Supports: Provide a sufficient number of horizontal and vertical positioning supports to firmly support tendons to prevent displacement due to construction operations. Spacing of supports shall not exceed 4'-0" on center. Show all support devices on the shop drawings.
- F. Welding: Welding of cross bars or any welding in the vicinity of the tendons is not allowed. Do not use post-tensioning tendons as an electrical ground for welding operations.
- G. Sheathing
 - 1. The sheathing shall be continuous from end to end of all stressing anchorages and all embedded dead ends including intermediate anchorages, unless shown otherwise on the Contract Drawings, or otherwise approved by the Architect/Engineer.
 - 2. After installing the tendons and prior to concrete placement, inspect the sheathing on each tendon for its entire length to detect possible damage. Repair any detected tears or abrasions by procedures conforming to the "Field Procedures Manual for Unbonded Single Strand Tendons" by PTI. The repair of sheathing shall prevent intrusion of cement paste or loss of coating. The repair of sheathing shall also be watertight and approved by the Architect/Engineer.
- H. Encapsulation: Complete the encapsulation of the post-tensioning system the same day as the tendons are installed.
- I. Couplers: Do not use tendon couplers without prior approval of the Architect and Structural Engineer.

3.2 ANCHORAGES AND BLOCK-OUTS

- A. Attachment
 - 1. Attach anchorages securely to bulkhead forms using fasteners that will not corrode or are protected from corroding such that the anchor is perpendicular to the tendon axis.

- B. Cover: Top, bottom, and edge concrete cover for anchorages shall be not less than the specified cover for reinforcement. Minimum concrete cover from the exterior edge of the concrete to wedge cavity area of anchor shall be 2 inches, unless otherwise noted on the drawings.
- C. Bursting Reinforcement:
 - 1. Provide and install bursting reinforcement behind anchorages as required by calculations subject to the following minimums:
 - a. Slab: Provide 2-#4 bars, one above and one below the tendon, continuous along concrete edges behind slab anchorages. Provide a #3 hairpin with 9" long legs around continuous #4's between each anchorage. Provide 2-#4 corner bars with 3'-6" legs, one each above and below the tendon center of gravity.
 - b. Beam: Provide 2-#4 bars, horizontal or vertical, with appropriate development length, behind all beam anchorages.
- D. Block-outs and Pockets:
 - 1. Adequately reinforce all block-outs or pockets required for anchorages so as to not decrease the strength of the structure.
 - 2. Pocket formers used to provide a void form at anchorages shall be designed to prevent intrusion of concrete or cement slurry into the wedge cavity.
 - 3. Do not coat block-out forms or pocket formers with grease, form oil, or any other substance that will decrease the bonding capacity of the patching grout to the surrounding concrete.
 - 4. Install sleeves and seals connecting sheathing to anchorage to completely seal tendon against moisture infiltration.

3.3 CONCRETE PLACEMENT

- A. Formwork: Do not remove forms in post-tensioned areas until concrete is fully stressed.
- B. Placement: Place the concrete in conformance with the requirements of the Specifications. Do not place the concrete until the Architect/Engineer, or Independent Testing Laboratory has inspected the placement of the mild steel reinforcement and tendons at the frequency established for the project. Place the concrete in such a manner as to ensure that alignment of post-tensioning tendons remains unchanged.
- C. Make special provisions to ensure proper vibration of the concrete around the anchorage plates. When concrete is distributed across an area being poured by way of horizontally supported slick-tube and/or rubber pump hose, the slick-tube and/or rubber hose shall be supported in such a way that does not contact the reinforcing steel or post-tensioning tendons. The slick-tube and/or rubber hose shall be braced to prevent surging of the lines

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that could dislodge the reinforcing and/or tendon locations. Monitor the tendon positioning during the concrete placement. All floors below the level that is to have concrete placement shall have been stressed before this concrete is placed, unless the shoring has been designed for the ensuing loads.

- D. Openings: Openings shall not be cut into cast concrete without the approval of the Architect/Engineer.

3.4 STRESSING

- A. Methods: Perform post-tensioning by methods and related equipment that are in conformance with generally accepted systems of post-tensioning. Variations of such generally accepted methods and equipment will be permitted with Architect/Engineer approval, provided equal results can be obtained.
- B. Concrete Strength: Do not begin the post-tensioning operations until tests or readings have indicated that the concrete in the members has attained a compressive strength that is adequate for the requirements of the anchorages but not less than 2500 psi unless otherwise specified on the Contract Drawings. See Concrete Forms section 303-1.3 for acceptable methods for determining *in situ* concrete strengths.
- C. Equipment: Stress all tendons by means of hydraulic rams, equipped with accurate reading hydraulic pressure gauges that have been individually calibrated with a particular ram to permit the stress in the prestressing steel to be computed at any time. A certified calibration curve shall accompany each ram and gauge set. Immediately recalibrate the ram and gauge set if inconsistencies between the measured elongation and the gauge reading occur.
- D. Forces: Anchor the prestressing steel at an initial or anchor force that will result in the ultimate retention of the working or effective stress shown on the plans. Jacking forces shall be those indicated on the shop drawings. The length of a tendon pull more than that shown by the required friction calculations or more than 125 feet for a one-way pull or 250 feet for a two-way pull is not permitted unless it is justified by calculations and specifically approved by the Architect/Engineer. The Field Inspector shall verify the wobble and curvature friction coefficients during the stressing operation and shall report to the Post-Tensioning Engineer deviations greater than 10% from the values assumed in the design. Required adjustments to the stressing operation shall be recommended by the Post-Tensioning Engineer and approved by the Architect/Engineer.
- E. Elongations: Keep records of all tendon elongations as previously described in this Section. Agreement within 7% between the gauge reading and the measured elongation and between the measured and the calculated elongation after stressing will be considered satisfactory. Deviations greater than 7% will be reported to the Architect/Engineer prior to completing stressing operation. No tensioning will be permitted until it is demonstrated that the prestressing steel is reasonably free and unbonded in the enclosure. Evidence that the steel is unbonded will be considered satisfactory if inward movement of steel is observed at one end of the tendon when a nominal pull is applied to the steel at the other end. The Architect/Engineer may order a force/elongation check at any time. Do not cut off tendons until elongation records have been reviewed and approved in writing by the Architect/Engineer.

- F. Stressing Sequence: The stressing sequence shall be as shown on the approved shop drawings. Use the following general stressing sequence except as otherwise noted or approved by the Architect/Engineer.
1. Slab:
 - Step #1. Stress temperature tendons, if applicable.
 - Step #2. Stress continuous uniform slab tendons.
 - Step #3. Stress added uniform slab tendons.
- G. Safety: Precautions shall be taken to prevent workers from standing directly behind, above or in front of the stressing rams.
- H. Broken Tendons: The total loss of prestressing force in any post-tensioned concrete member due to unreplaced broken tendons shall not exceed 2% of the total prestressing force, unless otherwise accepted by the Architect/Engineer.

3.5 GROUTING ANCHORAGE RECESSES

- A. Cut the tendon tails within 24 hours after the stressing records have been approved. Cut off the excess strand at least 1/2 inch inside the face of the finished concrete surface, and not more than 3/4 inch from the face of the anchorage. Cutting may be done by means of abrasive wheel, hydraulic shears, or, to prevent heating of the wedges, oxy- gasoline cutting flame is permitted. Do not allow the wedges to become heated.
- B. Cover the end of tendon with approved coating-filled encapsulation cap, or other approved method no more than 24 hours after the tendon tails have been cut to ensure encapsulation of the exposed tendon.
- C. Coat the anchorage recesses with an approved bonding agent and fill flush with a non-shrink, non-stain, chloride free grout compatible for use with prestressing steel or approved equal in accordance with manufacturer's recommendations. Do not allow contamination of the anchorage recess surface that reduces the bonding capacity of the non-shrink grout.

3.6 INSTALLATION SUPERVISION

- A. The duties of the post-tensioning installer's supervisor shall include:
1. Check tendon placement before and during pouring of concrete. Be present during pours and check for tendons being moved out of position.
 2. Mark tendons prior to stressing and verify with the Owner's Testing Laboratory that all initial marks are accurate.
 3. Observe that tendon elongation measurements are made and recorded by Testing Laboratory or, in the absence of a Testing Laboratory representative, measure, record and report tendon elongations after stressing and submit copy of original to Architect/Engineer.
 4. Compare results of actual tendon elongations with hydraulic ram gage reading and with calculated elongation.

5. Require checking of tendon force and/or elongation if requested by the Architect/Engineer.
6. Do not allow cutting off of tendons without the Architect/Engineer's written approval.

3.7 QUALITY ASSURANCE TESTING AND INSPECTION DURING CONSTRUCTION

- A. See Section 1.6 of these Specifications and the Special Inspections tables in the structural drawings for post-tensioning inspection and test requirements.

END OF SECTION 03 38 00

SECTION 04 20 00 - UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Slump block concrete masonry units.
 - 2. Mortar and grout.
 - 3. Steel reinforcing bars.
 - 4. Masonry-joint reinforcement.
 - 5. Masonry-cell fill.

1.3 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).
- B. Slump Block: A concrete block that is removed from the mold before it has a chance to completely set. This causes the concrete block to keep a slumped appearance like adobe brick.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
 - 2. Reinforcing Steel: Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315.
- B. Samples for Verification: For each type and color of the following:
 - 1. Slump Block CMUs.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Material Certificates: For each type and size of the following:

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1. Masonry units.
2. Cementitious materials. Include name of manufacturer, brand name, and type.
3. Mortar admixtures.
4. Reinforcing bars.
5. Joint reinforcement.
6. Anchors, ties, and metal accessories.

C. Mix Designs: For each type of mortar. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air content.
2. Include test reports, according to ASTM C1019, for grout mixes required to comply with compressive strength requirement.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM C1093 for testing indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.8 FIELD CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
1. Extend cover a minimum of 24 inches down both sides of walls, and hold cover securely in place.

- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
 - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
 - 2. Protect sills, ledges, and projections from mortar droppings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.
- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

2.2 PERFORMANCE REQUIREMENTS

- A. Provide unit masonry that develops indicated net-area compressive strengths at 28 days.

2.3 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated.

2.4 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
 - 1. Provide special shapes for jambs, bonding, and other special conditions.
- B. NON-STRUCTURAL CMUs: ASTM C129.
 - 1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi.
 - 2. Density Classification: Medium weight.
 - 3. Size: 6-inch x 4-inch x 16-inch. Manufactured to dimensions 3/8 inch less than nominal dimensions.

2.5 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
 - 1. Alkali content shall not be more than 0.1 percent when tested according to ASTM C114.

2.6 REINFORCEMENT

- A. Uncoated-Steel Reinforcing Bars: ASTM A615/A615M or ASTM A996/A996M, Grade 60.
- B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells. Units are formed from 0.148-inch steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Dur-O-Wal; a Hohmann & Barnard company.
 - b. Hohmann & Barnard, Inc.
 - c. Wire-Bond.
 - d. Or equal.
- C. Masonry-Joint Reinforcement, General: ASTM A951/A951M.
 - 1. Exterior Walls: Hot-dip galvanized carbon.
 - 2. Wire Size for Side Rods: 0.148-inch diameter.
 - 3. Wire Size for Cross Rods: 0.148-inch diameter.
- D. Masonry-Joint Reinforcement for Single-Wythe Masonry: Ladder type with single pair of side rods.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Wire-Bond.
 - b. Or equal.

2.7 MASONRY-CELL FILL

- A. Lightweight-Aggregate Fill: ASTM C331/C331M.

2.8 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Diedrich Technologies, Inc.; a Hohmann & Barnard company.
 - b. EaCo Chem, Inc.
 - c. PROSOCO, Inc.
 - d. Or equal.

2.9 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
1. Do not use calcium chloride in mortar or grout.
 2. For exterior masonry, use portland cement-lime, masonry cement or mortar cement mortar.
- B. Mortar for Unit Masonry: Comply with ASTM C270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is needed to provide required compressive strength of masonry.
1. For masonry below grade or in contact with earth, use Type M.
 2. For exterior, above-grade, load-bearing and nonload-bearing walls and parapet walls; for interior load-bearing walls; for interior nonload-bearing partitions; and for other applications where another type is not indicated, use Type N.
 3. For interior nonload-bearing partitions, Type O may be used instead of Type N.

PART 3- EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
 2. Verify that foundations are within tolerances specified.
 3. Verify that reinforcing dowels are properly placed.
 4. Verify that substrates are free of substances that impair mortar bond.

- B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.
- B. Build chases and recesses to accommodate items specified in this and other Sections.
- C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match construction immediately adjacent to opening.
- D. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- E. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- F. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.

3.3 TOLERANCES

- A. Dimensions and Locations of Elements:
 - 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch or minus 1/4 inch.
 - 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch.
 - 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch total.
- B. Lines and Levels:
 - 1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet or 1/2-inch maximum.
 - 2. For conspicuous horizontal lines, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, maximum.
 - 3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet maximum.

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4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet), maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet maximum..
6. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch (1.5 mm) except due to warpage of masonry units within tolerances specified for warpage of units.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch.
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
3. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4 inches. Do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.
- C. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, required before laying fresh masonry.
- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- E. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- F. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below, and rod mortar or grout into core.
- G. Fill cores in hollow CMUs with grout 24 inches under bearing plates, and similar items unless otherwise indicated.

3.5 MORTAR BEDDING AND JOINTING

- A. Lay CMUs as follows:
 - 1. Bed face shells in mortar and make head joints of depth equal to bed joints.
 - 2. Bed webs in mortar in grouted masonry, including starting course on footings.
 - 3. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.
 - 4. Fully bed units and fill cells with mortar at anchors and ties as needed to fully embed anchors and ties in mortar.
- B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

3.6 MASONRY-CELL FILL

- A. Pour lightweight-aggregate fill into cavities to fill void spaces. Maintain inspection ports to show presence of fill at extremities of each pour area. Close the ports after filling has been confirmed.
- B. Install molded-polystyrene insulation units into masonry unit cells before laying units.

3.7 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.
- B. Inspections: Special inspections according to Level C in TMS 402/ACI 530/ASCE 5.
 - 1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
 - 2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
 - 3. Place grout only after inspectors have verified proportions of site-prepared grout.
- C. Testing Prior to Construction: One set of tests.

3.8 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
 - 1. Crush masonry waste to less than 4 inches in each dimension.

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- 2. Do not dispose of masonry waste as fill within 18 inches of finished grade.
- C. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.
- D. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04 20 00

SECTION 06 16 00 - SHEATHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Roof sheathing.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated plywood.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS

- A. Emissions: Products shall meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- C. Factory mark panels to indicate compliance with applicable standard.

2.2 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b for exterior construction not in contact with ground,.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat all plywood unless otherwise indicated.

2.3 ROOF SHEATHING

- A. Plywood Sheathing: Either DOC PS 1 or DOC PS 2, Exterior, Structural I sheathing.
 - 1. Span Rating: Not less than 24/0.
 - 2. Nominal Thickness: Not less than 5/8 inch (15.9 mm).

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. For roof sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or of Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Screws for Fastening Sheathing to Wood Framing: ASTM C 1002.

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PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
 - 2. ICC-ES evaluation report for fastener.
- D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.
- E. Coordinate roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- F. Cut and space edges of panels to match spacing of structural support elements.
- G. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Roof Sheathing:
 - a. Nail to wood framing.
 - b. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION 06 16 00

SECTION 07 32 00 – CONCRETE ROOF TILES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Concrete tile roofing.
- B. Vented roof deck construction for tile roofing.

1.2 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM A 641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
 - 2. ASTM C 1492 - Standard Specification for Concrete Roof Tile.
 - 3. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 1997a.
 - 4. ASTM D 249 - Standard Specification for Asphalt Roll roofing (Organic Felt) Surfaced with Mineral Granules: 1989 (reapproved 1996).
 - 5. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 - 6. ASTM D 2626 - Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing; 1997b.
 - 7. ASTM D 4798 - Standard Practice for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Xenon-Arc Method).
 - 8. ASTM D 4869 - Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing.
- B. CAN/CSA-A220. 1-Series-06 Concrete Roof Tiles.
- C. City of Los Angeles Research Report - LA RR 25021.
- D. FRSA/TRI - Concrete and Clay Roof Tile Installation Manual Fifth Edition Revised (For Outside HVHZ Wind Zones).
- E. High Wind Applications: Florida Refer RAS 118, 119, 120.
- F. IAPMO ER 1900.
- G. IAPMO ER 2015 Concrete and Clay Roof Tile Installation Manual.
- H. ICC AC 180 - Acceptance Criteria for Clay and Concrete Roof Tiles. August 2007.
- I. ICC ER ESR 1787 Flex Seal, Flex Flash, Flex Vent.

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- J. Concrete and Clay Roof Tile Installation Manual (TRI) - Concrete and Clay Design Criteria for Cold and Snow Regions.

1.3 DESIGN REQUIREMENTS

- A. Roofing tile materials and installation shall conform to the requirements of IAPMO ER 1900 and LA RR 25021, and the 2015 Concrete and Clay Roof Tile Installation Manual.
- B. Roofing tile materials and installation shall conform to the requirements of agency having jurisdiction.
- C. Roofing tile materials and installation shall conform to the, International Building code for one and Two Family Dwelling and the 2022 California Building Code.
- D. Roofing tile materials and installation shall conform to the requirements of the 2022 California Building Code.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's data for each product to be used including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Shop Drawings: Indicate metal flashing profiles, joint locations, fastening locations and installation details. Indicate tile layout with location of cut and special shaped tiles identified.
- C. Selection Samples: For each finish product specified, submit samples indicating manufacturer's full range of available colors and patterns.
- D. Verification Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include range samples if variation of finish is anticipated.
- E. Certificates of Compliance: Submit to certify compliance with referenced standards.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Member of the Tile Roofing Institute.
- B. Installer Qualifications: License by the local/state authority and have the proper insurance to operate in your area.
- C. Installation: Refer to the Concrete and Clay Roof Tile Installation Manual ER 2015, FRSA/TRI Concrete and Clay Roof Tile Installation Manual Fifth Edition Revised, TAS 101 and RAS 118,119,120 for High Wind Zones (HVHZ).
- D. Compliance Reports for Eagle Roofing Products, from local agency having jurisdiction.

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- E. Product Requirements:
 - 1. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service.
- F. Mock-Up:
 - 1. Provide mock-up as required to demonstrate quality of workmanship.
 - 2. Finish areas designated by Architect.
 - 3. Do not proceed with remaining work until material and workmanship are approved by Architect.
 - 4. Modify mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store materials in accordance with manufacturer's instructions.
 - 1. Refer to the FRSA TRI 07320/8-05 Concrete and Clay Roof Tile Installation Manual Fifth Edition Revised section #1.04.
 - 2. Refer to roof loading guide MC-09 of the Concrete and Clay Roof Tile Installation Manual IAPMO ER 2015.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Maintain dry storage area for products of this section until installation of products.

1.8 PROJECT CONDITIONS

- A. Anticipate environmental conditions (temperature, humidity, and ventilation) to schedule work within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. Manufacturer shall warrant the products against manufacturing defects and shall include material and labor to repair or replace defective materials as specified in manufacturer's warranty.
 - 1. Warranty Period - Concrete Roof Tile: Lifetime Transferable Limited Product Warranty for concrete roof tile.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer:
 - 1. Basis of design - Eagle Roofing Products
 - 2. Or Equal.

2.2 TILE

- A. Concrete Roof Tile: As manufactured by selected manufacturer. Colors, details, and related materials to be selected by architect from manufacturers full range.
- B. Decking: Comply with FRSA/TRI 07320/8.05 Concrete and Clay Roof Tile Installation Manual.
- C. Underlayment: Comply with FRSA/TRI Manual Fifth Edition Revised 07320/8-05, Concrete and Clay Roof Tile Installation Manual.
- D. Arched Battens:
 - 1. Nominal 1 inch by 1-3/16 inches complying with IBC Chapter 23, section 2302.
 - 2. Comply with Section #3.11 pages #16-#17 and #82 of the FRSA/TRI 07320/8-05 Concrete and Clay Roof Tile Installation Manual Fifth Edition Revised.
 - 3. The Arched Batten as manufactured by Eagle Roofing Products. Product for elevating battens off of the roof deck.
- E. Eave Closure/Riser/Bird Stop: Comply with MC 10, MC-10A, 10B, 10C & or 10D (Concrete and Clay Roof Tile Installation Manual Installation Guide IAPMO ER 2015). Refer to drawings.
- F. Gable Treatment
 - 1. Underlayment Wrapped Gable:
 - a. Extend underlayment beyond rake/gable end. Fold down onto fascia or barge board, minimum of 1 inch (25 mm). Secure with nails and tin tags, round cap nails or other fasteners 6 inches (152 mm) on center.
 - b. Trim underlayment at fascia or barge board. Install a peel and stick underlayment extending underlayment beyond rake/gable end. Fold down and seal onto fascia or barge board.
- G. Rake/Gable Finish:
 - 1. Rake Gable Tile:
 - a. Install first rake tile the exposed length of first course of field tile with factory finish of rake tile towards the eave.
 - b. Fasten rake tile with a minimum two 10D nails and /or of sufficient length to penetrate the framing a minimum of 3/4 inch (19 mm).
 - c. About each succeeding rake tile to the nose of the field tile above and maintain a constant head lap.

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2. Mortar Finish:
 - a. Place mortar bed along roof edge.
 - b. Point smooth to a straight edge finish.
- H. Valley Flashings:
 1. No. 26 Gauge (G90) Galvanized 24 inches (610 mm) Flashing.
 2. Comply with Tile Roofing Institute Moderate Climate Installation Guide MC 12B.
 3. Comply with FRSA/TRI 07320/8-05 Fifth Edition Revised Installation Guide.
- I. Wall Trays (Pans) Flashing:
 1. No. 26 Gauge (G90) Galvanized minimum 6 inches (152 mm) trough.
 2. Comply with Concrete and Clay Roof Tile Installation Manual MC 12B.
 3. Comply with FRSA/TRI 07320/8-08 Fifth Edition Revised Installation Guide.
- J. Roof to Wall Flashing: No. 26 Gauge (G90) Galvanized or flexible flashing to provide minimum 3 inches (76 mm) coverage.
- K. Pipe Flashing:
 1. No. 26 Gauge (G90) Galvanized deck flashing installed with underlayment.
 2. Flat tile flashing - No. 26 Gauge (G90) Galvanized.
 3. High/Low profile tile flashing - 2-1/2 lb. lead, dead soft aluminum or copper.
- N. In Wall Counter Flashing:
 1. No. 26 Gauge (G90) Galvanized Z-Bar flashing recommended or surface mount ringlet (pin) flashing for reroofing applications.
- O. Tile Fasteners:
 1. Corrosive resistant fastener meeting ASTM A641 Class I or approved equal.
Number
11 gauge diameter and of sufficient length to penetrate 3/4 inch (19 mm) into or through the thickness of the deck or the batten. Comply with Concrete and Clay Roof
Tile Installation Manual Table 1A and 1B.
 2. Comply with FRSA/TRI 07320/8-05 Fifth Edition Revised Installation Guide.
 3. Screw Fasteners:
 - a. Corrosion resistant meeting ASTM A641 Class 1 and/or corrosion resistance
equal (according to ASTM B 117). Screws shall be 2-1/2 inches (64 mm) in
length or penetrate a minimum 3/4 inch (19 mm) into the deck or batten.
ASTM
A641 Class 1 is a nail specification that can be converted to screw fasteners
through performance testing (ASTM B 117). Each fastener manufacturer is
responsible for supplying this support this data. Minimum #8 course thread.
 4. High Wind Areas:
 - a. Eagle Roofing Products Wind Clips - Low profile, 2-7/8 inches (73 mm).
 - b. Eagle Roofing Products Wind Clips - High profile, 3-3/8 inches (86 mm).
 - c. Eagle Roofing Products Wind Clips - Flat profile, 2-1/4 inches (57 mm).

- d. Eagle Roofing Products Wind Clips - Flat fascia, 3/4 inch (19 mm).
 - e. Or Equal.
- 5. Special Application: Boosted Capistrano Installations.
 - a. Wire Ties: Bronze.
 - b. Wire Ties: Stainless Steel.

P. Adhesive/Sealant: Tile adhesive formulated for use with concrete roof tile.

Q. Ventilation: Per local building code requirement.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive tile to verify conditions. Do not commence tile installation until
unsatisfactory conditions are corrected.

3.2 TILE INSTALLATION

- A. Install in accordance with manufacturer's instructions and the following standards as applicable to the location of the project:
 - 1. Concrete and Clay Roof Tile Installation Manual IAPMO ER 2015 (TRI Guide).
 - 2. TRI/WSRCA Standard Installation Guides for Concrete and Clay Tile in Cold Weather Applications.
 - 3. FRSA/TRI 07320/8-05 Fifth Edition Revised Installation Guide IAPMO ER 2015.
 - 4. California High Wind Applications.
 - 5. CAN/CSA-A220. 1-Series-06 Concrete Roof Tiles.
 - 6. FRSA/TRI 07320/8-05 Fifth Edition Revised Installation Guide.
- B. Roof Layout: Layout according to TRI Guide MC 07, MC 08, MC 08A, MC 09.
Roof Layout: Layout according to FRSA/TRI 07320/8-05 Fifth Edition Revised.
Refer to
section # (3.08, 3.12).
- C. Battens: Install according to TRI Guide Table 1, Table 2, Table 3, MC 04 or MC-05, MC 06, MC 06A. FRSA/TRI 073020/8-05 Fifth Edition Revised. Refer to section #3.11 pages 16-17 and 82.
- D. Underlayment: Install according to TRI Guide MC 01A, MC 01B and manufacturer's instructions. FRSA/TRI 07320/8-05 Fifth Edition Revised. Quick Reference charts on pages 2, 23, 45, 67 and manufacturer's instructions.

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- E. Vent Pipes: Install according to TRI Guide MC 02. FRSA/TRI Fifth Edition Revised. See drawings 11,12,12,14 and 11-b, 12-b, and 14-b.
- F. Eave/Gable: Install according to MC 10, MC 10A, MC 10B, MC 20, MC 20A. FRSA/TRI 07320/8-05 Fifth Edition Revised. Refer to section 3.03 for eave and refer to sections 3.05, 3.15 and 4.09 for gable.
- G. Venting: Install according to TRI Guide MC 21, manufacturer's instructions and local code requirements.
- H. Hip and Ridge: Install according to TRI Guide MC 18, MC 18A, MC 18B. FRSA/TRI 07320/805 Fifth Edition Revised.
- I. Rake: Install according to TRI Guide MC 19, MC 19A, MC 19B. FRSA/TRI 07320/8-05 Fifth Edition Revised, refer to sections 4.09, 3.14 and 3.18.
- J. Valleys: Install according to TRI Guide MC 03, MC 03A, MC 17, MC 17A, MC 17B, MC 17C, MC 17D. FRSA/TRI 07320/8-05 Fifth Edition Revised, refer to sections 3.05 and 3.04 drawings 3, 4, 5 and 3b, 4b, 5b.
- K. Side Wall Flashing: Install according to TRI Guide MC 12, MC 12A, MC 13, MC 13A. FRSA/TRI 07320/8-05 Fifth Edition Revised drawing 7.
- L. Head and Apron Flashing: Install according to TRI Guide MC 11, MC 11A. FRSA/TRI 07320/8-05 Fifth Edition Revised drawings 8, 9, and 10.
- M. Chimneys: Install according to TRI Guide MC 14, MC 14A, MC 15, MC 15A.
- O. Gutters: Install according to manufacturer's instructions and local code requirements.

3.3 SPECIAL APPLICATIONS

- A. Slope changes - Refer to TRI Guide MC 22.
- B. Pre-Engineered Roof - Metal Deck - Refer to TRI Guide MC 25, MC 25A, MC 25B, MC 25C.
- C. Pre-Engineered Roof - Concrete Deck - Refer to TRI Guide MC 26, MC 26A.

- D. Spaced Sheathing - Refer to TRI Guide Appendix B.
- E. Adhesive Fastening - Refer to TRI Guide Appendix B.
- F. Adhesive Fastening Set Tile Guidelines;
 - 1. FRSA/TRI 07320/8-05 Fifth Edition Revised. System four underlayment Option "A".
And system Four Underlayment Option "B".
- G. Mortar Set Tile Guidelines:
 - 1. Refer to FRSA/TRI 07320/8-05 System Three.
- H. Design for High Wind - Refer to TRI Guide Appendix B. RAS 118, 199,120. 3.4

CLEAN-UP

- A. Remove all debris, including any cut dust, from roof daily.

3.5 REPAIR AND REPLACEMENT

- A. Comply with requirements of TRI Guide MC 24.

3.6 PROTECTION

- A. Protect material and take precautions to prevent other trades from damaging roof materials during and after installation.

END OF SECTION

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section includes:
 - 1. Exterior standard steel doors and frames.

1.3 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or ANSI/SDI A250.8.

1.4 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, core descriptions, and finishes.
- B. Shop Drawings: Include the following:
 - 1. Elevations of each door type.
 - 2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
 - 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
 - 4. Locations of reinforcement and preparations for hardware.
- C. Samples for Verification:

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- D. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal doors and frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal doors and frames vertically under cover at Project site with head up. Place on minimum 4-inch-high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Curries Company; ASSA ABLOY.
 2. Republic Doors and Frames.
 3. Steelcraft; an Allegion brand.
 4. Or equal.

2.2 EXTERIOR STANDARD STEEL DOORS AND FRAMES

- A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Maximum-Duty Doors and Frames: ANSI/SDI A250.8, Level 4; ANSI/SDI A250.4, Level A.
1. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: 1-3/4 inches.
 - c. Face: Metallic-coated steel sheet, minimum thickness of 0.067 inch, with minimum A60 coating.
 - d. Edge Construction: Model 1, Full Flush.
 - e. Edge Bevel: Provide manufacturer's standard beveled or square edges.

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- f. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
 - g. Core: Vertical steel stiffener.
- 2. Frames:
 - a. Materials: Metallic-coated steel sheet, minimum thickness of 0.067 inch, with minimum A60 coating.
 - b. Construction: Full profile welded.
- 3. Exposed Finish: Prime.

2.3 FRAME ANCHORS

- A. Jamb Anchors:
 - 1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
 - 2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.
 - 3. Postinstalled Expansion Anchor: Minimum 3/8-inch-diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.
- B. Floor Anchors for Concrete Slabs with Underlayment: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at top of underlayment.
- C. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
 - 1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M; hot-dip galvanized according to ASTM A153/A153M, Class B.

2.4 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M.
- C. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

2.5 FABRICATION

- A. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.
 - 1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
- B. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to ANSI/SDI A250.6, the Door Hardware Schedule, and templates.
 - 1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
 - 2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

2.6 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
 - 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.
- B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

- A. Install hollow-metal doors and frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions.
- B. Hollow-Metal Frames: Comply with ANSI/SDI A250.11.

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1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.
 - a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
 - b. Install frames with removable stops located on secure side of opening.
 2. Floor Anchors: Secure with postinstalled expansion anchors.
 - a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
 3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.
 4. In- Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
 5. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.
- C. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.
1. Non-Fire-Rated Steel Doors: Comply with ANSI/SDI A250.8.

3.3 FIELD QUALITY CONTROL

- A. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.4 REPAIR

- A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

END OF SECTION 08 11 13

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Cylinders specified for doors in other sections.
- C. Related Sections:
 - 1. Division 08 Section "Hollow Metal Doors and Frames".
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. NFPA 70 - National Electrical Code.
 - 4. NFPA 80 - Fire Doors and Windows.
 - 5. NFPA 101 - Life Safety Code.
 - 6. NFPA 105 - Installation of Smoke Door Assemblies.
 - 7. State Building Codes, Local Amendments.
- E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:
 - 1. ANSI/BHMA Certified Product Standards - A156 Series.
 - 2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
 - 3. ANSI/UL 294 - Access Control System Units.
 - 4. UL 305 - Panic Hardware.
 - 5. ANSI/UL 437- Key Locks.

1.2 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.
- D. Proof of Compliance: (California located Projects): Provide a list of product(s) containing chemicals known to cause cancer or reproductive toxicity as defined by the Office of Environmental Health Hazard Assessment (OEHHA) under Proposition 65 (CA Code of Regulations, Title 27, Section 27001). The list includes the specific chemical(s), if the chemical will be exposed to consumers, the means of warning, and an illustration of the label.
- E. Informational Submittals:
1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

- F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity.

1.3 QUALITY ASSURANCE

- A. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).
- B. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
- C. California Building Code: Provide hardware that complies with CBC Section 11B.
1. All openings as a part of an accessible route shall comply with CBC Section 11B-404.
 2. The clear opening width for a door shall be 32" minimum. For a swinging door it shall be measured between the face of the door and the stop, with the door open 90 degrees. There shall be no projections into it below 34" and 4" maximum projections into it between 34" and 80" above the finish floor or ground. Door closers and stops shall be permitted to be 78" minimum above the finish floor or ground. CBC Section 11B-404.2.3.
 3. Operable hardware on accessible doors shall comply with CBC Section 11B-309.4 and shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. Operable parts of such hardware shall be 34" minimum and 44" maximum above finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.
 4. Hardware (including panic hardware) shall not be provided with "nightlatch" function for any accessible doors or gates unless the following conditions are met:
 - a. Such hardware has a 'dogging' feature and is dogged during the time the facility is open.
 - b. All 'dogging' operation is performed only by employees as their job function (non-public use).
 5. The force for pushing or pulling open a door shall be in accordance with CBC Section 11B-404.2.9.
 - a. Interior hinged doors, sliding or folding doors, and exterior hinged doors: 5 pounds (22.2 N) maximum. Required fire doors: the minimum opening force allowable by the DSA authority, not to exceed 15 pounds (66.7N).

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- These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.
- b. The force required for activating any operable parts, such as lever hardware, or disengaging other devices shall be 5 pounds (22.2N) maximum to comply with CBC Section 11B-309.4.
 - c. The 5 pound (22.2 N) maximum force shall be validated for the size of the door used. The Building Materials Listing of the California State Fire Marshal shall indicate that the door hardware meets the 5 pound (22.2 N) force and shall also list the largest door that can be used.
6. Door closing speed shall comply with CBC Section 11B-404.2.8. Closers shall be adjusted so that the required time to move a door from an open position of 90 degrees to a position of 12 degrees from the latch is 5 seconds minimum. Spring hinges shall be adjusted so that the required time to move a door from an open position of 70 degrees to the closed position is 1.5 seconds minimum.
 7. Floor stops shall not be located in the path of travel and 4" maximum from walls.
 8. Thresholds shall comply with CBC Section 11B-404.2.5.
- D. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.
- E. Keying Conference: Conduct Keying conference to incorporate the following criteria into the final keying schedule document:
1. Function of building, purpose of each area and degree of security required.
 2. Plans for existing and future key system expansion.
 3. Requirements for key control storage and software.
 4. Installation of permanent keys, cylinder cores and software.
 5. Address and requirements for delivery of keys.
- F. Pre-Submittal Conference: Conduct coordination with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 3. Review sequence of operation narratives for each unique access controlled opening.
 4. Review and finalize construction schedule and verify availability of materials.
 5. Review the required inspecting, testing, commissioning, and demonstration procedures

- G. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.5 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.6 WARRANTY

- A. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- B. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Please note that ASSA ABLOY is transitioning the Yale Commercial brand to Arrow. This affects only the brand name; the products and product numbers will remain unchanged. The brand transition is expected to be complete in or about May of 2024, and products shipping after that time will be branded Arrow.
- D. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 BUTT HINGES

- A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
 - 1. Quantity: Provide the following hinge quantity:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
 - 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
 - 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

- a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
- 4. Hinge Options: Comply with the following:
 - a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
- 5. Manufacturers:
 - a. McKinney (MK) - TA/T4A Series, 5 knuckle.
 - b. Or Equal.

2.3 CYLINDERS AND KEYING

- A. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:
 - 1. Threaded mortise cylinders with rings and cams to suit hardware application.
 - 2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 - 3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
 - 4. Tubular deadlocks and other auxiliary locks.
 - 5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 - 6. Keyway: Match Facility Restricted Keyway.
- B. Small Format Interchangeable Cores: Provide small format interchangeable cores (SFIC) as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.
- C. Permanent Cores: Match standard. Installation to be included under Division 08 "Door Hardware" base bid package.
 - 1. Small Format Interchangeable Cores: Core insert, removable by use of a special key; usable with other manufacturers' cylinders.
- D. Patented Cylinders: ANSI/BHMA A156.5, Grade 1 Certified Products Directory (CPD) listed cylinders employing a utility patented and restricted keyway requiring the use of a patented key. Cylinders are to be protected from unauthorized manufacture and distribution by manufacturer's United States patents.
 - 1. Patented key systems shall not be established with products that have an expired patent. Expired systems shall only be specified and supplied to support existing systems.

2. Manufacturers:
 - a. dormakaba Best (BE) - CORMAX.
 - b. Or Equal.
- E. Keying System: Each type of lock and cylinders to be factory keyed.
 1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
 3. Existing System: Field verify and key cylinders to match Owner's existing system.
- F. Key Quantity: Provide the following minimum number of keys:
 1. Change Keys per Cylinder: Two (2)
 2. Master Keys (per Master Key Level/Group): Five (5).
 3. Construction Keys (where required): Ten (10).
 4. Construction Control Keys (where required): Two (2).
 5. Permanent Control Keys (where required): Two (2).
- G. Construction Keying: Provide temporary keyed construction cores.
- H. Key Registration List (Bitting List):
 1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
 2. Provide transcript list in writing or electronic file as directed by the Owner.
- I. Cylinders – Best Mortise 1E74 x RP3 x cam
 1. Removable interchangeable core
 2. 7-pin Best "Patented/Standard" Existing Best key system
 3. 7-pin Best "Patented Peaks/CorMax" New Construction Best key system
 4. 2 keys per lockset
 5. All cylinder and cores must be manufactured by BEST
 6. All cores are to be keyed into the existing Best Master key system
 7. Provide all locksets and cylinders with construction cores for contractor use
Permanent cores provided at project
- A. All cylinders will be Best 7-pin, interchangeable core and keyed into an existing factory registered Grand Master key System. All seven pins to be operational.
- B. Furnish permanent cores to City Lock shop for final installation unless provided by manufacturer.

C. Temporary cores (construction cores) will be installed by Contractor for security purposes.

Temporary cores will be keyed alike and interchangeable with Best core:

Cores provided by manufacturer.

D. Contractor will provide to the City Lock shop copies of Control key and Operating key upon completion.

E. All keys and cores will have visual key control.

F. All keys will be stamped "City of San Diego", and "Do Not duplicate"

G. The Electric Meter Room will have S.D.G. & E. lock installed. The cylinder will be keyed to Schlage key way VTQP AA-10. Three keys are provided with lock. All keys are to be turned over to the City of San Diego Lock shop at completion of the project. The contractor will obtain lock from any contracted S. D.G. & E. Locksmith for installation.

2.4 KEY CONTROL

- A. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.

1. Manufacturers:

- a. Lund Equipment (LU).
- b. MMF Industries (MM).
- c. Telkee (TK).
- d. Or Equal.

2.5 MORTISE LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): Provide ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed mortise locksets. Listed manufacturers shall meet all features and functionality as specified herein.

1. Manufacturers:

- a. Corbin Russwin Hardware (RU) - ML2000 Series.
- b. Sargent Manufacturing (SA) - 8200 Series.
- c. BEST dormakaba Group (BE) – 40H Series.
- d. Or Equal.

2.6 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.7 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. Exit devices shall have a five-year warranty.
2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
6. Flush End Caps: Provide flush end caps made of architectural metal in the same finish as the devices as in the Hardware Sets. Plastic end caps will not be acceptable.
7. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
 - a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
 - b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
8. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise

indicated. Provide dust proof strikes where thermal pins are required to project into the floor.

9. Rim Exit Devices: Exit device rails shall release with less than 5 pounds of pressure per the California Building Code.
 10. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
 11. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
 12. Rail Sizing: Provide exit device rails factory sized for proper door width application.
 13. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.
- B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed exit devices. Listed manufacturers shall meet all functions and features as specified herein.
1. Provide exit devices with functions and features as follows:
 - a. Where required by code, provide knurling or abrasive coating on all levers leading to hazardous areas.
 - b. Meets UL and CUL Standard 10C Positive Pressure, Fire Test of Door Assemblies with levers that meet A117.1 Accessibility Code.
 - c. No catch points: addition of applied deflectors or other added components are not allowed.
 - d. No visible plastic.
 - e. Heavy duty end caps with flush and overlapping options made of stainless steel, brass, or bronze with architectural finishes.
 - f. Constructed of all stainless steel.
 - g. Stainless steel pullman type latch with deadlock feature.
 - h. Narrow or wide style exterior trim as specified in the hardware sets.
 - i. Center case adjustability on concealed vertical rod exit devices; single operation with hex key individually adjusts top or bottom latches. No retainer screws or clips required to maintain adjustment.
 - j. Ten-year limited warranty for mechanical features.
 2. Manufacturers:
 - a. Sargent Manufacturing (SA) - PE80 Series.
 - b. Or Equal.

2.8 DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.

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2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Heavy duty surface mounted door closers shall have a 30-year warranty.
2. Manufacturers:
 - a. Norton Rixson (NO) - 7500 Series.
 - b. Sargent Manufacturing (SA) - 351 Series.
 - c. LCN (LC) – 4040CP Series.
 - d. Or Equal.

2.9 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:

- a. Stainless Steel: 300 grade, 050-inch thick.
- 5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
- 6. Manufacturers:
 - a. Rockwood (RO).
 - b. OR Equal.

2.10 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 - 1. Manufacturers:
 - a. Rockwood (RO).
 - b. Or Equal.
- C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
 - 1. Manufacturers:
 - a. Norton Rixson (RF).
 - b. Sargent Manufacturing (SA).
 - c. OR Equal.

2.11 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
 - C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.
 - D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
 - E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
 - F. Manufacturers:
 1. Pemko (PE).
 2. Or Equal.
- 2.12 FABRICATION
- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.
- 2.13 FINISHES
- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
 - B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
 - C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
 - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant.
- E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is

properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
 1. Quantities listed are for each pair of doors, or for each single door.
 2. The supplier is responsible for handing and sizing all products.
 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

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4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

Hardware Sets

Set: 1.0

Doors: 2

3 Hinge, Full Mortise, Hvy Wt	T4A3386 (NRP)	US32D	MK
1 Rim Exit Device	LC PE8806 NEP	US32D	SA
1 Core	Temp Core	626	BE
1 Cylinder	Rim 12E_	626	BE
1 Surface Closer	351 CPS	EN	SA
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Gasketing	303AS		PE
1 Sweep	18062CNB		PE
1 Threshold	Per Sill Detail		PE

Set: 2.0

Doors: 1

3 Hinge, Full Mortise	TA2314 (NRP)	US32D	MK
1 Storeroom/Closet Lock	LC 8204 LNP	US32D	SA
1 Cylinder	Mortise 1E74 x RP3 x cam	626	BE
1 Core	Temp Core	626	BE
1 Surface Closer	351 CPS	EN	SA
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Gasketing	303AS		PE
1 Sweep	18062CNB		PE
1 Threshold	Per Sill Detail		PE

Set: 3.0

Doors: 3

3 Hinge, Full Mortise	TA2314 (NRP)	US32D	MK
1 Storeroom/Closet Lock	LC 8204 LNP	US32D	SA
1 Cylinder	Mortise 1E74 x RP3 x cam	626	BE

DOOR HARDWARE

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1 Core	Temp Core	626	BE
1 Surf Overhead Stop	10-X36	630	RF
1 Surface Closer	351 O	EN	SA
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Gasketing	303AS		PE
1 Sweep	18062CNB		PE
1 Threshold	Per Sill Detail		PE

Set: 4.0

Doors: 10, 11, 12, 5, 6, 7, 8, 9

3 Hinge, Full Mortise	TA2314 (NRP)	US32D	MK
1 Bathroom Lock	LB LC V21 8225 LNP	US32D	SA
1 Cylinder	Mortise 1E74 x RP3 x cam	626	BE
1 Core	Temp Core	626	BE
1 Wall Stop	403	US26D	RO
3 Silencer	608-RKW		RO

Set: 5.0

Doors: 4

3 Hinge, Full Mortise	TA2314 (NRP)	US32D	MK
1 Passage Latch	8215 LNP	US32D	SA
1 Wall Stop	403	US26D	RO
3 Silencer	608-RKW		RO

END OF SECTION 087100

SECTION 09 91 13 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following exterior substrates:
 - 1. Concrete masonry units (CMUs).
 - 2. Steel and iron.
 - 3. Galvanized metal.
 - 4. Wood.
 - 5. Portland cement plaster (stucco).

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Apply coats on Samples in steps to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.4 QUALITY ASSURANCE

- A. Paint Contractor shall have a minimum of five years documented experience in application of paints and coatings specified. Contractor shall maintain qualified painting crews during entire painting process.

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- B. Regardless of selected paint manufacturer, Contractor is to provide exact color and gloss to match Architect's selection at no additional cost.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints in rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1.7 EXTRA MATERIALS

- A. Do not provide any extra materials.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. PPG Industries.
 - 2. Sherwin-Williams Company (The).
 - 3. Vista Paint Corporation.
 - 4. Or Equal.

2.2 PAINT, GENERAL

- A. Do not provide materials that contain substances classified by the Global Hazard System as carcinogenic.
- B. Do not provide materials that contain substances listed in the Significant New Use Rule (SNUR) under Toxic Substances Control Act (TSCA).
- C. Material Compatibility:

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1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- D. Colors: As selected by Architect from manufacturer's full range.
- E. Material Quality: Provide manufacturer's best quality paint material of the various types specified that are factory formulated and recommended by manufacturer for application indicated. Use only paint material containers displaying manufacturer's product identification.
- F. Regulatory Requirements: Coatings shall comply with the testing and product requirements of San Diego Air Pollution Control District Rule 67.0 "Architectural Coatings."

2.3 BLOCK FILLERS

- A. Exterior Latex Block Filler:
1. Frazee Paint; C302 Pro Tech Block Filler.
 2. Sherwin-Williams Company; B25W25 Block Filler.
 3. Vista Paint Corporation; 40 Block Kote.
 4. Or Equal.
- B. Acrylic Bonding Primer (for previously painted surfaces):
1. PPG Industries; Primer 17-921 Seal Grip Primer
 2. Sherwin-Williams Company; PrepRite ProBlock B51W8020.
 3. Vista Paint Corporation; 4000 Uniprime.
 4. Or Equal.

2.4 METAL PRIMERS

- A. Acrylic Ferrous Metal Primer:
1. PPG Industries; 4020PF Pitt-Tech Plus Primer
 2. Sherwin-Williams Company; ProCryl B66.
 3. Vista Paint Corporation; 4800 Metal Pro Acrylic Primer.
 4. Or Equal.
- B. Acrylic Galvanized and Non-Ferrous Metal Waterborne Primer. (Galvanized metal shall be acid-etched with manufacturer's recommended phosphoric acid solution and rinsed before priming.):
1. PPG Industries; 4020PF Pitt-Tech Plus Primer
 2. Sherwin-Williams Company; ProCryl B66.
 3. Vista Paint Corporation; 4800 Metal Pro Acrylic Primer.
 4. Or Equal.

2.5 WOOD PRIMERS

- A. Exterior Latex Wood Primer:
 - 1. PPG Industries; 17-921 Seal Grip Primer
 - 2. Sherwin-Williams Company; Prep Rite Pro Block B51W8020.
 - 3. Vista Paint Corporation; 4200 Terminator.
 - 4. Or Equal.

2.6 EXTERIOR LATEX PAINTS

- A. Exterior Acrylic Latex (Flat):
 - 1. PPG Industries; 6-610XI Speedhide Exterior Flat
 - 2. Sherwin-Williams Company; A-100 Flat A6.
 - 3. Vista Paint Corporation; 2000 Duratone.
 - 4. Or Equal.
- B. Exterior Acrylic Latex (Semigloss):
 - 1. PPG Industries; 6-900XI Speedhide Exterior Semigloss
 - 2. Sherwin-Williams Company; Sologloss Acrylic Semigloss A 76 Series.
 - 3. Vista Paint Corporation; 8400 Carefree.
 - 4. Or Equal.
- C. Exterior Acrylic Latex (Gloss):
 - 1. PPG Industries; 6-8534 Speedhide Interior/Exterior Gloss
 - 2. Sherwin-Williams Company; Sologloss Acrylic Gloss A77 Series.
 - 3. Vista Paint Corporation; 8500 Carefree Gloss.
 - 4. Or Equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Masonry CMUs: 12 percent.
 - 2. Wood: 15 percent.
 - 3. Portland Cement Plaster: 12 percent.
 - 4. Gypsum Board: 12 percent.
- C. Portland Cement Plaster Substrates: Verify that plaster is fully cured.

- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Concrete Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
- E. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
 - 1. SSPC-SP 2.
 - 2. SSPC-SP 11.
- F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- G. Exterior Plaster Substrates: Verify that exterior plaster has fully cured.
- H. Plastic Trim Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates
- I. Wood Substrates:
 - 1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
 - 2. Sand surfaces that will be exposed to view, and dust off.
 - 3. Prime edges, ends, faces, undersides, and backsides of wood.

4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
 1. Use applicators and techniques suited for paint and substrate indicated.
 2. Apply paints to meet manufacturer's recommended dry film thickness per coat.
 3. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 4. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 5. Paint entire exposed surface of window frames and sashes.
 6. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 7. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 1. Paint the following pre-painted work where exposed to view:
 - a. Equipment, including panelboards and switch gear.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Tanks that do not have factory-applied final finishes.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 1. Contractor shall touch up and restore painted surfaces damaged by testing.

2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE.

- A. CMU Substrates:
 1. Latex System:
 - a. Prime Coat: Exterior Latex Block Filler.
 - b. Intermediate Coat: Exterior Acrylic Latex.
 - c. Topcoat: Exterior Acrylic Latex, flat
- B. Steel and Iron Substrates:
 1. Acrylic System:
 - a. Prime Coat: Acrylic Ferrous Metal Primer.
 - b. Intermediate Coat: Exterior Acrylic Latex.
 - c. Topcoat: Exterior Acrylic Latex, semigloss.
- C. Galvanized-Metal Substrates:
 1. Latex System:
 - a. Pretreatment: Non-ferrous metal pretreatment recommended by paint system manufacturer.
 - b. Prime Coat: Acrylic Galvanized and Non-Ferrous Metal Waterborne Primer.
 - c. Topcoats: Two coats of Exterior Acrylic Latex, semigloss.
- D. Aluminum Substrates:
 1. Latex System:

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- a. Prime Coat: Quick Dry Aluminum Primer.
- b. Intermediate Coat: Exterior Latex, match topcoat.
- c. Topcoat: Exterior Latex, semigloss.

E. Wood Substrates: Exposed framing.

1. Latex System:

- a. Prime Coat: Exterior Latex Wood Primer.
- b. Intermediate Coat: Exterior Acrylic Latex.
- c. Topcoat: Exterior Acrylic Latex, **[flat]** [semigloss] **[gloss]**.

F. Portland Cement Plaster Substrates:

1. Latex System

- a. Prime Coat: Exterior Acrylic Latex.
- b. Topcoat: Exterior Acrylic Latex, flat.

END OF SECTION 09 91 13

SECTION 101423 - PANEL SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Panel signs.

1.3 DEFINITIONS

- A. Accessible: In accordance with the accessibility standard.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:
 - 1. Panel Signs: Full-size Sample.

1.5 FIELD CONDITIONS

- A. Field Measurements: Verify locations of anchorage devices embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Deterioration of finishes beyond normal weathering.
 - b. Deterioration of embedded graphic image.

- c. Separation or delamination of sheet materials and components.
- 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Accessibility Standard: Comply with applicable provisions in the ABA standards of the Federal agency having jurisdiction and ICC A117.1.

2.2 PANEL SIGNS

- A. Panel Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ACE Sign Systems, Inc.
 - b. ASE, Inc.
 - c. ASI Sign Systems, Inc.
 - d. Or equal.
 - 2. Solid-Sheet Sign: Aluminum sheet with finish specified in "Surface Finish and Applied Graphics" Subparagraph and as follows:
 - a. Thickness: Manufacturer's standard for size of sign.
 - b. Surface-Applied, Raised Graphics: Applied Braille.
 - c. Etched and Filled Graphics: Sign face etched or routed to receive enamel-paint infill.
 - 3. Mounting: Manufacturer's standard method for substrates indicated.
 - 4. Surface Finish and Applied Graphics:
 - a. Integral Aluminum Finish: Anodized color as selected by Architect from full range of industry colors and color densities.
 - b. Baked-Enamel or Powder-Coat Finish and Graphics: as selected by Architect from manufacturer's full range.
 - c. Painted Finish and Graphics: Manufacturer's standard, factory-applied.
 - 5. Text and Typeface: Accessible raised characters and Braille.

2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following unless otherwise indicated:

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1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish stainless-steel devices.
3. Exposed Metal-Fastener Components, General:
 - a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.
 - b. Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant Allen-head spanner-head or one-way-head slots unless otherwise indicated.
4. Sign Mounting Fasteners:
 - a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material or screwed into back of sign assembly unless otherwise indicated.
 - b. Projecting Studs: Threaded studs with sleeve spacer, welded or brazed to back of sign material or screwed into back of sign assembly, unless otherwise indicated.
 - c. Through Fasteners: Exposed metal fasteners matching sign finish, with type of head indicated, and installed in predrilled holes.

2.4 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
 1. Preassemble signs in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
 2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
 3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
 4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
 5. Internally brace signs for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
 6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

2.5 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 ALUMINUM FINISHES

- A. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.
- C. Verify that anchorage devices embedded in permanent construction are correctly sized and located to accommodate signs.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
 - 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
 - 2. Install signs so they do not protrude or obstruct according to the accessibility standard.
 - 3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
 - 4. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- B. Accessible Signage: Install in locations on walls as indicated on Drawings and according to the accessibility standard.
- C. Mounting Methods:

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1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
 - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
 - b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.

3.3 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 10 14 23

SECTION 10 22 13 - WIRE MESH PARTITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SYSTEM DESCRIPTION

- A. Bird Screen Welded Wire Mesh Barriers: This specification details its use for pest bird and nuisance animal barriers, closures and exclusion.
- B. Mounting Hardware: Stainless steel and/or weather resistant hardware for fastening the Bird Screen Welded Wire Mesh Barriers to all types of surfaces
- C. Surface Cleaning System: Surface sanitizers, deodorizers and cleaners to neutralize hazardous bird/animal waste and properly prepare the surface for installation.

1.3 DEFINITIONS

- A. Intermediate Crimp: Wires pass over one and under the next adjacent wire in both directions, with wires crimped before weaving and with extra crimps between the intersections.
- B. Lock Crimp: Deep crimps at points of the intersection that lock wires securely in place.

1.4 QUALITY ASSURANCE

- A. Installer must obtain, review and understand all literature and mechanical specifications on the Bird Screen Welded Wire Mesh Barriers.
- B. Installer must be completely familiar with the proper installation procedures for the Bird Screen Welded Wire Mesh Barriers.
- C. Installer should contact manufacturer for any updated or newly developed planning or procedural information that may be pertinent to the installation.

1.5 SUBMITTALS

- A. Product literature on the specified grade of Bird Screen Welded Wire Mesh Barrier, the recommended fasteners and the specified Surface Cleaning System.

Contractor to complete worksheet detailing the scope of the Bird Screen Welded Wire Mesh Barrier installation including the mounting hardware type, location and spacing.

1.6 STORAGE & HANDLING

- A. Provide storage to keep all rolls of Welded Wire Mesh Barrier dry, clean and undamaged. Do not stack other packaging or objects on the rolls. B. Keep in the original packaging or on shipping pallet until needed for installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Manufacturer: Subject to compliance with requirements, provide products by the following:
1. Nixalite of America Inc.
 2. ABC Advanced Bird Control.
 3. McNicholas Company
 4. Or equal.

2.2 MATERIALS

- A. Steel Mesh Wire: ASTM A 510.
1. Mesh material: 304 stainless steel.
 2. Mesh size: 1 inch square mesh 1/4" wire Roll size: 4ft wide x 100ft long
 3. Weight: 130 lbs. per roll.
 4. Percentage of open space: 82.1%
- B. Steel Plates, Channels, Angles, and Bars: ASTM A 36/A 36M.
- C. Steel Sheet: Cold-rolled steel sheet, ASTM A 1008/A 1008M, Commercial Steel (CS), Type B.
- D. Steel Pipe: ASTM A 53/A 53M, Schedule 40, unless another weight is indicated or required by structural loads.
- E. Steel Tubing: ASTM A 500/A 500M, cold-formed structural-steel tubing or ASTM A 513, Type 5, mandrel-drawn mechanical tubing.
- F. Panel-to-Panel Fasteners: Manufacturer's standard steel bolts, nuts, and washers.
- G. Post-Installed Anchors: Capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
- H. Powder-Driven Fasteners: ICC-ES AC70.

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2.3 WIRE MESH MOUNTING HARDWARE

- A. Installer to contact manufacturer for up-to-date information and recommendations for hardware applications, item combinations, new items and new procedures. Use the hardware system recommended by the manufacturer.
- B. Mounting Hardware: All stainless steel mounting hardware including; mounting clips, sheet metal screws, wood screws masonry anchors, drive screws and ductile stainless wire ties.
- C. Clips: All stainless steel U-shaped brackets with mounting holes. Accepts sheet metal screw and drive screw. Fits over the edges of the Bird Screen Welded Wire Mesh Barriers.
- D. Additional Installation Methods: Contact manufacturer for details regarding details and procedures.

2.4 SURFACE CLEANING SYSTEM

- 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 nonresidual 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).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Visually inspect the surfaces that will receive the Bird Screen Welded Wire Mesh Barriers, the mounting hardware and all areas that will end up behind or inside the barrier installation. Note damaged surfaces or incomplete construction that could compromise the integrity of the barrier installation.
- B. Note all areas, surfaces or objects that may require maintenance or periodic replacement after the Bird Screen Welded Wire Mesh Barrier is installed (i.e. lights, electrical equipment, etc.). Use the appropriate fastening system to allow access behind the installation.
- C. Note any objects or conditions that could damage the Bird Screen Welded Wire Mesh Barrier. Install the mesh in a manner as to avoid these conditions

3.2 PREPARATION

S. DE ANZA PARK IMPROVEMENTS FINAL SUBMITTAL

- A. Field Measurements: Verify dimensions of the areas to be enclosed. Make sure you have sufficient quantity of Bird Screen Welded Wire Mesh Barrier, installation hardware and surface cleaning products to properly complete the installation.

3.3 SURFACE CLEANING

- A. All surfaces to be clean, dry and free of obstructions before the Bird Screen Welded Wire Mesh 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 Manufacturer'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 Manufacturer's surface cleaning products.
- D. Use Manufacturer's anti-microbial and anti-bacterial personal protection products to help prevent disease transmittal when working around surfaces contaminated with bird.

3.4 INSTALLATION

- A. Install the Bird Screen Welded Wire Mesh Barrier as recommended by manufacturer.
- B. If necessary cut the Bird Screen Welded Wire Mesh Barrier to fit the area. For fast cutting, use thin cut-off discs for metal on a small, hand held angle grinder. Good for long and/or repetitive cuts of welded wire mesh. For precision cutting, use hand operated metal shears made for heavy gage metal. Good for cutting odd shapes and detail work.
- C. If following a radius or curved surface, bend the mesh to follow the contour. Forming to a curved or round surface will require additional installation hardware. **DO NOT BEND MESH AROUND CORNERS.** Cut the mesh flush to the edge of the corner (inside or outside corner), fasten as recommended, and then begin a new run of mesh on the opposite side of the corner.
- D. Mounting Hardware: Snap stainless steel mounting clips onto top and bottom edges of wire mesh at 12 inch center to center. Use Manufacturer's fastener best suited to the installation surface to secure mesh to the surface.
- E. Clip Mounting: Place clips over the outside edges of the wire mesh at 12 inch center to center intervals. Secure each clip in place with the Manufacturer's fastener best suited to the installation surface.
- F. If joining separate pieces of mesh together end to end, overlap by at least 2 mesh mesh and secure with the appropriate wire tie or fastener.
- G. Install Bird Screen Welded Wire Mesh Barriers to avoid contact with machinery, vehicles, etc. Make necessary adjustments to keep the installation a sufficient distance from these objects or conditions.
- H. Finished Welded Wire Mesh Barrier installation to be clean, straight and gap-free.

WIRE MESH PARTITIONS

10 22 13 - 4

3.5 ADJUSTMENTS / CLEANING

- A. Remove debris and waste from project site. Inspect finished installation. Make any adjustments needed to conform to specifications.
- B. Bird Screen Welded Wire Mesh Barriers are a physical and passive barrier. It relies on optimal placement and proper installation. Each installation of mesh barrier 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 wire mesh 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 10 22 13

SECTION 10 28 00 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.
 - 2. Warm-air dryers.

1.3 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3. Include electrical characteristics.
- B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1. Identify locations using room designations indicated.
 - 2. Identify accessories using designations indicated.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For manufacturer's special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For accessories to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Regulatory Requirements: Install toilet and bath accessories per ADA-ABA and CBC Title 24 access requirements.
 - 1. Accessible toilet accessories shall be mounted at heights and at horizontal locations according to CBC Title 24.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

- A. Source Limitations: Obtain public-use washroom accessories from single source from single manufacturer.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
 - d. Brocar Products
 - e. Fastaire Hand Dryers Inc.
 - f. Foundations
 - g. Aslin Industries
 - h. Or equal.
- B. Toilet Tissue (Roll) Dispenser:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Basis-of-Design: Aslin Industries Part Number TPD0250NB-SS
 - b. Or Equal.

TOILET, BATH, AND LAUNDRY ACCESSORIES

102800 - 2

S. DE ANZA PARK IMPROVEMENTS
FINAL SUBMITTAL

2. Description: Three-roll unit for regular stalls, two two-roll units for accessible stalls.
3. Mounting: Surface mounted to CMU with (4) 7/16-inch diameter mounting holes.
4. Capacity: 5-1/4" diameter rolls.
5. Length: 13-inches
6. Width: 3-inches
7. Material and Finish: Stainless steel, No. 4 finish (satin).
8. Lock: 3/8-inch diameter hole in bar for lock. Padlock not included.

C. Liquid-Sop Dispenser:

1. Basis of Design: Bradley Model 6542.
2. Material: Stainless steel, 0.05 inch thick.
 - a. Finish: Smooth, No. 4 finish (satin).

D. Grab Bar:

1. Basis of Design: Bradley Model 812.
2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch thick.
 - a. Finish: Smooth, No. 4 finish (satin).
4. Outside Diameter: 1-1/2 inches.
5. Configuration and Length: As indicated on Drawings.

E. Baby Changing Station:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Basis-of-Design: Foundations.
 - b. Or Equal.
2. Mounting: Surface mounted with concealed pneumatic cylinder and hinge structure with slow opening and closing bed.
3. Materials: type 304 satin stainless steel exterior finish with FDA approved molded high-density grey polyethylene antimicrobial interior.
4. Size: 34.6-inches high x 15.6-inches high x 6" high.

2.3 UNDER-LAVATORY GUARDS

A. Under-lavatory Guard:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Plumberex Specialty Products, Inc.
 - b. Truebro by IPS Corporation.
 - c. Or Equal.

TOILET, BATH, AND LAUNDRY ACCESSORIES

102800 - 3

2. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allow service access without removing coverings.
3. Material and Finish: Antimicrobial, molded plastic, white.

2.4 WARM-AIR DRYERS

A. Warm-Air Dryer:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Basis-of-Design Product: Fastaire Hand Dryers Inc.; Model HPO3
 - b. World Dryer Corporation.
 - c. Bobrick Washroom Equipment, Inc.
 - d. Or equal.
2. Mounting: Surface mounted.
3. Operation: Sensor activated with timed power cut-off switch.
 - a. Operation Time: 30 seconds.
4. Cover Material and Finish: Brushed Stainless Steel.
5. Electrical Requirements: 115 V, 8.3 A, 950 W.

2.5 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch minimum nominal thickness unless otherwise indicated.
- B. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- C. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

2.6 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Construction Manager.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Provide backing where basic substrate is not sufficient to support accessory without additional material.
- C. Grab Bars: Install to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written instructions.

END OF SECTION 10 28 00

SECTION 220500 COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 SUBMITTALS

- A. Submit electronic copy of shop drawings for all products. All submittal sheets shall be clearly marked or highlighted showing conformance to specifications and schedule. All submittals shall be cross referenced to the requirements of each specification paragraph pertaining to the item being submitted. All requirements must be shown on manufacturer's literature. Manufacturer's representative's letterhead, or super-imposed notations, are not acceptable.

1.2 CODES AND STANDARDS

- A. All work and materials shall be in full accordance with the latest rules and regulations of the State Fire Marshal, the Safety Orders of the Division of Industrial Safety, the California Building Code, the California Mechanical Code, the California Plumbing Code the California Electrical Code, Local Building Codes, and other applicable codes, laws or regulations of bodies lawfully empowered and having jurisdiction over this project. Nothing in the plans or specifications is to be construed to permit work not conforming to these codes.

1.3 SEISMIC ANCHORAGE AND BRACING

- A. All equipment and piping shall be anchored or braced in accordance with the 2019 California Building Code. The contractor is responsible for providing anchorage or bracing for all equipment regardless of whether detailed or shown on the plans. All equipment and ductwork supports not detailed as shown on the plans, requires approval of a registered structural engineer.
- B. All piping shall be supported or braced in accordance with the SHL-A "Seismic Restraint Manual: Guideline for Mechanical Systems" latest approved edition, Superstrut "Seismic Restraint System", Unistrut Corp. "Seismic Bracing For Ductwork, Conduit, and Cable Tray Supports", or B-Line "Seismic Restraints." If the pipe size exceeds the size included in these manuals, custom designed supports are required. All custom supports require the approval of a registered Structural Engineer. All shop drawings and calculations shall be submitted prior to fabrication.
- C. All flexibly mounted equipment shall be provided with seismic vibration isolation devices designed in accordance with the 2019 California Building Code. All anchors and equipment connections shall be submitted. All seismic vibration isolation devices shall be submitted with structural calculations signed by a Registered Structural Engineer in the State of California.

1.4 PERMITS

- A. The Contractor shall obtain all permits, patent rights, and licenses that are required for the performance of his work by all laws, ordinances, rules and regulations or orders of any officer and/or body, shall give all notices necessary in connection therewith, and pay all fees relating thereto and all costs and expenses incurred on account thereof. No work shall be covered before inspection by the jurisdictional inspector and the Architect.
- B. Contractor shall apply for and pay for all cost for the installation of water and gas meters, and for connection to gas, water, and sewer mains.

1.5 CUTTING AND PATCHING

- A. Perform all cutting and fitting required for work of this section in rough construction of the building.
- B. All patching of finished construction of building shall be performed under the sections of specifications covering these materials.
- C. All cutting of concrete work by this Contractor shall be by core drilling or concrete saw. No cutting or coring shall be done without first obtaining the permission of the Architect.

1.6 GENERAL

- A. Unless otherwise specified herein, all equipment and fixtures shall be installed in accordance with the manufacturer's recommendations.
- B. Before submitting his bid, the Contractor for the work under this section shall carefully study all drawings, He shall determine in advance, the methods of installing and connecting the apparatus, the means to be provided for getting any equipment into place, and shall make himself thoroughly familiar with all the requirements of the contract. After award of the contract, no subsequent allowances will be made to the Contractor due to his failure to comply with the above requirements and any other conditions affecting the installation and completion of all work.
- C. Workmanship: All labor shall be carefully skilled for this kind of work, thorough and first class in all respects and under the direction of a competent foreman.
- D. Special Note: Any work called for on plans shall be installed whether or not mentioned in these specifications.

1.7 VERIFICATION OF LEAD CONTENT IN PLUMBING PRODUCTS

- A. Comply with California Health and Safety Code 116875 (AB 1953-2006) Lead Content in Plumbing Products for valves and fittings. All valves 2" and smaller

and all fittings 2" and smaller for installation in the domestic water system, whether serving a fixture providing domestic water for human consumption or serving a fixture providing domestic water to a fixture not normally considered as for use for human consumption shall be provided with valve and fittings that have been verified by an independent evaluation service as meeting the requirements of the California Health and Safety Code 116875 (AB 1953-2006). When valves or fittings larger than 2" are required and verified products are available from the specified manufacturer(s), verified valves and fittings shall be submitted for approval and provided, as approved.

- B. Comply with California Health and Safety Code 116875 (AB 1953-2006) Lead Content in Plumbing Products for piping specialties installed in the domestic water system whether serving a fixture providing domestic water for human consumption or serving a fixture providing domestic water to a fixture not normally considered as for use for human consumption shall have been verified by an independent evaluation service as meeting the requirements of the California Health and Safety Code 116875 (AB 1953-2006). When piping specialty item larger than 2" is required, and a verified product is available from the specified manufacturer(s), the verified plumbing specialty item shall be submitted for approval and provided, as approved.

1.8 DAMAGE BY LEAKS

- A. Contractor shall be responsible for damage to the grounds, walks, roads, buildings, piping systems, electrical systems and their equipment and contents, caused by leaks in the piping systems being installed or having been installed herein. He shall repair at his expense all damage so caused. All repair work shall be done as directed by the Architect.

1.9 EMERGENCY REPAIRS

- A. The Owner reserves the right to make emergency repairs as required to keep equipment in operation without voiding the Contractor's guarantee bond nor relieving the Contractor of his responsibilities.

1.10 EXPLANATION AND PRECEDENCE OF DRAWINGS

- A. For purposes of clearness and legibility, drawings are essentially diagrammatic, and, although size and location of equipment are drawn to scale wherever possible, Contractor shall make use of all data in all the contract documents and shall verify this information at building site.
- B. The drawings indicate required size and points of termination of pipes, and suggest proper routes to conform to structure, avoid obstructions and preserve clearances. However, it is not intended that drawings indicate all necessary offsets, and it shall be the work of the Contractor to make the installation in such a manner as to conform to structure, avoid obstructions, preserve

headroom and keep openings and passageways clear, without further instructions or cost to the Owner.

- C. It is intended that all apparatus be located symmetrical with architectural elements. Refer to architectural details in completing the correlating work.
- D. The contractor shall be fully informed regarding any and all peculiarities and limitations of the spaces available for the installation of all work and materials furnished and installed under the contract. The contractor shall exercise due and particular caution to determine that all parts of his work are made quickly and easily accessible.
- E. The Contractor shall study all drawings and specifications to determine any conflict with ordinances and statutes. Any errors or omissions shall be reported, and any changes shall be shown in the as-built drawings and the additional work performed at no cost to the Owner.
- F. Submittal of bid shall indicate the Contractor has examined the site and drawings and has included all required allowances in his bid. No allowance shall be made for any error resulting from Contractor's failure to review drawings, and bid shall include costs for all required drawings and changes as outlined above, all at no cost to Owner.

1.11 EXCAVATION AND BACKFILL

- A. Underground piping shall be installed with a minimum of 24" cover from finish grade and deeper as noted on drawings. Excavation depths shall be coordinated with other trades.
- B. Excavation for pipes shall be cut a minimum of 6" below the required grade. A 6" bed of sand or other approved material shall be then placed and properly compacted to provide an accurate grade and uniform bearing throughout the length of the pipe.
- C. Sand used shall be certified to a resistance of not less than the surrounding soil when wet with distilled water and shall consist of clean, natural, washed sand.
- D. be placed until the work has been inspected, tested and approved.
- E. Trenches shall be backfilled in thin layers to 12 inches above the top of the piping with clean earth, which shall not contain stones, boulders, cinder fill, frozen earth, construction debris, or other materials that will damage or break the piping or cause corrosive action. Clods or lumps 2" in size or larger will not be permitted in the backfill. If the excavated material is not suitable, adequate material shall be provided by hauling from other locations.
- F. Surplus earth or material remaining after backfilling shall be removed from the site.

1.12 SUPERVISION AND COOPERATION

- A. This Contractor shall include the services of experienced superintendents for each sub-section who shall be constantly in charge of the work, together with the qualified journeymen, helpers and laborers, required to properly unload, install, connect, adjust, start, operate and test the work involved, including equipment and materials furnished by others and by the Owner.
- B. The work under this section shall be executed in cooperation with the work of other trades to prevent conflict or interference and to aid rapid completion of the overall project.

1.13 OPERATION

- A. The Owner may require operation of parts or all of the installation for beneficial occupancy prior to final acceptance. Refer to General Conditions of the Contract.
- B. Cost of utilities for such operation shall be paid by the Owner. Said operation shall not be construed as acceptance of the work.

1.14 UTILITY SERVICES DURING CONSTRUCTION

- A. All water and electric power used for construction shall be paid for by the Contractor.

1.15 COORDINATION

- A. Coordinate layout and installation of piping and suspension system components with other construction, including light fixtures, HVAC ductwork / equipment, electrical conduit, fire suppression system components, and partition assemblies.
- B. Coordinate pipe sleeve installations for foundations wall penetrations.
- C. Coordinate installation of pipe sleeves for penetrations through exterior walls and floor assemblies.

PART 2 - PRODUCTS

2.1 ACCESS DOORS AND PANELS:

- A. Wherever valves, air vents, or other items or parts of the installation which require periodic inspection or adjustment are concealed by permanent non-removable construction, an access door or panel shall be provided. Installation of access doors to be coordinated by general contractor. Types to be submitted and approved for the surface, and construction in which it is installed. Access

door to be manufactured by Mifab, Inc., or approved equal, and be Series CAD or UA, or series MFRU for fire rated walls.

2.2 ROOF FLASHING

- A. Furnish and install on each pipe passing through the roof, a "Stoneman" No. 1100-7, or approved equal, six pound, seamless lead flashing assembly. Flashing shall have reinforced boot and be complete with cast iron counter flashing sleeve and Permaseal waterproofing compound. All vent pipes shall be terminated 7" above the roof.

PART 3 - EXECUTION

3.1 INSTALLATION OF PLUMBING SYSTEMS

- A. No holes for pipe or equipment will be allowed in any structural members without written consent of the Architect. Where pipes are to pass through or interfere with any member, or where notching, boring or cutting of the structure is necessary, the work shall be done by the Contractor as directed by the Architect.
- B. The Contractor shall, at a time in advance of the work, coordinate with other disciplines as to his requirements for openings, recesses, and chases in the walls, partitions, or framing. Should furnishing this information be neglected, delayed, or incorrect and additional cutting is found to be required, the costs of same shall be charged to the Contractor.
- C. Sleeves through foundation walls shall be standard weight black steel pipe, flush with walls and two pipe sizes larger than the pipe passing through. Sleeves shall be caulked with oakum to within 1" of the wall lines and then completely filled with an approved bitumastic compound. Sleeves for piping through masonry wall above grade or floor or through floors shall be #10 gauge galvanized sheet steel and shall extend completely through the walls, or floor finishing flush on both sides. Sleeves shall be 1/2" larger than the pipe passing through with oakum caulking to make opening airtight. Sleeves through concrete firewalls or floors shall be packed with suitable non- combustible material. Provide and install polished chromium plate brass floor ceiling on wall plates for all pipes, exposed in finished portions of the buildings.
- D. All scaled and figured dimensions are approximate and are given for estimate purposes only. Before proceeding with any work, this Contractor shall carefully check and verify all dimensions, sizes, etc., and shall assume full responsibility for the installation with respect to other parts of the equipment, and to the structure.

- E. Any minor changes in work, which has not been installed, shall be made by this Contractor without additional compensation, except changes that are caused by architectural revisions that increase or decrease the size of the materials specified or indicated on the drawings.
- F. This Contractor shall submit an estimate of the cost of or credit for such changes he does not consider of a minor nature and shall proceed only upon the written authority of the Architect.
- G. Coordinate all sanitary vents through roof with HVAC equipment. Terminate all vents at least 10'-0" from any outside air intakes.
- H. Pipes Over Electrical Equipment: Where pipe joints or valves in pipes conveying water occur within 3' in a horizontal direction, of electrical panels and electronic equipment, provide a drip pan of galvanized steel construction of a size which will afford maximum protection.
 - 1. Pans: 24 gauge, edges turned up 2-1/2" all sides, reinforced with galvanized steel angles or by rolling edge over 1/4" diameter steel rod.
 - 2. Provide drain with 3/4" brass flange and copper pipe to floor.
 - 3. Support the pan with bars or angles, brace to prevent sagging or swaying.
- I. Install chrome plated split escutcheons around all pipes passing through finished walls, floors and ceilings.

3.2 TESTS AND ADJUSTMENTS

- A. No piping work, fixtures, or equipment shall be concealed or covered until inspected and approved by the Engineer, who shall be notified when the work is ready for inspection. All work shall be completely installed, tested as required by this section and the State Ordinances and State Safety Orders, and shall be leak-tight before inspection is requested. All tests shall be repeated upon request to the satisfaction of those making the inspection.
- B. Disinfection of the potable water system prior to use shall meet the requirements of the California Plumbing Code section 609.9. The method to be followed shall be that prescribed by the Health Authority or, in case no method is prescribed by it, the following:
 - 1. The piping system shall be flushed with clean, potable water until only potable water appears at the points of outlet.
 - 2. The system or parts thereof shall be filled with a water-chlorine solution containing at least fifty (50) parts per million of chlorine, and the system or part thereof shall be valved-off and allowed to stand for twenty four (24) hours; or, the system or part thereof shall be filled with a water-chlorine

- solution containing at least two hundred (200) parts per million of chlorine and allowed to stand for three (3) hours.
3. Following the allowed standing time, the system shall be flushed with clean, potable water until the chlorine residual in the water coming from the system does not exceed the chlorine residual in the flushing water.
 4. The procedure shall be repeated if it is shown by bacteriological examination made by an approved agency that contamination persists in the system.
- C. Piping tests shall be made with the medium and under pressure listed below. Use a calibrated Bristol Pressure Recorder on all tests. Recorder range shall be 0 - 300 pounds or required range for specific test.

Type of System	Gauge Pressure (Lbs. per sq. inch, gauge)	Test Medium
1. Soil, Waste, Vent Rainwater leaders Storm Drainage Piping Within Building	Minimum of 5 psi for each joint, for duration of test with no loss in pressure.	Water
2. Fuel Gas	50 PSI	Compressed Air
3. Domestic Water	150 PSI	Water

- D. Test pressure in pounds per square inch, gauge, are given as initial pressure to be applied to lines being tested, together with test medium.
- E. Tests are to be applied for a minimum period of twenty-four (24) hours and until tests are complete.
- F. Final pressures at the end of test period shall be no more nor less than that caused by expansion or contraction of the test medium due to temperature changes.

3.3 DRAWINGS OF RECORD

- A. Record of Project Progress: Maintain a complete set of reproducible contract drawings available at the job site for inspection. Keep an accurate, legible and continuously updated record of installed locations and all project revisions other than revised drawings issued by the Architect, including source and date of authorization. Utilize only contract drawing symbols for recording the work. Drawing notations to be sufficiently clear in the representation of work, for utilization by a CADD operator (drafts person) who is not necessarily familiar with the installed work.
- B. Record of Installation: At the conclusion of the work, Contractor shall deliver one (1) set of signed prints of the progress drawings to the owner's

representative for review. Following the review, Contractor shall have incorporated by a competent CADD operator all of the installed data represented on the project progress drawings. If Revit was used to produce the project drawings, Architect shall provide a copy of the Revit model to the contractor for updating progress drawings.

C. Include in Record Drawings the Following:

1. Revisions, including sketches, bulletins, change orders, written addends and directives, clarifications and responses generated by requests for information (RFI's), regardless of source of the revision.
2. Location and configuration of equipment with related housekeeping pads.
3. Physical routing of ductwork, exposed, and above ceilings with locations of fire/smoke dampers, smoke detectors, diffusers, registers. Air terminal units, appurtenances, etc., plainly marked and identified.
4. Location of room thermostats, humidistats and sensors.
5. Physical routing of piping, underground, exposed and above ceiling with locations of valves and accessories plainly marked and identified.
6. Location of piping below building and on exterior, valves, appurtenances, etc. Include all sewer / waste and storm drain piping invert elevations.

E. Acceptance: As a condition of acceptance of work, deliver one (1) set of AutoCad (Revit) latest version CD and one (1) set of signed and dated reproducible drawings to owner's representative and obtain receipt.

3.4 FINAL INSPECTION

- A. If upon final completion of the final inspection and review of the maintenance manuals and "as-built" drawings, the list of required corrections is such that a re-inspection is required.

3.5 GUARANTEE

- A. All work under this section shall be guaranteed in writing in accordance with the General Provisions.
- B. All material except as otherwise noted shall be new, free from defect and of the quality and rating shown or specified.
- C. Any defect due to missing or improper material or faulty workmanship existing or developing during the warranty period shall be corrected and the resulting damage repaired without additional cost to the Owner.
- D. The warranty period shall be one year from date of acceptance of the project.

END OF SECTION 220500

SECTION 220529 HANGERS AND SUPPORTS FOR PLUMBING

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. The system shall be complete in all respects including all labor, materials, equipment and services necessary, and shall be installed by personnel specifically experienced in plumbing systems.

1.2 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Pipe Hangers
 - 2. Supports

PART 2 - PRODUCTS

2.1 PIPE HANGERS AND SUPPORTS

- A. All pipe hangers and supports installed in exterior location shall be galvanized.
- B. Split ring hangers with swivel adjuster, solid rods and rod sockets: Steel pipe Fee and Mason Fig. 212, or Super-Strut M-718T.
- C. Adjustable Beam Clamps: Fee and Mason Fig. 246 or Super-Strut Fig. CM-754 (where this type is not adaptable, an approved top beam, side beam, or channel clamp by Fee and Mason or Super-Strut, will be acceptable).
- D. Trapeze Hangers: Super-Strut A-1200 or Unistrut P-1000 channel with pipe clamps and guides as required (include type to be used in submittal).
- E. Riser Clamps (4" Pipe and Less): Fee and Mason Fig. 241 or Super-Strut C-720.
- F. Riser Clamps (Over 4" Pipe): Over 4", Fee and Mason Fig 238, or Super-Strut C-720.
- G. Offset Pipe Clamps: Fee and Mason Fig. 366, or Super-Strut C-720L.

- H. Pipe Isolation: All piping shall be isolated from dissimilar metals, other piping, any part of the building, framing, conduit, supports etc., with Elmdor/Stoneman Series 500 trisolator or approved equal.

PART 3 - EXECUTION

3.1 PIPE HANGERS AND SUPPORTS

- A. Horizontal piping shall be supported as follows: Use beam clamps for attachment to structural steel surfaces and expansion type inserts for attachment to concrete surfaces. Clamps and inserts shall be sized for the required hanger rod and comply with all applicable codes and safety regulations. The use of "C" clamps designed to attach threaded rod to one side of a steel beam flange shall not be used unless they are provided with a restraining strap, or hook to the opposite beam flange.
- B. Piping shall be firmly held in place by adjustable split ring malleable iron hangers, supports and pipe rests, located adjacent to fittings at each offset or change of direction, at the ends of branches over 5' long, at riser pipes and along piping where necessary to prevent sags, bends, or vibration. All hangers and supports shall be of a design that will support the combined weight of pipe, fluid and insulation.
- C. Pipe straps shall be heavy gauge galvanized iron factory fabricated to fit against supporting surface when installed. Makeshift devices will not be acceptable. No plumbing tape is allowed.
- D. Lateral bracing shall be provided at every fourth hanger where hanger rods are more than 18" in length.
- E. Hangers supported by concrete structure shall be attached by cast iron manufactured concrete inserts installed at the time concrete is poured and each insert shall be provided with through rods lapped over structural reinforcing.
- F. Hangers supported by structural steel shapes shall be attached by cast-iron clamps designed for use on the specific steel shape and equipped with retainers.
- G. All hangers shall be attached to halter rod by means of adjustable swivel, turnbuckle or double nut to allow height adjustment.
- H. Vertical piping shall be suitably supported from the building structure where required by means of malleable iron or steel pipe clamps of ample size, either bolted or welded to the pipe and supported at the floor slab. Supports where indicated on the drawings shall also act as anchors to allow for expansion and

contraction of the piping. Provide rubber isolators for clamps where required for elimination of vibration and sound to the structure.

- I. Miscellaneous Supports: Wall brackets, etc., shall be provided where required in accordance with the best standard practice of the trade in a manner as approved by the Architect.
- J. In the event additional structural steel is required to transmit loads to main structure, it shall be provided at no additional cost to the Owner.
- K. Soil, Waste, Vent and Down Spouts: Hanger rod sizes shall be as follows:

1-1/2" to 2" Pipe	3/8" Rod
2-1/2" to 3-1/2" Pipe	1/2" Rod
4" to 5" Pipe	5/8" Rod

- L. Domestic Water:

- 1. Hanger Spacing shall be as Follows for Copper Tubing:

1/2" to 3/4" Pipe	5'-0"
1" Pipe	6'-0"
1-1/4" Pipe	7'-0"
1-1/2" to 2" Pipe	8'-0"
3" and larger Pipe	10'-0"

- 2. Hanger Rod Sizes shall be as Follows:

3/4" to 2" Pipe	3/8" Rod
2-1/2" to 3-1/2" Pipe	1/2" Rod
4" to 5" Pipe	5/8" Rod
6" to 8" Pipe	3/4" Rod

- M. For horizontal installations, hangers or supports shall be provided for at least every other joint except when the developed length between supports exceeds 4'. If the developed length exceeds 4', hangers or supports shall be provided at each joint. Supports shall also be provided at each horizontal branch connection. Hangers, supports, or blocks shall be adequate to maintain alignment and prevent sagging or joint separation. Hangers, supports or blocks shall be placed on, or immediately adjacent to, the coupling, not to exceed 18". Adequate provisions shall be made to prevent "shear."
- N. Vertical "no-hub" components shall be secured at each stack base, and at sufficiently close intervals to keep system in alignment and to adequately support the weight of the pipe and its contents.

- O. Trap arms and similar branches must be firmly secured against movement in any direction. Closet bends shall be stabilized by firmly strapping and blocking. Where vertical closet stubs are used, they must be completely stabilized against all horizontal movement.

END OF SECTION 220529

SECTION 221100 DOMESTIC WATER PIPING AND SPECIALTIES

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. Furnish design, construct and install a complete domestic water piping system. The system shall be complete in all respects including all labor, materials, equipment and services necessary, and shall be installed by personnel specifically experienced in plumbing installation.

1.2 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Copper Pipe
 - 2. Valves and Fittings
 - 3. Piping Specialties
 - 4. Valve Boxes

1.3 QUALITY ASSURANCE

- A. Product Options: Drawings indicate size, profiles, and dimensional requirements of plumbing specialties and are based on the specific system indicated.
- B. Plumbing specialties shall bear label, stamp, or other markings of specified testing agency.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. ASME Compliance: Comply with ASME B31.9, "Building Services Piping," for piping materials and installation.
- E. NSF Compliance:
 - 1. Comply with NSF 14, "Plastics Piping Components and Related Materials," for plastic domestic water piping components. Include marking "NSF-PW" on plastic potable-water piping and "NSF-DWV" on plastic drain, waste, and vent piping.
 - 2. Comply with NSF 61, "Drinking Water System Components--Health Effects, Sections 1 through 9," for potable domestic water plumbing specialties.

PART 2 - PRODUCTS

2.1 ALL DOMESTIC WATER PIPING:

- A. Above grade shall be type "L" copper tubing hard drawn with wrought copper solder sweat fittings. Where below grade and within 5' of building line, shall be type "K" copper tubing in single continuous length with polyethylene outer tubing.

2.2 DOMESTIC WATER DISTRIBUTION 5' OUTSIDE BUILDING EXCEPT AS OTHERWISE NOTED ON PLANS:

- A. 1-1/2" and smaller schedule 40 PVC conform to ASTM 1785 with solvent welded fittings. 2" and larger class 200 PVC gasket bell end shall conform to ASTM 1869 with PVC fittings. Provide thrust block at each change in direction.

2.3 VALVES AND FITTINGS

- A. Ball valves 2" and smaller (Lead Free): Two-piece alloy C69300 (copper-zinc-silicon) body; sweat or threaded ends, alloy C69300 ball; virgin PTFE seat ring; brass alloy C36000 packing gland, O-Ring EPDM, alloy 69300 blowout-proof stem; 600 psig CWP. Nibco T/S 685-80-LF or approved equal.
- B. Spring loaded check valves 2" and smaller (Lead Free): Alloy C87850 body, sweat or threaded ends, stainless steel spring, stainless steel stem, stainless steel disc holder, PTFE disc; 250 PSI CWP. Nibco S/T 480-Y-LF or approved equal.
- C. Swing check valves 2" and smaller (Lead Free): Alloy C87850 body, sweat or threaded ends, Y-pattern, renewable PTFE seat disc, 200 PSI CWP, suitable for installation in a horizontal or vertical line with flow upward. Nibco S/T 413-Y-LF or approved equal.
- D. Balance valves 2" and smaller (Lead Free): Brass body, stainless steel ball, sweat or threaded ends, glass and carbon filled TFE seat, brass readout valves with EPT check valves, EPDM stem "O" ring, , suitable for 400 PSIG water working pressure at 250°F for NPT models and 200 PSIG water working pressure at 250 °F for sweat models. Bell & Gossett CB-LF or approved equal.
- E. Hose Bibbs (Lead Free): Stainless steel lead free hose faucet/valve, brass vandal-resistant lock shield bonnet and removable wheel handle, replaceable disc, hose thread spout, with vacuum breaker to comply with ASSE Standard 1011, 3/4" size. Acorn 8121-SSLF.
- F. Hose Bibbs: Rough brass body hose faucet/valve, brass vandal-resistant lock shield bonnet and removable wheel handle, replaceable disc, hose thread spout, with vacuum breaker to comply with ASSE Standard 1011, 3/4" size. Acorn 8121.

- G. Chrome plated brass body, brass ball with PTFE seats, blow-out proof plated brass stem and chrome plated metal handle. 3/8" O.D. compression outlet, 1/2" I.P.S. inlet and riser to match application. Dual outlet stops shall be provided where necessary. Stops shall be Brass Craft KTR17 C quarter turn ball stop, or approved equal.
- H. Combination Pressure and Temperature Relief Valve (Lead Free): Lead free brass body, temperature and pressure actuated, stainless steel stem and spring, thermostat with non-metallic coating, test lever, suitable for 125 psig water working pressure at 240°F, sized for full BTUH input and operating pressure of equipment, with valve capacity on metal label. For equipment less than or equal to 200,000 BTUH input, provide AGA, U.L. or ASME listed and labeled valve. Provide ASME listed and labeled valve for larger equipment. Temperature and pressure relief valve shall be sized per AGA rating for BTUH input. Watts LF40XL.
- I. Water Pressure Reducing Valves (Lead Free): Lead free brass body, diaphragm operated, with an integral thermal expansion bypass valve, inlet union, stainless steel strainer, renewable stainless steel seat and adjustable reduced pressure range, 300 psig at 160°F. Pre-set for the scheduled pressure with gauge and tapping. Watts Model No. LFU5B-Z3-GG.
- J. Reduced Pressure Backflow Preventer Assembly (Lead Free): A backflow preventer shall be installed at each cross connection, and at the water meter to prevent back-siphonage, and backpressure backflow of hazardous materials into the potable water supply. The assembly shall consist of an internal pressure differential relief valve located in a zone between two positive seating check valves, captured springs, and silicone seat discs. Seats shall be replaceable on both check valves, and the relief valve. The assembly shall include two tightly closing shut-off valves, four test cocks, and a protective strainer upstream of the No. 1 shut-off valve. The reduced pressure zone backflow preventer shall have a single access port cover secured with stainless steel screws. Vent outlet to have an air gap. The assembly shall meet the requirements of A.S.S.E. Std. 1013; AWWA Std. C506, FFCCCHR of USC manual, 8th edition or current, Section 10. Watts Regulator Series LF009, or approved equal.

2.4 PIPING SPECIALTIES

- A. Tracer Wire: Provide on all plastic pipe No. 10 AWG, TW insulated copper wire. Spiral wrap around complete length of all plastic piping at approximately 2' intervals, terminate above grade or in yard box with a 24" pipe.
- B. Unions in Copper Tubing 2" and Smaller: ANSI B16.18 cast bronze union coupling or ANSI B15.24 class 150 bronze flanges. Nibco 733.
- C. Dielectric Fittings:

1. Provide fittings and unions to install between pipes made of dissimilar metals. Unions shall be factory certified to withstand a minimum of 600 volts on a dry line with no flash over and shall be rated to 180°F at 250 PSI. Flanged fittings shall have a bolt isolator to insulate each bolt in the flange and shall be rated at 175 PSI. Bolts shall be constructed of durable, corrosion resistant polysulfone. Flanged fittings shall have a Standard Gasket "A" (GA) suitable for water, air, oil, natural gas, propane, gasoline, kerosene, mineral oil, vegetable oil and alkalines in 210°F at 250 PSI. Threaded end connections shall meet ANSI B2.1 and flanged fittings shall meet ANSI B16.42 (iron) and ANSI B16.24 Bronze. Unions shall conform to ANSI B16.39, including hydrostatic strength and air pressure testing. Dielectric fittings and unions shall be constructed of the following materials:

a.	Gray Iron	ASTM A48-83
b.	Malleable iron parts	ASTM A-197-79
c.	Steel parts	ASTM A108
d.	Bronze parts	ASTM B-16
e.	Zinc parts	ASTM B633-85

2. Dielectric fittings shall be WATTS Series 3000.

- D. Water hammer arrestors: ANSI A112.26.1, ASSE 1010, sized in accordance with PDI WH-201, precharged piston type constructed entirely of stainless steel, threaded brass adapter, brass piston with O-ring seals, FDA approved silicone lubricant, suitable for operation in temperature range 35°F to 150°F maximum 150 psig working pressure, 1500 psig surge pressure. J. R. Smith Series 5000.
- E. Strainers: Y Type, cast bronze body, ASTM B62, 20 mesh stainless steel screens, bolted or threaded screen retainer tapped for a blowoff valve, sweat, threaded or flanged body rated at not less than 150 psi WOG. Manufactured by Armstrong F Series or approved equal.
- F. Strainers: Y type, cast iron body, ASTM A48, 20 mesh stainless steel screens; bolted or threaded screen retainer tapped for a blowoff valve, threaded or flanged ends, rated at not less than 150 psi WOG. Manufactured by Armstrong A/CA Series or approved equal.

2.5 VALVE BOXES

- A. "Brooks Products" 3L concrete with self-closing cast-iron cover 10 x 20 or smaller, and concrete lid for larger boxes. Cover to be marked with name of service.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

- A. Joints in copper tubing shall be made by first thoroughly cleaning the surface of the pipe and fittings, applying flux and sweating with 95-5 tin Antimony "soft-solder."
- B. Pipe shall be carefully cleaned before installation. The ends of threaded pipe shall be reamed out full size with a long taper reamer so as to be partially bell-mouthed and perfectly smooth.
- C. Flush out all water mains with water so as to obtain free flow. Remove all obstructions and defects discovered. Remove and re-lay any sections and pipe already laid and found to be defective or which has had grade or joints disturbed.
- D. Openings in pipes, drains, fittings, apparatus and equipment shall be kept covered or plugged to prevent foreign substance from entering.
- E. Run piping free of traps, sags, or bends. Grade and valve for complete drainage and control of the system.
- F. All piping to be run to maintain headroom and keep passageways and openings clear. Run parallel and straight with adjacent walls or ceilings to present a uniform appearance.
- G. All piping, except where noted otherwise on plans, shall be concealed in walls or above ceilings.
- H. Bending or forcing of pipe will not be allowed. Use fittings for all offsets or changes in alignment of piping.
- I. Proper provision shall be made for expansion and contraction by means of fittings and anchors and supports of all piping.
- J. Street elbows, bushings and long screw fittings will not be allowed.
- K. All piping shall be isolated from dissimilar metals, other piping, any part of the building, framing, conduit, supports etc., with Elmdor/Stoneman Series 500 trisolator or approved equal.
- L. PDI sized water hammer arresters shall be installed at the end of the branch line between the last two self-closing water faucet / flush valve fixtures served. When the branch line exceeds 20'-0" in length, an additional water hammer arrester shall be installed.
- M. Unions shall be installed after each screw-type valve, connections for all equipment, appliances and as required for erection and maintenance. No unions shall be installed in a concealed location.

- N. Install isolation unions on all connections between dissimilar metals (galvanized steel, black steel to copper).

END OF SECTION 221100

SECTION 221300 SANITARY WASTE, VENT, AND SPECIALTIES

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. Furnish design, construct and install a complete sanitary waste system. The system shall be complete in all respects including all labor, materials, equipment and services necessary, and shall be installed by personnel specifically experienced in plumbing systems.

1.2 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Sanitary Waste Piping
 - 2. Pipe Fittings
 - 3. Sanitary Waste Specialties

PART 2 - PRODUCTS

2.1 FITTINGS AND PIPING

- A. Soil, Waste, Vent and Downspouts Above and Below Grade Within 5' of Building Line: No hub service weight cast iron soil pipe and fittings conforming to the latest issue of CISPI 301, ASTM A-888. Pipe and fittings shall be GreenSpec listed. Manufacturer shall be Charlotte, Tyler, AB&I, or approved equal.
- B. Joints: Joints for hubless pipe and fittings shall conform to the manufacturer's installation instructions and local code requirements. Hubless couplings shall be composed of a heavy duty four or six band coupling, stainless steel shield / clamp assembly and a fire resistant neoprene gasket conforming to ASTM C1540, CISPI 310, Factory Mutual 1680 Class 1, and bear the NSF trademark, manufactured by Anaco Husky SD4000, Fernco, MiFab or approved equal. Joints for hub and spigot shall be installed with compression gaskets conforming to the requirements of ASTM C-564, or shall be installed with lead and oakum.
- C. Sewer from 5' outside building except as otherwise noted on plans; Schedule 40 PVC piping conforming to ASTM D 2665, fittings conforming to ASTM D 2466 with solvent welded joints conforming to ASTM D2564.

- D. Vent Piping: Service weight cast-iron with same joint as used for soil and waste above grade.
- E. Condensate Piping for Cooling Systems: Shall be type "M" copper.
- F. Condensate Piping for Condensing Heating Systems: Shall be Schedule 40 CPVC.

2.2 CLEANOUTS

- A. Floor Cleanouts: J.R. Smith Fig. 4023, or approved equal, with polished nickel bronze non-skid adjustable round.
- B. Floor Cleanouts: J.R. Smith Fig. 4043, or approved equal, with polished nickel bronze non-skid adjustable square top.
- C. Wall Cleanouts: J.R. Smith Fig. 4472, or approved equal, series countersunk plug with chrome plated cover and screws.
- D. Outside Cleanouts: J.R. Smith Fig. 4258, or approved equal, low flange, inside caulk outlet, type for non-surfaced areas and areas surfaced with asphalt paving.
- E. Outside Cleanouts: J.R. Smith Fig. 4253, or approved equal, heavy duty high flange type for areas surfaced with concrete or other poured material. Vandal-proof cover to be marked "Cleanout." Encase anchoring flange in 20" square x 6" concrete pad, top of cleanout flush with finished surface.

2.3 ROOF FLASHING

- A. Furnish and install on each pipe passing through the roof, a "Stoneman" No. 1100-7, or approved equal, six pound, seamless lead flashing assembly. Flashing shall have reinforced boot and be complete with cast iron counter flashing sleeve and Permaseal waterproofing compound. All vent pipes shall be terminated 7" above the roof.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

- A. No-Hub cast-iron Soil Pipe Institute Pamphlet #100 and the I.A.P.M.O. IS-6-75.
- B. All sanitary sewers, storm drains and waste lines shall grade as indicated on drawings. The sections of the pipe shall be laid and fitted so that when completed the pipe will have smooth and uniform invert. Water shall not be allowed in the trenches while the pipes are being laid. Dirt, cement, or any other superfluous material of any description shall be carefully removed from

the interior of the piping system as the work progresses. Constant inspection shall be made in pipe and fittings during and after all installation for possible fractures and failures caused by installation. Backfill so as not to disturb pipe or jointing.

- C. Flush out all sanitary drains with water so as to obtain free flow. Remove all obstructions and defects discovered. Remove and re-lay any sections and pipe already laid and found to be defective or which has had grade or joints disturbed.
- D. Openings in pipes, drains, fittings, apparatus and equipment shall be kept covered or plugged to prevent foreign substance from entering.
- E. Run piping free of traps, sags, or bends. Grade and valve for complete drainage and control of the system.
- F. All piping to be run to maintain headroom and keep passageways and openings clear. Run parallel and straight with adjacent walls or ceilings to present a uniform appearance.
- G. All piping, except where noted otherwise on plans, shall be concealed in walls or above ceilings.
- H. Bending or forcing of pipe will not be allowed. Use fittings for all offsets or changes in alignment of piping.
- I. Vents shall penetrate through the roof with water-tight flashing and shall terminate no less than 7" above the roof and at least 1'-6" from vertical walk and parapets. Coordinate with ventilation plans. Locate all terminations at least 10'-0" from air intakes or windows.

3.2 CLEANOUTS

- A. As specified (see plans for size), cleanouts shall be caulked into pipe where shown on plans under countertops where they occur in walls to avoid their being too conspicuous. Cleanouts shall be accessible in all cases and shall be brought to surface on "Y" branches. All cleanouts shall be provided with removable floor or wall plate as herein specified.
- B. In addition to the cleanouts shown on the plans, install cleanouts in all horizontal lines at each aggregate change of direction exceeding 135°, and at the base of any vertical riser longer than 8'-0". Install cleanout outside the building at the lower end of the building drain and extend to grade.

END OF SECTION 221300

SECTION 224000 PLUMBING FIXTURES

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. The system shall be complete in all respects including all labor, materials, equipment and services necessary, and shall be installed by personnel specifically experienced in plumbing systems.

1.2 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Plumbing Fixtures
 - 2. Fixture Supports

PART 2 - PRODUCTS

2.1 PLUMBING FIXTURES

- A. Plumbing fixtures shall be as shown in equipment schedule.
- B. Reference is made on Plumbing Fixture Schedule, it is understood to mean that equivalent fixtures as manufactured by Elkay, American Standard, Kohler, Eljer, or approved equal, are acceptable if used throughout. Faucets by Symmons, equivalents by Zurn, T & S, Bradley, or approved equal, are acceptable. Equivalent toilet seats by Beneke, Olsonite, or approved equal, are acceptable. Equivalent carrier, floor drains, etc. by J.R. Smith, Josam, Wade, Zurn, or approved equal, are acceptable.

PART 3 - EXECUTION

3.1 FIXTURE INSTALLATION

- A. All plumbing fixtures shall be bedded and caulked along joint at walls, countertops, and other intersecting surfaces with Vulkem white silicone, use clear at stainless steel fixtures.
- B. Plumbing fixture trim and exposed supplies and waste shall be brass with polished chrome plated finish. Individual loose key stops, or, so specified, screw driver stops, shall be provided for all supplies, and unless integral with valves or faucets, unless otherwise approved by Architect, shall be mounted

under the fixture. Exposed supplies and wastes through walls shall be provided with polished chrome plated cast brass wall escutcheons.

- C. Fixtures with hangers or supporting arms shall have hangers or arms securely mounted on a 1/4" thick x 6" wide steel wall plate which shall extend at least one stud beyond the first and last fixture mounting points. Concealed arm assemblies shall be attached to plates by four 3/8" x 1-1/4" steel bolts and nuts, and hangers and exposed arms by 5/16" minimum full thread steel studs and jamb nuts. Plates shall be drilled and tapped at the time of fixture installation.
- D. Wall plates shall be recessed flush with studs and shall be securely attached to each stud crossed. In steel stud construction, a 1-1/2" x 18" long furring channel shall be attached to each notched stud with fillet welds 1" long on 6" centers front and back. Plates shall be continuous fillet welded at both top and bottom to each furring channel.

END OF SECTION 224000

SECTION 230593 TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - SELECTION OF THE TEST AND BALANCE AGENCY

1.1 GENERAL

- A. Total System Balance shall be performed by an independent agency which specializes in and whose business is dedicated to testing, adjusting and verification of the HVAC system performance. This work shall conform to the "National Standards for Total System Balance" seventh edition 2016, and other criteria as set forth in this specification. The test and balance report shall use AABC forms, and shall portray an accurate account of all conditions during the test and balance procedure. The Balancing Agency shall be a certified member of the Associated Air Balance Council (AABC) or the National Environmental Balancing Bureau (NEBB).

1.2 SUBMITTALS

- A. Submit name of testing, adjusting, and balancing agency for approval within 30 days after award of Contract.
- B. Submit test reports.
- C. Prior to commencing work, submit draft reports indicating adjusting, balancing, and equipment data required.
- D. Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for Architect/Engineer and for inclusion in operating and maintenance manuals.
- E. Provide reports in electronic pdf format manuals. Include set of reduced drawings with air outlets and equipment identified to correspond with data sheets, and indicating thermostat locations.
- F. Include detailed procedures, agenda, sample report forms, and copy of AABC National Project Performance Guaranty prior to commencing system balance.

1.3 AIR BALANCE

- A. Balance the supply and return air systems by first arriving at the fan total air quantity, reading air velocities at cooling coils at scheduled temperature, return air and outside air openings; and a duct traverse. The quantity of air to each outlet shall not be less than 10% of that amount. If so instructed by the Mechanical Engineer, further balancing of temperatures shall be made and indicated by thermometer or by temperature recorder. Upon completion of test

and balance, mark final location of all manual damper levers with a permanent black marker pen. Contractor shall include indoor and outdoor temperature/humidity at each room sensor after system balance has been completed.

- B. As a part of the work of this contract, Contractor shall make any changes in the pulleys, belts and dampers required for correct balance at no additional cost to the Owner.
- C. The contractor shall provide two sets of test and balance data for variable air volume systems. The first set of data shall include all required measurements when the system is operating at full capacity with air flow quantities indicated on the construction documents. The second set of data shall include all required measurements when the system is operating in its normal mode to meet space requirements.

1.4 FURNISH TYPEWRITTEN DATA FOR ALL SUPPLY FANS TABULATING

- A. Quantity of air in CFM at each air outlet or inlet. Contractor shall mark the position of the manual volume damper with a permanent black marker.
- B. RPM of fan.
- C. RPM of motor.
- D. Ampere input of each motor (one reading on each leg on three (3) phase).
- E. No load Amperage and Brake Horsepower calculations on all motors.
- F. Static pressure in inches water gauge at inlet and outlet of fan .

1.5 AIR BALANCE DRAWINGS

- A. The Air Balance Agency shall prepare a complete set of drawings showing actual duct runs, outlet/inlet locations and differential pressure sensor locations in ductwork/pipe. Drawings shall be keyed to, and furnished with, the Air Balance report.

PART 2 - EXECUTION

2.1 EXAMINATION

- A. After approval of testing, adjusting, and balancing agency, the selected agency shall review the design documents to ensure systems can be properly tested,

adjusted, and balanced as specified herein. The agency shall prepare a report identifying any design deficiencies that would preclude the agency from meeting the requirements specified. The report shall include recommendations that would assist in achieving properly tested, adjusted, balanced, and fully commissioned systems.

- B. Promptly report abnormal conditions in mechanical systems or conditions, which prevent system balance.
- C. If, for design reasons, system cannot be properly balanced, report as soon as observed.
- D. Beginning of work means acceptance of existing conditions.

* * * *

SECTION 233116 FIBROUS-GLASS DUCTS

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. The General Conditions, Supplementary Conditions, are a part of this section and the contract for this work and apply to this section as fully as if repeated herein.

1.2 SCOPE

- A. The work under this Section includes everything necessary for and incidental to executing and completing the Heating, Ventilating and Air Conditioning work, except as hereinafter specifically excluded.

1.3 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Ductwork
 - 2. Casings and plenums

1.4 DELIVERY AND STORAGE OF MATERIALS

- A. Provide for the safety and good condition of all materials and equipment until final acceptance by the Architect. Protect all materials and equipment from damage from any cause whatever, and provide adequate and proper storage facilities during the progress of the work. Replace all damaged and defective work precedent to filing application for final acceptance.

PART 2 - PRODUCTS

2.1 FIBERGLASS REINFORCED PLASTIC (FRP) DUCTWORK AND ACCESSORIES

- A. The fiberglass reinforced plastic duct system shall be specifically designed, constructed, and installed as shown on the Drawings for the following minimum conditions:
 - 1. General Temperature: -10°F to 240°F

2. Corrosion resistance to airstream gases as needed. Corrosion barrier can be adjusted to meet resistance requirements.
3. Pressure rating as required per. Duct can be designed to accommodate pressure as needed.

B. FRP Duct Construction:

1. Standard resin used in the laminate shall be premium corrosion resistant and fire-retardant AOC K022 brominated biphenol-A vinyl ester resin.
2. FRP Fiberglass reinforced plastic (FRP) ductwork shall be of filament wound (SMACNA Type X) or hand lay-up construction as needed (SMACNA Type II).
3. FRP ductwork shall be of flame-retardant material inside and outside and meet ASTM E 84 Class 1 flame spread of 25 or less. Resin shall be Class 1 without any added fillers.
4. Duct shall meet or exceed all applicable construction requirements of SMACNA FRP Duct Construction Manual.
 - a. Corrosion Barrier – Inner surface shall contain a resin rich layer. Thickness will be 20 mils and composed of 1 layer of surfacing veil and 2 plies of 1.5 oz/ft² chopped strand mat minimum.
 - b. Structural Layer – Shall consist of filament wound continuous strand roving as required for design conditions. Minimum wall thickness of 0.125" for 2" up to 12" diameter, 0.188 13" up to 36" and 0.25" 37" up to 72" diameter.
 - c. Flanges and bolt drilling circles and diameters shall conform to SMACNA Thermoset FRP Duct Construction Manual.
 - d. Exterior surfaces shall have a factory applied paraffinated pigmented gel Coat finish with UV inhibitors added. Color standard is gray.

C. Maximum allowable deflection for any size ductwork shall be 0.5-inch between supports and for any side of duct under worst case operating conditions.

D. Fittings: All fittings such as elbows, laterals, tees, and reducers shall be of the same resin as duct, and equal or superior in strength to the adjacent duct section and shall have the same internal diameter as the adjacent duct.

E. Joints: All duct joints shall be butt wrapped or bell and spigot joints as shown on the Drawings as required. Bell and spigot joints shall be sealed with a standard butt joint overlay as provided by VPC. Flange joints can be provided as required and will be per SMACNA standards.

- F. Total width of overlay for butt-wrap joints shall be not less than 6-inches for diameters from 2-inches up to and including 30-inches, 36-inch and larger shall be not less than 8-inches.
- G. Standard Elbows:
 - 1. Standard elbow centerline radius shall be equal to 1.5 times the diameter.
 - 2. Standard elbows up to 24-inch diameter shall be smooth radius molded elbows.
 - 3. Standard elbows 30-inch diameter and greater may be mitered sections as specified below.
 - a. 0° to 44° elbows shall contain one (1) mitered joint and two (2) sections. Elbows 45 or greater shall have a minimum of two (2) mitered joints and three (3) sections.
- H. Dampers:
 - 1. Control Dampers - All dampers shall be manufactured with the same material as corresponding duct. Blades will be solid FRP with stiffeners. Damper pivot rod will be FRP and bushings will be Teflon. Locking hand quadrant will be standard. Actuators can be provided as required.
- I. Accessories: All gaskets required shall be EPDM. Bolts, nuts, and washers shall be Type 316 stainless steel

PART 3 - EXECUTION

3.1 DUCTWORK INSTALLATION

- A. Duct shall be suspended in accordance with SMACNA guidelines from structural parts of the building.
- B. Ducts shall be secured against lateral displacement at every third hanger.
- C. All changes in direction of ducts shall be made with an inside radius not less than the width of the duct.
- D. Changes in shape of ducts shall be made at small angles, sides of ducts shall diverge or converge at an angle not greater than 15° whenever possible or as shown on the plans.
- E. All branch take offs, including individual discharge outlets, shall have volume dampers.

- F. All duct openings in roof shall be provided with a minimum of 4" high curbs. The Contractor shall flash and counter flash all ducts where they pass through roof. All flashing and counter-flashing shall be No. 24 gauge galvanized iron, unless otherwise indicated on drawings. Where ducts pass through interior walls, ceilings, floors or partitions, close visible opening around ducts with collars/escutcheon flush with surface.
- G. All ductwork and plenums exposed to weather shall be sealed watertight with caulking conforming to the requirements of other Divisions.
- H. Ducts mounted on the roof shall be installed a minimum of 18" above the roof, unless shown otherwise on the plans.

3.2 SEALANT INSTALLATION

- A. Install primer and sealants in accordance with ASTM C 1193 and manufacturer's instructions.
- B. Apply primer where required for sealant adhesion.
- C. Install sealants immediately after joint preparation.
- D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

* * * *

SECTION 230500 - COMMON WORK RESULTS FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SCOPE

- A. The work under this Section includes everything necessary for and incidental to executing and completing the Heating, Ventilating and Air Conditioning work, except as hereinafter specifically excluded.

1.3 SUBMITTALS

- A. Submit an electronic format pdf file of shop drawings for all products. All submittal sheets shall be clearly marked or highlighted showing conformance to specifications and schedule. All submittals shall be cross referenced to the requirements of each specification paragraph pertaining to the item being submitted. All requirements must be shown on manufacturer's literature. Manufacturer's representative's letterhead, or super-imposed notations, are not acceptable. This requirement pertains to all sections of Division 230000 included in this specification. No exceptions. Submittals not so marked will be subject to rejection.
- B. The contractor shall assume any extra costs to other work or trades resulting from the use of substitutions. All substitutions shall be supplied as approved at no extra charge.

1.4 RELATED WORK NOT IN THIS SECTION

- A. Painting, except as hereinafter specified.
- B. Division 26 Electrical, will provide all line voltage wiring, disconnects, magnetic starters except those furnished under this section as part of packaged equipment, manual starters, and connect up all motors complete.

1.5 DELIVERY AND STORAGE OF MATERIALS

- A. Provide for the safety and good condition of all materials and equipment until final acceptance by the Architect. Protect all materials and equipment from

damage from any cause whatever, and provide adequate and proper storage facilities during the progress of the work. Replace all damaged and defective work precedent to filing application for final acceptance.

1.6 CODES AND STANDARDS

- A. All work and materials shall be in full accordance with Title 24 CCR and the latest rules and regulations of the State Fire Marshall; the Safety Orders of the Division of Industrial Safety; the National Electric Code; the California Plumbing Code; Local Building Codes; the California Mechanical Code; Vol. II of the California Building Code; CCR T-24; and other applicable codes, laws or regulations of bodies lawfully empowered and having jurisdiction over this project. Nothing in the plans or specifications is to be construed to permit work not conforming to these codes.
- B. This Contractor shall obtain all permits, patent rights, and licenses that are required for the performing of his work by all laws, ordinances, rules and regulations or orders of any officer and/or body, shall give all notices necessary in connection therewith, and pay all fees relating thereto and all costs and expenses incurred on account thereof. No work shall be covered before inspection by the jurisdictional inspection and the Architect.

1.7 SEISMIC ANCHORAGE AND BRACING

- A. All equipment and ductwork shall be anchored or braced in accordance with the California Building Code. The contractor is responsible for providing anchorage or bracing for all equipment regardless of whether detailed or shown on the plans. All equipment and ductwork supports not detailed or shown on the plans requires approval of a registered Structural Engineer.
- B. All equipment and ductwork shall be supported or braced in accordance with the SMACNA "Seismic Restraint Manual: Guideline for Mechanical Systems" latest edition, B-Line/TOLCO "Seismic Bracing and Support Systems", OSHPD #OPM-0052-13, or Mason Industries "Seismic Restraint Components for Suspended Utilities", OSHPD #OPM-0043-13. If the duct size exceeds the size included in these manuals, custom designed supports are required. All custom supports require the approval of a registered Structural Engineer. All shop drawings and calculations shall be submitted prior to fabrication.

1.8 CUTTING AND PATCHING

- A. Perform all cutting and fitting required for work of this section in rough construction of the building.

- B. All patching of finished construction of building shall be performed under the sections of specifications covering these materials.
- C. Openings through fire rated walls for pipes and ducts shall be packed with impervious noncombustible materials to provide a tight fit. All duct penetrations through fire rated walls shall have a fire smoke damper with smoke detector and access panel.

1.9 GENERAL

- A. Unless otherwise specified herein, all equipment and fixtures shall be installed in accordance with the manufacturer's recommendations.
- B. Before submitting his bid, the Contractor for the work under this section shall carefully study all drawings. The contractor shall determine in advance, the methods of installing and connecting the apparatus, the means to be provided for getting any equipment into place, and shall make himself thoroughly familiar with all the requirements of the contract. After award of the contract, no subsequent allowances will be made to the Contractor due to his failure to comply with the above requirements and any other conditions affecting the installation and completion of all work.
- C. Workmanship: All labor shall be carefully skilled for this kind of work, thorough and first class in all respects and under the direction of a competent foreman.

1.10 DAMAGE BY LEAKS

- A. This Contractor shall be responsible for damage to the grounds, walks, roads, buildings, piping systems, electrical systems and their equipment and contents, caused by leaks in the piping systems being installed or having been installed herein. He shall repair at his expense all damage so caused. All repair work shall be done as directed by the Architect.

1.11 EMERGENCY REPAIRS

- A. The Owner reserves the right to make emergency repairs as required to keep equipment in operation without voiding the Contractor's guarantee bond nor relieving the Contractor of his responsibilities.

1.12 EXPLANATION AND PRECEDENCE OF DRAWINGS

- A. For purposes of clearness and legibility, drawings are essentially diagrammatic, and, although size and location of equipment are drawn to scale wherever

possible, Contractor shall make use of all data in all the contract documents and shall verify this information at building site.

- B. The drawings indicate required size and points of termination of ducts, and suggest proper routes to conform to structure, avoid obstructions and preserve clearances. However, it is not intended that drawings indicate all necessary offsets, and it shall be the work of the Contractor to make the installation in such a manner as to conform to structure, avoid obstructions, preserve headroom and keep openings and passageways clear, without further instructions or cost to the Owner.

1.13 OPERATION

- A. The Owner may require operation of parts or all of the installation for beneficial occupancy prior to final acceptance. Refer to General Conditions of the Contract.
- B. Cost of utilities for such operation shall be paid by the Owner. Said operation shall not be construed as acceptance of the work.

1.14 ELECTRICAL

- A. When electrical work is specified in previous or subsequent sections to be furnished and installed by Division 23 sections included in this specification, it shall be installed in metallic conduit and in full accordance with the California Electrical Code and the State of California Industrial Accident Commission's Safety Orders. Conduit shall be installed in accordance with the Electrical Division of these Specifications.
- B. The line voltage wiring shown on the Electrical Drawings is based on the control diagram, control specifications and specified items as outlined herein. Any changes necessary to accommodate the controls and specified items furnished which increase the cost for line voltage wiring shall be paid for by the Contractor.
- C. Before order is placed for motors or other electrical devices, the Contractor shall check with Division 26 sections included in this specifications, and verify requirements as to type, mounting and current characteristics as well as to any special delivery instructions.
- D. This Contractor shall furnish, install and/or align all motors for driving the equipment furnished and installed by this contract. Motors shall be designed to operate at full load continuously without exceeding a temperature rise of 40°C. The size of all motors shall be the size required by equipment it drives.

- E. Motors shall be fitted with base and slide rails. Motors shall be Westinghouse, General

1.15 UTILITY SERVICES DURING CONSTRUCTION

- A. All water and electric power used for construction shall be paid for by the Contractor.

1.16 Coordination

- A. Coordinate layout and installation of Ductwork, Equipment, Hydronic piping and suspension system components with other construction, including light fixtures, HVAC equipment, electrical conduit, fire suppression system components, and partition assemblies.
- B. Coordinate pipe sleeve installations for foundations wall penetrations.
- C. Coordinate installation of pipe sleeves for penetrations through exterior walls and floor assemblies.

PART 2 - PRODUCTS

- 2.1 Not used.

PART 3 - EXECUTION

3.1 REQUIREMENTS FOR ACCEPTANCE INSPECTION

- A. All of the following items must be completed prior to final inspections. No exceptions will be made and no final payment will be made until all items are completed.
- B. Operating Instruction and Service Manual: The Contractor shall carefully prepare three (3) operating instruction and service manuals for the entire system including all equipment, except Owner-furnished equipment. They shall be submitted for approval immediately upon completion of the work. Failure to submit for approval will delay final inspection and acceptance of the work by the Architect.
 - 1. The following items together with any other necessary pertinent data shall be included in the manual. This is not complete and is to be used as a guide:

- a. Manufacturer's Literature: Copy of manufacturer's instructions for operation and maintenance of all mechanical equipment, including replacement parts, lists and drawings. These brochures and any other required operating and service instructions shall be submitted to the Architect. The Contractor shall mark brochure literature indicating the model, sizes, capacities, curve operating points, etc., in a manner to clearly indicate the equipment installed. The Contractor shall remove all pages or sheets from the bulletins and catalogs that do not pertain to equipment installed on the project.
- b. Maintenance schedule and instructions
- c. Oiling, lubrication and greasing data.
- d. Complete electrical load data from operation test.
- e. Test data on all equipment.
- f. Belt sizes, types and lengths.
- g. Serial numbers of all principal pieces of equipment.
- h. Manufacturer's suppliers and subcontractors names and addresses and phone numbers.
- i. Control diagram and written sequence of operation.
- j. Written guarantee.
- k. As-builts corrected and completed to date.

3.2 IDENTIFICATION OF PIPING AND EQUIPMENT

- A. Equipment: Identify all mechanical equipment with nameplate bearing equipment name and number, and area / space served by equipment using 1-1/2" white Bakelite with 1/2" black letters permanently mounted by screws in a conspicuous place. All mechanical equipment shall be provided with a permanently affixed factory nameplate containing the model, manufacturer name, capacity, electrical data and serial number. Impeller size shall be included on pump information. Nameplate shall be engraved aluminum.
- B. Piping shall be identified with Seton or Brady pipe markers. Length of color field shall be a minimum of 12" in lengths. Height of letter shall be a minimum of 1-1/4". Markers shall also have flow direction arrows. Provide identification a minimum of every 20'-0".
- C. Valve Tags: Attach a 1" diameter x 18 gauge brass tag to each valve with a brass chain. Identify each tag by a stamped 1/2" high number. Mount a valve index list in each Mechanical Room on 1/4" plywood board and wood frame with 1/8" thick clear plexiglass cover. List to contain valve number, location, function, normal position and any special requirements

3.3 DRAWINGS OF RECORD

- A. Record of Project Progress: Maintain a complete set of reproducible contract drawings available at the job site for inspection. Keep an accurate, legible and continuously updated record of installed locations and all project revisions other than revised drawings issued by the Architect, including source and date of authorization. Utilize only contract drawing symbols for recording the work. Drawing notations to be sufficiently clear in the representation of work, for utilization by a CADD operator (drafts person) who is not necessarily familiar with the installed work.

3.4 GUARANTEE

- A. All work under this section shall be guaranteed in writing in accordance with the General Provisions.
- B. The Contractor shall and hereby does warrant that:
1. All material except as otherwise noted shall be new, free from defect and of the quality and rating shown or specified.
 2. Any defect due to missing or improper material or faulty workmanship existing or developing during the warranty period shall be corrected and the resulting damage repaired without additional cost to the Owner.
 3. The warranty period shall be one year from date of acceptance of the project.

* * * *

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Building wires and cables rated 600 V and less.
 - 2. Connectors, splices, and terminations rated 600 V and less.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Member Company of NETA or an NRTL.
 - 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Alcan Products Corporation; Alcan Cable Division.

2. Alpha Wire.
3. Belden Inc.
4. Encore Wire Corporation.
5. General Cable Technologies Corporation.
6. Southwire Incorporated.

- B. Copper Conductors: Comply with NEMA WC 70/ICEA S-95-658.
- C. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type THHN-2-THWN-2.
- D. Multiconductor Cable: Comply with NEMA WC 70/ICEA S-95-658 for metal-clad cable, Type MC with ground wire.

2.2 CONNECTORS AND SPLICES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. AFC Cable Systems, Inc.
 2. Gardner Bender.
 3. Hubbell Power Systems, Inc.
 4. Ideal Industries, Inc.
 5. Ilsco; a branch of Bardes Corporation.
 6. NSi Industries LLC.
 7. O-Z/Gedney; a brand of the EGS Electrical Group.
 8. 3M; Electrical Markets Division.
 9. Tyco Electronics.
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

2.3 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

- B. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type THHN-2-THWN-2, single conductors in raceway.
- B. Exposed Feeders: Type THHN-2-THWN-2, single conductors in raceway.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-2-THWN-2, single conductors in raceway.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-2-THWN-2, single conductors in raceway.
- E. Feeders Installed below Raised Flooring: Type THHN-2-THWN-2, single conductors in raceway] [Armored cable, Type AC.
- F. Exposed Branch Circuits, Including in Crawlspace: Type THHN-2-THWN-2, single conductors in raceway
- G. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-2-THWN-2, single conductors in raceway.
- H. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-2-THWN-2, single conductors in raceway.
- I. Branch Circuits Installed below Raised Flooring: Type THHN-2-THWN-2, single conductors in raceway.
- J. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."
- B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.7 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Code.

3.8 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Perform the following tests and inspections:

1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.
 2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 3. Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each splice in conductors No. 3 AWG and larger. Remove box and equipment covers so splices are accessible to portable scanner. Correct deficiencies determined during the scan.
 - a. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each splice 11 months after date of Substantial Completion.
 - b. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 - c. Record of Infrared Scanning: Prepare a certified report that identifies splices checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.
- D. Test and Inspection Reports: Prepare a written report to record the following:
1. Procedures used.
 2. Results that comply with requirements.
 3. Results that do not comply with requirements and corrective action taken to achieve compliance with requirements.
- E. Cables will be considered defective if they do not pass tests and inspections.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes grounding and bonding systems and equipment.
- B. Section includes grounding and bonding systems and equipment, plus the following special applications:
 - 1. Underground distribution grounding.
 - 2. Foundation steel electrodes.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency and testing agency's field supervisor.
- B. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For grounding to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Member company of NETA or an NRTL.
 - 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Burndy; Part of Hubbell Electrical Systems.
 - 2. Dossert; AFL Telecommunications LLC.
 - 3. ERICO International Corporation.
 - 4. Fushi Copperweld Inc.
 - 5. Galvan Industries, Inc.; Electrical Products Division, LLC.
 - 6. Harger Lightning and Grounding.
 - 7. ILSCO.
 - 8. O-Z/Gedney; A Brand of the EGS Electrical Group.
 - 9. Robbins Lightning, Inc.
 - 10. Siemens Power Transmission & Distribution, Inc.

2.2 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

2.3 CONDUCTORS

- A. Insulated Conductors: Copper or tinned-copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Bare Copper Conductors:
 - 1. Solid Conductors: ASTM B 3.
 - 2. Stranded Conductors: ASTM B 8.
 - 3. Tinned Conductors: ASTM B 33.
 - 4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.
 - 5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
 - 6. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.

7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.
- C. Grounding Bus: Predrilled rectangular bars of annealed copper, 1/4 by 4 inches in cross section, with 9/32-inch holes spaced 1-1/8 inches apart. Stand-off insulators for mounting shall comply with UL 891 for use in switchboards, 600 V and shall be Lexan or PVC, impulse tested at 5000 V.

2.4 CONNECTORS

- A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
- B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy.
- C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- D. Bus-Bar Connectors: Mechanical type, cast silicon bronze, solderless compression - type wire terminals, and long-barrel, two-bolt connection to ground bus bar.

2.5 GROUNDING ELECTRODES

- A. Ground Rods: Copper-clad 3/4 inch by 10 feet.

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger unless otherwise indicated.
- B. Grounding Bus: Install in electrical equipment rooms, in rooms housing service equipment, and elsewhere as indicated.
 1. Install bus horizontally, on insulated spacers 2 inches (50 mm) minimum from wall, 6 inches (150 mm) above finished floor unless otherwise indicated.
 2. Where indicated on both sides of doorways, route bus up to top of door frame, across top of doorway, and down; connect to horizontal bus.
- C. Conductor Terminations and Connections:
 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
 2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
 3. Connections to Ground Rods at Test Wells: Bolted connectors.
 4. Connections to Structural Steel: Welded connectors.

3.2 GROUNDING AT THE SERVICE

- A. Equipment grounding conductors and grounding electrode conductors shall be connected to the ground bus. Install a main bonding jumper between the neutral and ground buses.

3.3 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.
- B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 - 1. Feeders and branch circuits.
 - 2. Lighting circuits.
 - 3. Receptacle circuits.
 - 4. Single-phase motor and appliance branch circuits.
 - 5. Three-phase motor and appliance branch circuits.
 - 6. Flexible raceway runs.
 - 7. Armored and metal-clad cable runs.
- C. Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.

3.4 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Ground Rods: Drive rods until tops are 2 inches below finished floor or final grade unless otherwise indicated.
 - 1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating if any.
 - 2. For grounding electrode system, install at least three rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes, and connect to the service grounding electrode conductor.
- C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.

3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.

D. Grounding and Bonding for Piping:

1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.

E. Grounding for Steel Building Structure: Install a driven ground rod at base of each corner column and at intermediate exterior columns at distances not more than 60 feet apart.

F. Ground Ring: Install a grounding conductor, electrically connected to each building structure ground rod and to each steel column, extending around the perimeter of building.

1. Install tinned-copper conductor not less than No. 2/0 AWG for ground ring and for taps to building steel.
2. Bury ground ring not less than 24 inches from building's foundation.

G. Concrete-Encased Grounding Electrode (Ufer Ground): Fabricate according to NFPA 70; use a minimum of 20 feet of bare copper conductor not smaller than No. 4 AWG.

1. If concrete foundation is less than 20 feet long, coil excess conductor within base of foundation.
2. Bond grounding conductor to reinforcing steel in at least four locations and to anchor bolts. Extend grounding conductor below grade and connect to building's grounding grid or to grounding electrode external to concrete.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- C. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

D. Tests and Inspections:

1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
3. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal and at individual ground rods. Make tests at ground rods before any conductors are connected.
 - a. Measure ground resistance no fewer than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
 - b. Perform tests by fall-of-potential method according to IEEE 81.

E. Grounding system will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

G. Report measured ground resistances that exceed the following values:

1. Power and Lighting Equipment or System with Capacity of 500 kVA and Less: 10 ohms.
2. Power and Lighting Equipment or System with Capacity of 500 to 1000 kVA: 5 ohms.
3. Power and Lighting Equipment or System with Capacity More Than 1000 kVA: 3 ohms.

H. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

END OF SECTION 260526

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Hangers and supports for electrical equipment and systems.
 - 2. Construction requirements for concrete bases.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. IMC: Intermediate metal conduit.
- C. RMC: Rigid metal conduit.

1.4 PERFORMANCE REQUIREMENTS

- A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
- B. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
- C. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of **five** times the applied force.

1.5 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Steel slotted support systems.
 - 2. Nonmetallic slotted support systems.

1.6 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.7 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Comply with NFPA 70.

1.8 COORDINATION

- A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified together with concrete Specifications.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Allied Tube & Conduit.
 - b. Cooper B-Line, Inc.
 - c. ERICO International Corporation.
 - d. GS Metals Corp.
 - e. Thomas & Betts Corporation.
 - f. Unistrut; Atkore International.
 - g. Wesanco, Inc.
 - 2. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 - 3. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 - 4. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 - 5. Channel Dimensions: Selected for applicable load criteria.
- B. Nonmetallic Slotted Support Systems: Structural-grade, factory-formed, glass-fiber-resin channels and angles with 9/16-inch- diameter holes at a maximum of 8 inches O.C., in at least 1 surface.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Allied Tube & Conduit.
 - b. Cooper B-Line, Inc.
 - c. Fabco Plastics Wholesale Limited.
 - d. Seasafe, Inc.
 2. Fittings and Accessories: Products of channel and angle manufacturer and designed for use with those items.
 3. Fitting and Accessory Materials: Same as channels and angles, except metal items may be stainless steel.
 4. Rated Strength: Selected to suit applicable load criteria.
- C. Raceway and Cable Supports: As described in NECA 1 and NECA 101.
- D. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- E. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.
- F. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- G. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Hilti, Inc.
 - 2) ITW Ramset/Red Head; Illinois Tool Works, Inc.
 - 3) MKT Fastening, LLC.
 - 4) Simpson Strong-Tie Co., Inc.
 2. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.

- a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- 1) Cooper B-Line, Inc.
- 2) Empire Tool and Manufacturing Co., Inc.
- 3) Hilti, Inc.
- 4) ITW Ramset/Red Head; Illinois Tool Works, Inc.
- 5) MKT Fastening, LLC.

3. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
6. Toggle Bolts: All-steel springhead type.
7. Hanger Rods: Threaded steel.

2.2 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as scheduled in NECA 1, where its Table 1 lists maximum spacings less than stated in NFPA 70. Minimum rod size shall be 1/4 inch in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted or other support system, sized so capacity can be increased by at least **25** percent in future without exceeding specified design load limits.
1. Secure raceways and cables to these supports with two-bolt conduit clamps] [single-bolt conduit clamps.
- D. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To New Concrete: Bolt to concrete inserts.
 - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 4. To Existing Concrete: Expansion anchor fasteners.
 - 5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches thick.
 - 6. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts.
 - 7. To Light Steel: Sheet metal screws.
 - 8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated but not less than 4 inches larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
- B. Anchor equipment to concrete base.
 - 1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
 - 3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

3.5 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - 1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils.
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 260529

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Metal conduits, tubing, and fittings.
2. Nonmetal conduits, tubing, and fittings.
3. Metal wireways and auxiliary gutters.
4. Surface raceways.
5. Boxes, enclosures, and cabinets.

- B. Related Requirements:

1. Section 260543 "Underground Ducts and Raceways for Electrical Systems" for exterior ductbanks, manholes, and underground utility construction.

1.3 DEFINITIONS

- A. GRC: Galvanized rigid steel conduit.
- B. IMC: Intermediate metal conduit.

1.4 ACTION SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

1.5 INFORMATIONAL SUBMITTALS

- A. Source quality-control reports.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. AFC Cable Systems, Inc.
 2. Allied Tube & Conduit.
 3. Anamet Electrical, Inc.
 4. Electri-Flex Company.
 5. O-Z/Gedney.
 6. Picoma Industries.
 7. Republic Conduit.
 8. Robroy Industries.
 9. Southwire Company.
 10. Thomas & Betts Corporation.
 11. Western Tube and Conduit Corporation.
 12. Wheatland Tube Company.
- B. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. GRC: Comply with ANSI C80.1 and UL 6.
- D. IMC: Comply with ANSI C80.6 and UL 1242.
- E. PVC-Coated Steel Conduit: PVC-coated rigid steel conduit.
1. Comply with NEMA RN 1.
 2. Coating Thickness: 0.040 inch, minimum.
- F. EMT: Comply with ANSI C80.3 and UL 797.
- G. FMC: Comply with UL 1; zinc-coated steel.
- H. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.
- I. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
 2. Fittings for EMT:
 - a. Material: Steel.
 - b. Type: compression.

3. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.
 4. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch, with overlapping sleeves protecting threaded joints.
- J. Joint Compound for IMC or GRC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 NONMETALLIC CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. AFC Cable Systems, Inc.
 2. Anamet Electrical, Inc.
 3. Arnco Corporation.
 4. CANTEX Inc.
 5. CertainTeed Corporation.
 6. Condux International, Inc.
 7. Electri-Flex Company.
 8. Kraloy.
 9. Lamson & Sessions; Carlon Electrical Products.
 10. Niedax-Kleinhuis USA, Inc.
 11. RACO; Hubbell.
 12. Thomas & Betts Corporation.
- B. Listing and Labeling: Nonmetallic conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. ENT: Comply with NEMA TC 13 and UL 1653.
- D. RNC: Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.
- E. LFNC: Comply with UL 1660.
- F. Rigid HDPE: Comply with UL 651A.
- G. Continuous HDPE: Comply with UL 651B.
- H. Coilable HDPE: Preassembled with conductors or cables, and complying with ASTM D 3485.
- I. RTRC: Comply with UL 1684A and NEMA TC 14.

- J. Fittings for ENT and RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.
- K. Fittings for LFNC: Comply with UL 514B.
- L. Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or less, respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- M. Solvent cements and adhesive primers shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.3 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Cooper B-Line, Inc.
 - 2. Hoffman.
 - 3. Mono-Systems, Inc.
 - 4. Square D.
- B. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 3R unless otherwise indicated, and sized according to NFPA 70.
 - 1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Wireway Covers: Hinged type unless otherwise indicated.
- E. Finish: Manufacturer's standard enamel finish.

2.4 SURFACE RACEWAYS

- A. Listing and Labeling: Surface raceways and tele-power poles shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Surface Metal Raceways: Galvanized steel with snap-on covers complying with UL 5. Manufacturer's standard enamel finish in color selected by Architect.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Mono-Systems, Inc.
- b. Panduit Corp.
- c. Wiremold / Legrand.

- C. Surface Nonmetallic Raceways: Two- or three-piece construction, complying with UL 5A, and manufactured of rigid PVC with texture and color selected by Architect from manufacturer's standard colors. Product shall comply with UL 94 V-0 requirements for self-extinguishing characteristics.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Hubbell Incorporated.
- b. Mono-Systems, Inc.
- c. Panduit Corp.
- d. Wiremold / Legrand.

2.5 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Adalet.
2. Cooper Technologies Company; Cooper Crouse-Hinds.
3. EGS/Appleton Electric.
4. Erickson Electrical Equipment Company.
5. FSR Inc.
6. Hoffman.
7. Hubbell Incorporated.
8. Kraloy.
9. Milbank Manufacturing Co.
10. Mono-Systems, Inc.
11. O-Z/Gedney.
12. RACO; Hubbell.
13. Robroy Industries.
14. Spring City Electrical Manufacturing Company.
15. Stahlin Non-Metallic Enclosures.
16. Thomas & Betts Corporation.
17. Wiremold / Legrand.

- B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

- C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

- D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.
- E. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.
- F. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb. Outlet boxes designed for attachment of luminaires weighing more than 50 lb shall be listed and marked for the maximum allowable weight.
- G. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- H. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum with gasketed cover.
- I. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- J. Device Box Dimensions: 4 inches by 2-1/8 inches by 2-1/8 inches deep.
- K. Gangable boxes are allowed.
- L. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 1 with continuous-hinge cover with flush latch unless otherwise indicated.
 - 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
 - 2. Nonmetallic Enclosures: Fiberglass.
 - 3. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.
- M. Cabinets:
 - 1. NEMA 250, Type 1galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 - 2. Hinged door in front cover with flush latch and concealed hinge.
 - 3. Key latch to match panelboards.
 - 4. Metal barriers to separate wiring of different systems and voltage.
 - 5. Accessory feet where required for freestanding equipment.
 - 6. Nonmetallic cabinets shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. Exposed Conduit: GRC.
 - 2. Concealed Conduit, Aboveground: EMT.
 - 3. Underground Conduit: RNC, Type EPC-40-PVCdirect buried.

4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFNC.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

B. Indoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed, Not Subject to Severe Physical Damage: EMT.
3. Exposed and Subject to Severe Physical Damage: GRC. Raceway locations include the following:
 - a. Pump station.
 - b. Mechanical rooms.
4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
6. Damp or Wet Locations: GRC.
7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in institutional and commercial kitchens and damp or wet locations.

C. Minimum Raceway Size: 1/2-inch trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
3. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.

E. Install surface raceways only where indicated on Drawings.

F. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

3.2 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.

- C. Complete raceway installation before starting conductor installation.
- D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- E. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- H. Support conduit within 12 inches of enclosures to which attached.
- I. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot intervals.
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Arrange raceways to keep a minimum of 1 inch of concrete cover in all directions.
 - 4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
 - 5. Change from ENT to GRC before rising above floor.
- J. Stub-ups to Above Recessed Ceilings:
 - 1. Use EMT, IMC, or RMC for raceways.
 - 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.
- M. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- N. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

- O. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- P. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- Q. Cut conduit perpendicular to the length. For conduits 2-inch trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.
- R. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- S. Surface Raceways:
 - 1. Install surface raceway with a minimum 2-inch radius control at bend points.
 - 2. Secure surface raceway with screws or other anchor-type devices at intervals not exceeding 48 inches and with no less than two supports per straight raceway section. Support surface raceway according to manufacturer's written instructions. Tape and glue are not acceptable support methods.
- T. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.
- U. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:
 - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2. Where an underground service raceway enters a building or structure.
 - 3. Where otherwise required by NFPA 70.
- V. Comply with manufacturer's written instructions for solvent welding RNC and fittings.
- W. Expansion-Joint Fittings:
 - 1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F and that has straight-run length that exceeds 25 feet. Install in each run of aboveground RMC and EMT conduit that is located where environmental temperature change may exceed 100 deg F and that has straight-run length that exceeds 100 feet.
 - 2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:
 - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.

- b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
 - c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.
 - d. Attics: 135 deg F temperature change.
 - 3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F of temperature change for metal conduits.
 - 4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
 - 5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.
- X. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches of flexible conduit for recessed and semi-recessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
- 1. Use LFMC in damp or wet locations subject to severe physical damage.
 - 2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.
- Y. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- Z. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a rain-tight connection between box and cover plate or supported equipment and box.
- AA. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- BB. Locate boxes so that cover or plate will not span different building finishes.
- CC. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- DD. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
- EE. Set metal floor boxes level and flush with finished floor surface.
- FF. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.

3.3 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.4 FIRESTOPPING

- A. Install firestopping at penetrations of fire-rated floor and wall assemblies.

3.5 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260533

SECTION 260543: UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Direct-buried conduit, ducts, and duct accessories.
 - 2. Concrete-encased conduit, ducts, and duct accessories.
 - 3. Handholes and boxes.

1.3 DEFINITIONS

- A. Traffic-ways: Locations where vehicular or pedestrian traffic is a normal course of events.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include duct-bank materials, including separators and miscellaneous components.
 - 2. Include ducts and conduits and their accessories, including elbows, end bells, bends, fittings, and solvent cement.
 - 3. Include accessories for manholes, handholes and boxes.
 - 4. Include warning tape.
 - 5. Include warning planks.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For concrete and steel used in precast concrete handholes, as required by ASTM C 858.
- B. Source quality-control reports.
- C. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

1.7 FIELD CONDITIONS

- A. Ground Water: Assume ground-water level is at grade level unless a lower water table is noted on Drawings.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR DUCTS AND RACEWAYS

- A. Comply with ANSI C2.

2.2 CONDUIT

- A. Rigid Steel Conduit: Galvanized. Comply with ANSI C80.1.
- B. RNC: NEMA TC 2, Type EPC-40-PVC, UL 651, with matching fittings by same manufacturer as the conduit, complying with NEMA TC 3 and UL 514B.

2.3 NONMETALLIC DUCTS AND DUCT ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. ARNCO Corp.
 - 2. Beck Manufacturing.
 - 3. Cantex, Inc.
 - 4. CertainTeed Corporation.
 - 5. Condux International, Inc.
 - 6. ElecSys, Inc.
 - 7. Electri-Flex Company.
 - 8. IPEX Inc.
 - 9. Lamson & Sessions; Carlon Electrical Products.
 - 10. Spiraduct/AFC Cable Systems, Inc.
- B. Underground Plastic Utilities Duct: NEMA TC 2, UL 651, ASTM F 512, Type EPC-40, with matching fittings complying with NEMA TC 3 by same manufacturer as the duct.
- C. Duct Accessories:

1. Duct Separators: Factory-fabricated rigid PVC interlocking spacers, sized for type and size of ducts with which used, and selected to provide minimum duct spacing indicated while supporting ducts during concreting or backfilling.
2. Warning Tape: Underground-line warning tape specified in Section 260553 "Identification for Electrical Systems."

2.4 PRECAST CONCRETE HANDHOLES AND BOXES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Christy Concrete Products.
 2. Elmhurst-Chicago Stone Co.
 3. Oldcastle Precast Group.
 4. Rinker Group, Ltd.
 5. Riverton Concrete Products.
 6. Utility Concrete Products, LLC.
 7. Utility Vault Co.
 8. Wausau Tile Inc.
- B. Comply with ASTM C 858 for design and manufacturing processes.
- C. Description: Factory-fabricated, reinforced-concrete, monolithically poured walls and bottom unless open-bottom enclosures are indicated. Frame and cover shall form top of enclosure and shall have load rating consistent with that of handhole or box.
1. Frame and Cover: Weatherproof steel frame, with steel cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts.
 2. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 3. Cover Legend: Molded lettering, As indicated for each service.
 4. Configuration: Units shall be designed for flush burial and have closed bottom unless otherwise indicated.
 5. Handholes 12 inches wide by 24 inches long and larger shall have inserts for cable racks and pulling-in irons installed before concrete is poured.

2.5 SOURCE QUALITY CONTROL

- A. Test and inspect precast concrete utility structures according to ASTM C 1037.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate layout and installation of ducts, manholes, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field. Notify Architect if there is a conflict between areas of excavation and existing structures or archaeological sites to remain.
- B. Coordinate elevations of ducts and duct-bank entrances into manholes, handholes, and boxes with final locations and profiles of ducts and duct banks, as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations as required to suit field conditions and to ensure that duct runs drain to manholes and handholes, and as approved by Architect.

3.2 UNDERGROUND DUCT APPLICATION

- A. Ducts for Electrical Feeders 600 V and Less: RNC, NEMA Type EPC-40-PVC, in direct-buried duct bank unless otherwise indicated.
- B. Ducts for Electrical Branch Circuits: RNC, NEMA Type EPC-40 PVC, in direct-buried duct bank unless otherwise indicated.
- C. Underground Ducts Crossing Paved Paths and Roadways: RNC, NEMA Type EPC-40-PVC, encased in reinforced concrete.

3.3 UNDERGROUND ENCLOSURE APPLICATION

- A. Handholes and Boxes for 600 V and Less:
 - 1. Units in Roadways and Other Deliberate Traffic Paths: Precast concrete, AASHTO HB 17, H-20 structural load rating.
 - 2. Units in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Non-deliberate Loading by Heavy Vehicles: Precast concrete, AASHTO HB 17, H-20 structural load rating.
 - 3. Units in Sidewalk and Similar Applications with a Safety Factor for Non-deliberate Loading by Vehicles: Precast concrete, AASHTO HB 17, H-10 structural load rating.
 - 4. Cover design load shall not exceed the design load of the handhole or box.

3.4 EARTHWORK

- A. Restore surface features at areas disturbed by excavation, and re-establish original grades unless otherwise indicated. Replace removed sod immediately after backfilling is completed.
- B. Cut and patch existing pavement in the path of underground ducts and utility structures.

3.5 DUCT INSTALLATION

- A. Install ducts according to NEMA TCB 2.
- B. Slope: Pitch ducts a minimum slope of 1:300 down toward manholes and handholes and away from buildings and equipment. Slope ducts from a high point in runs between two manholes, to drain in both directions.
- C. Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use manufactured long sweep bends with a minimum radius of 48 inches, both horizontally and vertically, at other locations unless otherwise indicated.
- D. Joints: Use solvent-cemented joints in ducts and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent ducts do not lie in same plane.
- E. Building Wall Penetrations: Make a transition from underground duct to rigid steel conduit at least 10 feet outside the building wall, without reducing duct line slope away from the building, and without forming a trap in the line. Use fittings manufactured for duct-to-conduit transition. Install conduit penetrations of building walls as specified in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."
- F. Sealing: Provide temporary closure at terminations of ducts that have cables pulled. Seal spare ducts at terminations. Use sealing compound and plugs to withstand at least 15-psig hydrostatic pressure.
- G. Pulling Cord: Install 100-lbf- test nylon cord in empty ducts.
- H. Direct-Buried Duct Banks:
 - 1. Excavate trench bottom to provide firm and uniform support for duct bank.
 - 2. Support ducts on duct separators coordinated with duct size, duct spacing, and outdoor temperature.
 - 3. Space separators close enough to prevent sagging and deforming of ducts, with not less than four spacers per 20 feet of duct. Secure separators to earth and to ducts to prevent displacement during backfill and yet permit linear duct movement due to expansion and contraction as temperature changes. Stagger spacers approximately 6 inches between tiers.
 - 4. Depth: Install top of duct bank at least 36 inches below finished grade unless otherwise indicated.
 - 5. Install ducts with a minimum of 3 inches (75 mm) between ducts for like services and 6 inches (150 mm) between power and signal ducts.
 - 6. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment, at building entrances through floor, and at changes of direction in duct run.
 - a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete.
 - b. For equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches from edge of equipment pad or

foundation. Install insulated grounding bushings on terminations at equipment.

7. After installing first tier of ducts, backfill and compact. Start at tie-in point and work toward end of duct run, leaving ducts at end of run free to move with expansion and contraction as temperature changes during this process. Repeat procedure after placing each tier. After placing last tier, hand place backfill to 4 inches over ducts and hand tamp. Firmly tamp backfill around ducts to provide maximum supporting strength. Use hand tamper only. After placing controlled backfill over final tier, make final duct connections at end of run and complete backfilling with normal compaction.

- a. Place minimum 6 inches of engineered fill above concrete encasement of duct bank.

- I. Warning Tape: Bury warning tape approximately 12 inches above all concrete-encased ducts and duct banks. Align tape parallel to and within 3 inches of centerline of duct bank. Provide an additional warning tape for each 12-inch increment of duct-bank width over a nominal 18 inches. Space additional tapes 12 inches apart, horizontally.

3.6 INSTALLATION OF CONCRETE MANHOLES, HANDHOLES, AND BOXES

A. Precast Concrete Handhole and Manhole Installation:

1. Comply with ASTM C 891 unless otherwise indicated.
2. Install units level and plumb and with orientation and depth coordinated with connecting ducts, to minimize bends and deflections required for proper entrances.
3. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

B. Elevations:

1. Handhole Covers: In paved areas and trafficways, set surface flush with finished grade. Set covers of other handholes 1 inch (25 mm) above finished grade.
2. Where indicated, cast handhole cover frame integrally with handhole structure.

- #### C. Field-Installed Bolting Anchors in Concrete Handholes:
- Do not drill deeper than 2 inches for handholes, for anchor bolts installed in the field. Use a minimum of two anchors for each cable stanchion.

3.7 GROUNDING

- #### A. Ground underground ducts and utility structures according to Section 260526 "Grounding and Bonding for Electrical Systems."

3.8 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections and prepare test reports:
 - 1. Demonstrate capability and compliance with requirements on completion of installation of underground ducts and utility structures.
 - 2. Pull solid aluminum or wood test mandrel through duct to prove joint integrity and adequate bend radii, and test for out-of-round duct. Provide a minimum 6-inch-long mandrel equal to 80 percent fill of duct. If obstructions are indicated, remove obstructions and retest.
 - 3. Test handhole grounding to ensure electrical continuity of grounding and bonding connections. Measure and report ground resistance as specified in Section 260526 "Grounding and Bonding for Electrical Systems."
- B. Correct deficiencies and retest as specified above to demonstrate compliance.

3.9 CLEANING

- A. Pull leather-washer-type duct cleaner, with graduated washer sizes, through full length of ducts. Follow with rubber duct swab for final cleaning and to assist in spreading lubricant throughout ducts.
- B. Clean internal surfaces of manholes, including sump. Remove foreign material.

END OF SECTION 260543

SECTION 260544 - SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Sleeves for raceway and cable penetration of non-fire-rated construction walls and floors.
 - 2. Sleeve-seal systems.
 - 3. Sleeve-seal fittings.
 - 4. Grout.
 - 5. Silicone sealants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 SLEEVES

- A. Wall Sleeves:
 - 1. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, plain ends.
- B. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies: Galvanized-steel sheet; 0.0239-inch (0.6-mm) minimum thickness; round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.
- C. Molded-PE or -PP Sleeves: Removable, tapered-cup shaped, and smooth outer surface with nailing flange for attaching to wooden forms.
- D. Sleeves for Rectangular Openings:
 - 1. Material: Galvanized sheet steel.

2. Minimum Metal Thickness:

- a. For sleeve cross-section rectangle perimeter less than 50 inches and with no side larger than 16 inches, thickness shall be 0.052 inch
- b. For sleeve cross-section rectangle perimeter 50 inches or more and one or more sides larger than 16 inches, thickness shall be 0.138 inch.

2.2 SLEEVE-SEAL SYSTEMS

- A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Advance Products & Systems, Inc.
 - b. CALPICO, Inc.
 - c. Metraflex Company (The).
 - d. Pipeline Seal and Insulator, Inc.
 - e. Proco Products, Inc.
2. Sealing Elements: EPDM rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
3. Pressure Plates: Carbon steel
4. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, of length required to secure pressure plates to sealing elements.

2.3 SLEEVE-SEAL FITTINGS

- A. Description: Manufactured plastic, sleeve-type, waterstop assembly made for embedding in concrete slab or wall. Unit shall have plastic or rubber waterstop collar with center opening to match piping OD.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Presealed Systems.

2.4 GROUT

- A. Description: Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.
- B. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- C. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.

- D. Packaging: Premixed and factory packaged.

2.5 SILICONE SEALANTS

- A. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below.
 - 1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces that are not fire rated.
- B. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.

PART 3 - EXECUTION

3.1 SLEEVE INSTALLATION FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

- A. Comply with NECA 1.
- B. Comply with NEMA VE 2 for cable tray and cable penetrations.
- C. Sleeves for Conduits Penetrating Above-Grade Non-Fire-Rated Concrete and Masonry-Unit Floors and Walls:
 - 1. Interior Penetrations of Non-Fire-Rated Walls and Floors:
 - a. Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint.
 - b. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect material while curing.
 - 2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
 - 3. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway or cable unless sleeve seal is to be installed or unless seismic criteria require different clearance.
 - 4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.
 - 5. Install sleeves for floor penetrations. Extend sleeves installed in floors 2 inches above finished floor level. Install sleeves during erection of floors.
- D. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies:
 - 1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
 - 2. Seal space outside of sleeves with approved joint compound for gypsum board assemblies.

- E. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.
- F. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- G. Underground, Exterior-Wall and Floor Penetrations: Install cast-iron pipe sleeves. Size sleeves to allow for 1-inch annular clear space between raceway or cable and sleeve for installing sleeve-seal system.

3.2 SLEEVE-SEAL-SYSTEM INSTALLATION

- A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at raceway entries into building.
- B. Install type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.3 SLEEVE-SEAL-FITTING INSTALLATION

- A. Install sleeve-seal fittings in new walls and slabs as they are constructed.
- B. Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position waterstop flange to be centered in concrete slab or wall.
- C. Secure nailing flanges to concrete forms.
- D. Using grout, seal the space around outside of sleeve-seal fittings.

END OF SECTION 260544

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Identification for raceways.
 - 2. Identification of power and control cables.
 - 3. Identification for conductors.
 - 4. Underground-line warning tape.
 - 5. Warning labels and signs.
 - 6. Instruction signs.
 - 7. Equipment identification labels.
 - 8. Miscellaneous identification products.

1.3 ACTION SUBMITTALS

- A. Product Data: For each electrical identification product indicated.

1.4 QUALITY ASSURANCE

- A. Comply with ANSI A13.1 .
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.5 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance

Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.

- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each cable size.
- B. Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing ends of legend label.
- C. Self-Adhesive, Self-Laminating Polyester Labels: Write-on 3-mil- thick flexible label with acrylic pressure-sensitive adhesive that provides a clear, weather- and chemical-resistant, self-laminating, protective shield over the legend. Labels sized to fit the cable diameter such that the clear shield overlaps the entire printed legend.
- D. Heat-Shrink Preprinted Tubes: Flame-retardant polyolefin tube with machine-printed identification label. Sized to suit diameter of and shrinks to fit firmly around cable it identifies. Full shrink recovery at a maximum of 200 deg F. Comply with UL 224.
- E. Write-On Tags: Polyester tag, 0.010 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
 - 1. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
- F. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of cable it identifies and to stay in place by gripping action.
- G. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches long, with diameter sized to suit diameter of cable it identifies and to stay in place by gripping action.

2.2 WARNING LABELS AND SIGNS

- A. Comply with NFPA 70 and 29 CFR 1910.145.

- B. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.
- C. Warning label and sign shall include, but are not limited to, the following legends:
 - 1. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."

2.3 EQUIPMENT IDENTIFICATION LABELS

- A. Adhesive Film Label: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch.
- B. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch. Overlay shall provide a weatherproof and UV-resistant seal for label.
- C. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch.
- D. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a dark-gray background. Minimum letter height shall be 3/8 inch.

2.4 CABLE TIES

- A. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, Type 6/6 nylon.
 - 1. Minimum Width: 3/16 inch.
 - 2. Tensile Strength at 73 deg F (23 deg C), According to ASTM D 638: 12,000 psi.
 - 3. Temperature Range: Minus 40 to plus 185 deg F.
 - 4. Color: Black except where used for color-coding.

2.5 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Select paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
- F. Attach plastic raceway and cable labels that are not self-adhesive type with clear vinyl tape with adhesive appropriate to the location and substrate.
- G. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.

3.2 IDENTIFICATION SCHEDULE

- A. Accessible Raceways, Armored and Metal-Clad Cables, More Than 600 V: Self-adhesive vinyl labels. Install labels at 10-foot maximum intervals.
- B. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor tape to identify the phase.
 - 1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for ungrounded feeder and branch-circuit conductors.
 - a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
 - b. Colors for 208/120-V Circuits:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.
 - c. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no

tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.

- C. Install instructional sign including the color-code for grounded and ungrounded conductors using adhesive-film-type labels.
- D. Workspace Indication: Install floor marking tape to show working clearances in the direction of access to live parts. Workspace shall be as required by NFPA 70 and 29 CFR 1926.403 unless otherwise indicated. Do not install at flush-mounted panelboards and similar equipment in finished spaces.
- E. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Self-adhesive warning labels.
 - 1. Comply with 29 CFR 1910.145.
 - 2. Identify system voltage with black letters on an orange background.
 - 3. Apply to exterior of door, cover, or other access.
- F. Operating Instruction Signs: Install instruction signs to facilitate proper operation and maintenance of electrical systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system or equipment operation.
- G. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the 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: Self-adhesive, engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2-inch- high letters on 1-1/2-inch- high label; where two lines of text are required, use labels 2 inches high.
 - b. Outdoor Equipment: Engraved, laminated acrylic or melamine label.
 - c. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.
 - d. Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.
 - 2. Equipment to Be Labeled:
 - a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be self-adhesive, engraved, laminated acrylic or melamine label.
 - b. Enclosures and electrical cabinets.
 - c. Access doors and panels for concealed electrical items.
 - d. Switchboards.

- e. Enclosed switches.
- f. Enclosed circuit breakers.
- g. Enclosed controllers.
- h. Contactors.

END OF SECTION 260553

SECTION 260574 - OVERCURRENT PROTECTIVE DEVICE ARC-FLASH STUDY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes a computer-based, arc-flash study to determine the arc-flash hazard distance and the incident energy to which personnel could be exposed during work on or near electrical equipment.

1.3 DEFINITIONS

- A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.
- B. One-Line Diagram: A diagram which shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein.
- C. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion from the system.
- D. SCCR: Short-circuit current rating.
- E. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

1.4 ACTION SUBMITTALS

- A. Product Data: For computer software program to be used for studies.
- B. Other Action Submittals: Submit the following submittals after the approval of system protective devices submittals. Submittals may be in digital form.
 - 1. Arc-flash study input data, including completed computer program input data sheets.
 - 2. Arc-flash study report; signed, dated, and sealed by a qualified professional engineer.

- a. Submit study report for action prior to receiving final approval of the distribution equipment submittals. If formal completion of studies will cause delay in equipment manufacturing, obtain approval from Architect for preliminary submittal of sufficient study data to ensure that the selection of devices and associated characteristics is satisfactory.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Arc-Flash Study Specialist.
- B. Product Certificates: For arc-flash hazard analysis software, certifying compliance with IEEE 1584 and NFPA 70E.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance procedures according to requirements in NFPA 70E shall be provided in the equipment manuals.

1.7 QUALITY ASSURANCE

- A. Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Manual calculations are unacceptable.
- B. Arc-Flash Study Software Developer Qualifications: An entity that owns and markets computer software used for studies, having performed successful studies of similar magnitude on electrical distribution systems using similar devices.
 1. The computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.
- C. Arc-Flash Study Specialist Qualifications: Professional engineer in charge of performing the study, analyzing the arc flash, and documenting recommendations, licensed in the state where Project is located. All elements of the study shall be performed under the direct supervision and control of this professional engineer.
- D. Field Adjusting Agency Qualifications: An independent agency, with the experience and capability to adjust overcurrent devices and to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 COMPUTER SOFTWARE DEVELOPERS

- A. Software Developers: Subject to compliance with requirements, available software developers offering software that may be used for the Work include, but are not limited to, the following:
 - 1. ESA Inc.
 - 2. Operation Technology, Inc.
 - 3. Power Analytics, Corporation.
 - 4. SKM Systems Analysis, Inc.
- B. Comply with IEEE 1584 and NFPA 70E.
- C. Analytical features of device coordination study computer software program shall have the capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.

2.2 SHORT-CIRCUIT STUDY REPORT CONTENT

- A. Executive summary.
- B. Study descriptions, purpose, basis and scope.
- C. One-line diagram, showing the following:
 - 1. Protective device designations and ampere ratings.
 - 2. Cable size and lengths.
 - 3. Motor and generator designations and kVA ratings.
 - 4. Switchgear, switchboard, motor-control center and panelboard designations.
- D. Study Input Data: As described in "Power System Data" Article.
- E. Short-Circuit Study Output:
 - 1. Interrupting Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:
 - a. Voltage.
 - b. Calculated symmetrical fault-current magnitude and angle.
 - c. Fault-point X/R ratio.
 - d. No AC Decrement (NACD) ratio.
 - e. Equivalent impedance.
 - f. Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on a symmetrical basis.
 - g. Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on a total basis.
- F. Incident Energy and Flash Protection Boundary Calculations:

1. Arcing fault magnitude.
 2. Protective device clearing time.
 3. Duration of arc.
 4. Arc-flash boundary.
 5. Working distance.
 6. Incident energy.
 7. Hazard risk category.
 8. Recommendations for arc-flash energy reduction.
- G. Fault study input data, case descriptions, and fault-current calculations including a definition of terms and guide for interpretation of the computer printout.

2.3 ARC-FLASH WARNING LABELS

- A. Comply with requirements in Section 260553 "Identification for Electrical Systems." Produce a 3.5-by-5-inch thermal transfer label of high-adhesion polyester for each work location included in the analysis.
- B. The label shall have an orange header with the wording, "WARNING, ARC-FLASH HAZARD," and shall include the following information taken directly from the arc-flash hazard analysis:
1. Location designation.
 2. Nominal voltage.
 3. Flash protection boundary.
 4. Hazard risk category.
 5. Incident energy.
 6. Working distance.
 7. Engineering report number, revision number, and issue date.
- C. Labels shall be machine printed, with no field-applied markings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine Project overcurrent protective device submittals. Proceed with arc-flash study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to arc-flash study may not be used in study.

3.2 SHORT-CIRCUIT STUDY

- A. Perform study following the general study procedures contained in IEEE 399.
- B. Calculate short-circuit currents according to IEEE 551.
- C. Base study on the device characteristics supplied by device manufacturer.

- D. The extent of the electrical power system to be studied is indicated on Drawings.
- E. Begin analysis at the service, extending down to the system overcurrent protective devices as follows:
 - 1. To normal system low-voltage load buses where fault current is 10 kA or less.
 - 2. Exclude equipment rated 240-V ac or less when supplied by a single transformer rated less than 125 kVA.
- F. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Include studies of system-switching configurations and alternate operations that could result in maximum fault conditions.
- G. The calculations shall include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and shall apply to low- and medium-voltage, three-phase ac systems.
- H. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault and single line-to-ground fault at each of the following:
 - 1. Electric utility's supply termination point.
 - 2. Low-voltage switchgear.
 - 3. Branch circuit panelboards.

3.3 ARC-FLASH HAZARD ANALYSIS

- A. Comply with NFPA 70E and its Annex D for hazard analysis study.
- B. Use the short-circuit study output and the field-verified settings of the overcurrent devices.
- C. Calculate maximum and minimum contributions of fault-current size.
 - 1. The minimum calculation shall assume that the utility contribution is at a minimum and shall assume no motor load.
 - 2. The maximum calculation shall assume a maximum contribution from the utility and shall assume motors to be operating under full-load conditions.
- D. Calculate the arc-flash protection boundary and incident energy at locations in the electrical distribution system where personnel could perform work on energized parts.
- E. Include medium- and low-voltage equipment locations, except 240-V ac and 208-V ac systems fed from transformers less than 125 kVA.
- F. Safe working distances shall be specified for calculated fault locations based on the calculated arc-flash boundary, considering incident energy of 1.2 cal/sq.cm.
- G. Incident energy calculations shall consider the accumulation of energy over time when performing arc-flash calculations on buses with multiple sources. Iterative calculations shall take into account the changing current contributions, as the sources are

interrupted or decremented with time. Fault contribution from motors and generators shall be decremented as follows:

1. Fault contribution from induction motors should not be considered beyond three to five cycles.
 2. Fault contribution from synchronous motors and generators should be decayed to match the actual decrement of each as closely as possible (e.g., contributions from permanent magnet generators will typically decay from 10 per unit to three per unit after 10 cycles).
- H. Arc-flash computation shall include both line and load side of a circuit breaker as follows:
1. When the circuit breaker is in a separate enclosure.
 2. When the line terminals of the circuit breaker are separate from the work location.
- I. Base arc-flash calculations on actual overcurrent protective device clearing time. Cap maximum clearing time at two seconds based on IEEE 1584, Section B.1.2.

3.4 POWER SYSTEM DATA

- A. Obtain all data necessary for the conduct of the arc-flash hazard analysis.
1. Verify completeness of data supplied on the one-line diagram on Drawings. Call discrepancies to the attention of Architect.
 2. For new equipment, use characteristics submitted under the provisions of action submittals and information submittals for this Project.
 3. For existing equipment, whether or not relocated, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers.
- B. Gather and tabulate the following input data to support coordination study. Comply with recommendations in IEEE 1584 and NFPA 70E as to the amount of detail that is required to be acquired in the field. Field data gathering shall be under the direct supervision and control of the engineer in charge of performing the study, and shall be by the engineer or its representative who holds NETA ETT Level III certification or NICET Electrical Power Testing Level III certification.
1. Product Data for overcurrent protective devices specified in other Sections and involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
 2. Obtain electrical power utility impedance at the service.
 3. Power sources and ties.
 4. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip and available range of settings, SCCR, current rating, and breaker settings.
 5. Motor horsepower and NEMA MG 1 code letter designation.

6. Low-voltage cable sizes, lengths, number, conductor material and conduit material (magnetic or nonmagnetic).

3.5 LABELING

- A. Apply one arc-flash label for 600-V ac, 480-V ac, and applicable 208-V ac panelboards and disconnects and for each of the following locations:
 1. Low-voltage switchboard.

3.6 APPLICATION OF WARNING LABELS

- A. Install the arc-fault warning labels under the direct supervision and control of the Arc-Flash Study Specialist.

3.7 DEMONSTRATION

- A. Engage the Arc-Flash Study Specialist to train Owner's maintenance personnel in the potential arc-flash hazards associated with working on energized equipment and the significance of the arc-flash warning labels.

END OF SECTION 260574

SECTION 260923 - LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Time switches.
 - 2. Photoelectric switches.
 - 3. Indoor occupancy sensors.
 - 4. Lighting contactors.
- B. Related Requirements:
 - 1. Section 262726 "Wiring Devices" for wall-box dimmers, wall-switch occupancy sensors, and manual light switches.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For each type of lighting control device to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 TIME SWITCHES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Cooper Industries, Inc.
 2. Intermatic, Inc.
 3. Invensys Controls.
 4. Leviton Manufacturing Co., Inc.
 5. NSi Industries LLC; TORK Products.
 6. Tyco Electronics; ALR Brand.
- B. Electronic Time Switches: Solid state, programmable, with alphanumeric display; complying with UL 917.
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 2. Contact Rating: 20-A ballast load, 120-/240-V ac.
 3. Programs: Eight on-off set points on a 24-hour schedule.
 4. Circuitry: Allow connection of a photoelectric relay as substitute for on-off function of a program.
 5. Astronomic Time: All channels.
 6. Automatic daylight savings time changeover.
 7. Battery Backup: Not less than seven days reserve, to maintain schedules and time clock.

2.2 OUTDOOR PHOTOELECTRIC SWITCHES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Cooper Industries, Inc.
 2. Intermatic, Inc.
 3. NSi Industries LLC; TORK Products.
 4. Tyco Electronics; ALR Brand.
- B. Description: Solid state, with SPSTdry contacts rated for 1800-VA tungsten or 1000-VA inductive, to operate connected relay, contactor coils, or microprocessor input; complying with UL 773A.
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 2. Light-Level Monitoring Range: 1.5 to 10 fc, with an adjustment for turn-on and turn-off levels within that range, and a directional lens in front of the photocell to prevent fixed light sources from causing turn-off.

3. Time Delay: Fifteen second minimum, to prevent false operation.
4. Surge Protection: Metal-oxide varistor.
5. Mounting: Twist lock complies with NEMA C136.10, with base-and-stem mounting or stem-and-swivel mounting accessories as required to direct sensor to the north sky exposure.

2.3 INDOOR OCCUPANCY SENSORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Bryant Electric.
2. Cooper Industries, Inc.
3. Hubbell Building Automation, Inc.
4. Leviton Manufacturing Co., Inc.
5. Lightolier Controls.
6. Lithonia Lighting; Acuity Brands Lighting, Inc.
7. Lutron Electronics Co., Inc.
8. NSi Industries LLC; TORK Products.
9. RAB Lighting.
10. Sensor Switch, Inc.
11. Square D.
12. Watt Stopper.

- B. General Requirements for Sensors: Wall- or ceiling-mounted, solid-state indoor occupancy sensors with a separate power pack.

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Operation: Unless otherwise indicated, turn lights on when coverage area is occupied, and turn them off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
3. Sensor Output: Contacts rated to operate the connected relay, complying with UL 773A. Sensor is powered from the power pack.
4. Power Pack: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Sensor has 24-V dc, 150-mA, Class 2 power source, as defined by NFPA 70.
5. Mounting:
 - a. Sensor: Suitable for mounting in any position on a standard outlet box.
 - b. Relay: Externally mounted through a 1/2-inch (13-mm) knockout in a standard electrical enclosure.
 - c. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.
6. Indicator: Digital display, to show when motion is detected during testing and normal operation of sensor.
7. Bypass Switch: Override the "on" function in case of sensor failure.

8. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc (21.5 to 2152 lux); turn lights off when selected lighting level is present.
- C. Dual-Technology Type: Ceiling mounted; detect occupants in coverage area using PIR and ultrasonic detection methods. The particular technology or combination of technologies that control on-off functions is selectable in the field by operating controls on unit.
1. Sensitivity Adjustment: Separate for each sensing technology.
 2. Detector Sensitivity: Detect occurrences of 6-inch- (150-mm-) minimum movement of any portion of a human body that presents a target of not less than 36 sq. in. (232 sq. cm), and detect a person of average size and weight moving not less than 12 inches (305 mm) in either a horizontal or a vertical manner at an approximate speed of 12 inches/s (305 mm/s).
 3. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. (93 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.

2.4 SWITCHBOX-MOUNTED OCCUPANCY SENSORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Bryant Electric.
 2. Cooper Industries, Inc.
 3. Hubbell Building Automation, Inc.
 4. Leviton Manufacturing Co., Inc.
 5. Lightolier Controls.
 6. Lithonia Lighting; Acuity Brands Lighting, Inc.
 7. Lutron Electronics Co., Inc.
 8. NSi Industries LLC; TORK Products.
 9. RAB Lighting.
 10. Sensor Switch, Inc.
 11. Square D.
 12. Watt Stopper.
- B. General Requirements for Sensors: Automatic-wall-switch occupancy sensor, suitable for mounting in a single gang switchbox.
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application, and shall comply with California Title 24.
 2. Operating Ambient Conditions: Dry interior conditions, 32 to 120 deg F (0 to 49 deg C).
 3. Switch Rating: Not less than 800-VA fluorescent at 120 V, 1200-VA fluorescent at 277 V, and 800-W incandescent.
- C. Wall-Switch Sensor:

1. Standard Range: 180-degree field of view, field adjustable from 180 to 40 degrees; with a minimum coverage area of 900 sq. ft.
2. Sensing Technology: Dual technology - PIR and ultrasonic.
3. Switch Type: SP, field selectable automatic "on," or manual "on" automatic "off."
4. Voltage: 120 V dual-technology type.
5. Ambient-Light Override: Concealed, field-adjustable, light-level sensor from 10 to 150 fc. The switch prevents the lights from turning on when the light level is higher than the set point of the sensor.
6. Concealed, field-adjustable, "off" time-delay selector at up to 30 minutes.
7. Concealed "off" time-delay selector at 30 seconds, and 5, 10, and 20 minutes.
8. Adaptive Technology: Self-adjusting circuitry detects and memorizes usage patterns of the space and helps eliminate false "off" switching.

2.5 LIGHTING CONTACTORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Allen-Bradley/Rockwell Automation.
 2. ASCO Power Technologies, LP.
 3. Eaton Corporation.
 4. General Electric Company; GE Consumer & Industrial - Electrical Distribution; Total Lighting Control.
 5. Square D.
- B. Description: Electrically operated and electrically held, combination-type lighting contactors with fusible switch, complying with NEMA ICS 2 and UL 508.
 1. Current Rating for Switching: Listing or rating consistent with type of load served, including tungsten filament, inductive, and high-inrush ballast (ballast with 15 percent or less total harmonic distortion of normal load current).
 2. Fault Current Withstand Rating: Equal to or exceeding the available fault current at the point of installation.
 3. Enclosure: Comply with NEMA 250.

2.6 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- B. Classes 2 and 3 Control Cable: Multi-conductor cable with stranded-copper conductors not smaller than No. 18 AWG. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- C. Class 1 Control Cable: Multi-conductor cable with stranded-copper conductors not smaller than No. 14 AWG. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

PART 3 - EXECUTION

3.1 SENSOR INSTALLATION

- A. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression systems, and partition assemblies.
- B. Install and aim sensors in locations to achieve not less than 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.

3.2 CONTACTOR INSTALLATION

- A. Mount electrically held lighting contactors with elastomeric isolator pads to eliminate structure-borne vibration, unless contactors are installed in an enclosure with factory-installed vibration isolators.

3.3 WIRING INSTALLATION

- A. Wiring Method: Comply with Section 260519 "Low-Voltage Electrical Power Conductors and Cables." Minimum conduit size is 1/2 inch.
- B. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.
- C. Size conductors according to lighting control device manufacturer's written instructions unless otherwise indicated.
- D. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.4 IDENTIFICATION

- A. Identify components and power and control wiring according to Section 260553 "Identification for Electrical Systems."
 - 1. Identify controlled circuits in lighting contactors.
 - 2. Identify circuits or luminaires controlled by photoelectric and occupancy sensors at each sensor.
- B. Label time switches and contactors with a unique designation.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to evaluate lighting control devices and perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Perform the following tests and inspections:
 - 1. Operational Test: After installing time switches and sensors, and after electrical circuitry has been energized, start units to confirm proper unit operation.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Lighting control devices will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports.

3.6 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting sensors to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.
 - 1. For occupancy and motion sensors, verify operation at outer limits of detector range. Set time delay to suit Owner's operations.

3.7 DEMONSTRATION

- A. Train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices.

END OF SECTION 260923

SECTION 262416 - PANELBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Distribution panelboards.
 - 2. Lighting and appliance branch-circuit panelboards.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of panelboard, switching and overcurrent protective device, transient voltage suppression device, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Field Quality-Control Reports:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.
- C. Panelboard Schedules: For installation in panelboards. Submit final versions after load balancing.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.
2. Time-current curves, including selectable ranges for each type of overcurrent protective device that allows adjustments.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Member company of NETA or an NRTL.
 1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.
- B. Source Limitations: Obtain panelboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.
- C. Product Selection for Restricted Space: Drawings indicate maximum dimensions for panelboards including clearances between panelboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- E. Comply with NEMA PB 1.
- F. Comply with NFPA 70.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.
- B. Handle and prepare panelboards for installation according to NECA 407.

1.8 PROJECT CONDITIONS

- A. Environmental Limitations:
 1. Do not deliver or install panelboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above panelboards is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
 2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:
 - a. Ambient Temperature: Not exceeding minus 22 deg F to plus 104 deg F.
 - b. Altitude: Not exceeding 6600 feet.

B. Service Conditions: NEMA PB 1, usual service conditions, as follows:

1. Ambient temperatures within limits specified.
2. Altitude not exceeding 6600 feet.

1.9 COORDINATION

- A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

1.10 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace transient voltage suppression devices that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PANELBOARDS

- A. Enclosures: Flush- and surface-mounted cabinets.

1. Rated for environmental conditions at installed location.
 - a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
 - b. Outdoor Locations: NEMA 250, Type 3R.
 - c. Other Wet or Damp Indoor Locations: NEMA 250, Type 4X.
2. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
3. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
4. Skirt for Surface-Mounted Panelboards: Same gage and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
5. Gutter Extension and Barrier: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
6. Finishes:
 - a. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
 - b. Back Boxes: Same finish as panels and trim.

- c. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.
- 7. Directory Card: Inside panelboard door, mounted in metal frame with transparent protective cover.
- B. Incoming Mains Location: Top and bottom as indicated on plans.
- C. Phase, Neutral, and Ground Buses:
 - 1. Material: Hard-drawn copper, 98 percent conductivity.
 - 2. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
- D. Conductor Connectors: Suitable for use with conductor material and sizes.
 - 1. Material: Hard-drawn copper, 98 percent conductivity.
 - 2. Main and Neutral Lugs: Mechanical type.
 - 3. Ground Lugs and Bus-Configured Terminators: Mechanical type.
 - 4. Feed-Through Lugs: Mechanical type, suitable for use with conductor material. Locate at opposite end of bus from incoming lugs or main device.
 - 5. Subfeed (Double) Lugs: Mechanical type suitable for use with conductor material. Locate at same end of bus as incoming lugs or main device.
 - 6. Gutter-Tap Lugs: Mechanical type suitable for use with conductor material. Locate at same end of bus as incoming lugs or main device.
- E. Future Devices: Mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.
- F. Panelboard Short-Circuit Current Rating: Rated for series-connected system with integral or remote upstream overcurrent protective devices and labeled by an NRTL. Include size and type of allowable upstream and branch devices, listed and labeled for series-connected short-circuit rating by an NRTL.

2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Panelboards shall withstand the effects of earthquake motions determined according to SEI/ASCE 7.
 - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

2.3 DISTRIBUTION PANELBOARDS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.

2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
3. Siemens Energy & Automation, Inc.
4. Square D; a brand of Schneider Electric.

- B. Panelboards: NEMA PB 1, power and feeder distribution type.
- C. Doors: Secured with vault-type latch with tumbler lock; keyed alike.
 - 1. For doors more than 36 inches high, provide two latches, keyed alike.
- D. Mains: Circuit breaker.
- E. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes 125 A and Smaller: Bolt-on circuit breakers.

2.4 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 3. Siemens Energy & Automation, Inc.
 4. Square D; a brand of Schneider Electric.
- B. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.
- C. Mains: Circuit breaker or lugs only.
- D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.
- E. Doors: Concealed hinges; secured with flush latch with tumbler lock; keyed alike.

2.5 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Manufacturers: Subject to compliance with requirements,[provide products by one of the following:
 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 3. Siemens Energy & Automation, Inc.
 4. Square D; a brand of Schneider Electric.
- B. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with series-connected rating to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
2. GFCI Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6-mA trip).
3. Ground-Fault Equipment Protection (GFEP) Circuit Breakers: Class B ground-fault protection (30-mA trip).
4. Arc-Fault Circuit Interrupter (AFCI) Circuit Breakers: Comply with UL 1699; 120/240-V, single-pole configuration.
5. Molded-Case Circuit-Breaker (MCCB) Features and Accessories:
 - a. Standard frame sizes, trip ratings, and number of poles.
 - b. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.
 - c. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.
 - d. Multipole units enclosed in a single housing or factory assembled to operate as a single unit.
 - e. Handle Padlocking Device: Fixed attachment, for locking circuit-breaker handle in on or off position.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Receive, inspect, handle, and store panelboards according to NECA 407.
- B. Examine panelboards before installation. Reject panelboards that are damaged or rusted or have been subjected to water saturation.
- C. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install panelboards and accessories according to NECA 407.
- B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from panelboards.
- C. Mount top of trim 90 inches above finished floor unless otherwise indicated.
- D. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.
- E. Install overcurrent protective devices and controllers not already factory installed.

- F. Install filler plates in unused spaces.
- G. Arrange conductors in gutters into groups and bundle and wrap with wire ties after completing load balancing.
- H. Comply with NECA 1.

3.3 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with Section 260553 "Identification for Electrical Systems."
- B. Create a directory to indicate installed circuit loads after balancing panelboard loads; incorporate Owner's final room designations. Obtain approval before installing. Use a computer or typewriter to create directory; handwritten directories are not acceptable.
- C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- D. Device Nameplates: Label each branch circuit device in distribution panelboards with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Acceptance Testing Preparation:
 - 1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
 - 2. Test continuity of each circuit.
- C. Tests and Inspections:
 - 1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 - 3. Perform the following infrared scan tests and inspections and prepare reports:
 - a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each panelboard. Remove front panels so joints and connections are accessible to portable scanner.
 - b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each panelboard 11 months after date of Substantial Completion.
 - c. Instruments and Equipment:

- 1) Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.

- D. Panelboards will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.5 ADJUSTING

- A. Adjust moving parts and operable component to function smoothly, and lubricate as recommended by manufacturer.
- B. Load Balancing: After Substantial Completion, but not more than 60 days after Final Acceptance, measure load balancing and make circuit changes.
 1. Measure as directed during period of normal system loading.
 2. Perform load-balancing circuit changes outside normal occupancy/working schedule of the facility and at time directed. Avoid disrupting critical 24-hour services such as fax machines and on-line data processing, computing, transmitting, and receiving equipment.
 3. After circuit changes, recheck loads during normal load period. Record all load readings before and after changes and submit test records.
 4. Tolerance: Difference exceeding 20 percent between phase loads, within a panelboard, is not acceptable. Rebalance and recheck as necessary to meet this minimum requirement.

3.6 PROTECTION

- A. Temporary Heating: Apply temporary heat to maintain temperature according to manufacturer's written instructions.

END OF SECTION 262416

SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Receptacles, receptacles with integral GFCI, and associated device plates.
 - 2. Weather-resistant receptacles.
 - 3. Snap switches and wall-box dimmers.
 - 4. Solid-state fan speed controls.

1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. GFCI: Ground-fault circuit interrupter.
- C. Pigtail: Short lead used to connect a device to a branch-circuit conductor.
- D. RFI: Radio-frequency interference.
- E. TVSS: Transient voltage surge suppressor.
- F. UTP: Unshielded twisted pair.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:

1. Cooper Wiring Devices; Division of Cooper Industries, Inc. (Cooper).
2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
3. Leviton Mfg. Company Inc. (Leviton).
4. Pass & Seymour/Legrand (Pass & Seymour).

- B. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

2.2 GENERAL WIRING-DEVICE REQUIREMENTS

- A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.

2.3 STRAIGHT-BLADE RECEPTACLES

- A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cooper; 5351 (single), CR5362 (duplex).
 - b. Hubbell; HBL5351 (single), HBL5352 (duplex).
 - c. Leviton; 5891 (single), 5352 (duplex).
 - d. Pass & Seymour; 5361 (single), 5362 (duplex).

2.4 GFCI RECEPTACLES

- A. General Description:
1. Straight blade, feed-through type.
 2. Comply with NEMA WD 1, NEMA WD 6, UL 498, UL 943 Class A, and FS W-C-596.
 3. Include indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection.
- B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cooper; VGF20.
 - b. Hubbell; GFR5352L.
 - c. Pass & Seymour; 2095.
 - d. Leviton; 7590.

2.5 TOGGLE SWITCHES

- A. Comply with NEMA WD 1, UL 20, and FS W-S-896.
- B. Switches, 120/277 V, 20 A:
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Single Pole:
 - 2) Cooper; AH1221.
 - 3) Hubbell; HBL1221.
 - 4) Leviton; 1221-2.
 - 5) Pass & Seymour; CSB20AC1.
 - 6) Two Pole:
 - 7) Cooper; AH1222.
 - 8) Hubbell; HBL1222.
 - 9) Leviton; 1222-2.
 - 10) Pass & Seymour; CSB20AC2.
 - 11) Three Way:
 - 12) Cooper; AH1223.
 - 13) Hubbell; HBL1223.
 - 14) Leviton; 1223-2.
 - 15) Pass & Seymour; CSB20AC3.
 - 16) Four Way:
 - 17) Cooper; AH1224.
 - 18) Hubbell; HBL1224.
 - 19) Leviton; 1224-2.
 - 20) Pass & Seymour; CSB20AC4.

2.6 WALL-BOX DIMMERS

- A. Dimmer Switches: Modular, full-wave, solid-state units with integral, quiet on-off switches, with audible frequency and EMI/RFI suppression filters.
- B. Control: Continuously adjustable slider; with single-pole or three-way switching. Comply with UL 1472.

2.7 WALL PLATES

- A. Single and combination types shall match corresponding wiring devices.
 - 1. Plate-Securing Screws: Metal with head color to match plate finish.

2. Material for Finished Spaces: Smooth, high-impact thermoplastic.
 3. Material for Unfinished Spaces: Smooth, high-impact thermoplastic.
 4. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in wet and damp locations.
- B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with Type 3R, weather-resistant, die-cast aluminum with lockable cover.

2.8 FINISHES

- A. Device Color:
1. Wiring Devices Connected to Normal Power System: White unless otherwise indicated or required by NFPA 70 or device listing.
- B. Wall Plate : Stainless steel.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
- B. Coordination with Other Trades:
1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
 4. Existing Conductors:
 - a. Cut back and pigtail, or replace all damaged conductors.

- b. Straighten conductors that remain and remove corrosion and foreign matter.
- c. Pigtail existing conductors is permitted, provided the outlet box is large enough.

D. Device Installation:

- 1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
- 2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
- 3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
- 4. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
- 5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.
- 6. Use a torque screwdriver when a torque is recommended or required by manufacturer.
- 7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
- 8. Tighten unused terminal screws on the device.
- 9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

- 1. Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the right.

F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

G. Dimmers:

- 1. Install dimmers within terms of their listing.
- 2. Verify that dimmers used for fan speed control are listed for that application.
- 3. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.

H. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multi-gang wall plates.

3.2 GFCI RECEPTACLES

- A. Install non-feed-through-type GFCI receptacles where protection of downstream receptacles is not required.

3.3 IDENTIFICATION

- A. Comply with Section 260553 "Identification for Electrical Systems."
- B. Identify each receptacle with panelboard identification and circuit number. Use hot, stamped, or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

3.4 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
 - 1. Test Instruments: Use instruments that comply with UL 1436.
 - 2. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated digital-display indicators of measurement.
- B. Tests for Convenience Receptacles:
 - 1. Line Voltage: Acceptable range is 105 to 132 V.
 - 2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
 - 3. Ground Impedance: Values of up to 2 ohms are acceptable.
 - 4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
 - 5. Using the test plug, verify that the device and its outlet box are securely mounted.
 - 6. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.
- C. Test straight-blade for the retention force of the grounding blade according to NFPA 99. Retention force shall be not less than 4 oz. (115 g).
- D. Wiring device will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

END OF SECTION 262726

SECTION 265100 - INTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Interior lighting fixtures, lamps, and ballasts.
 - 2. Lighting fixture supports.

- B. Related Sections:

- 1. Section 260923 "Lighting Control Devices" for automatic control of lighting, including time switches, photoelectric relays, occupancy sensors, and multipole lighting relays and contactors.
 - 2. Section 262726 "Wiring Devices" for manual wall-box dimmers.

1.3 DEFINITIONS

- A. CCT: Correlated color temperature.
- B. CRI: Color-rendering index.
- C. LER: Luminaire efficacy rating.
- D. Lumen: Measured output of lamp and luminaire, or both.
- E. Luminaire: Complete lighting fixture, including ballast housing if provided.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:
 - 1. Physical description of lighting fixture including dimensions.
 - 2. Emergency lighting units including battery and charger.
 - 3. Ballast, including BF.
 - 4. Energy-efficiency data.
 - 5. Life, output (lumens, CCT, and CRI), and energy-efficiency data for lamps.

6. Photometric data and adjustment factors based on laboratory tests, complying with IESNA Lighting Measurements Testing & Calculation Guides, of each lighting fixture type. The adjustment factors shall be for lamps, ballasts, and accessories identical to those indicated for the lighting fixture as applied in this Project.
 - a. Testing Agency Certified Data: For indicated fixtures, photometric data shall be certified by a qualified independent testing agency. Photometric data for remaining fixtures shall be certified by manufacturer.
 - b. Manufacturer Certified Data: Photometric data shall be certified by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.
- B. Installation instructions.

1.5 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.
- B. Warranty: Sample of special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals.
 1. Provide a list of all lamp types used on Project; use ANSI and manufacturers' codes.

1.7 QUALITY ASSURANCE

- A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NFPA 70.

1.8 COORDINATION

- A. Coordinate layout and installation of lighting fixtures and suspension system with other construction that penetrates ceilings or is supported by them.

1.9 WARRANTY

- A. Special Warranty for Emergency Lighting Batteries: Manufacturer's standard form in which manufacturer of battery-powered emergency lighting unit agrees to repair or replace components of rechargeable batteries that fail in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide product indicated on Drawings.

2.2 GENERAL REQUIREMENTS FOR LIGHTING FIXTURES AND COMPONENTS

- A. Metal Parts: Free of burrs and sharp corners and edges.
- B. Sheet Metal Components: Steel unless otherwise indicated. Form and support to prevent warping and sagging.
- C. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit re-lamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during re-lamping and when secured in operating position.
- D. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps and ballasts. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.

2.3 LIGHTING FIXTURE SUPPORT COMPONENTS

- A. Comply with Section 260529 "Hangers and Supports for Electrical Systems" for channel- and angle-iron supports and nonmetallic channel and angle supports.
- B. Single-Stem Hangers: 1/2-inch steel tubing with swivel ball fittings and ceiling canopy. Finish same as fixture.
- C. Twin-Stem Hangers: Two, 1/2-inch steel tubes with single canopy designed to mount a single fixture. Finish same as fixture.
- D. Wires: ASTM A 641/A 641M, Class 3, soft temper, zinc-coated steel, 12 gage.
- E. Rod Hangers: 3/16-inch minimum diameter, cadmium-plated, threaded steel rod.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Lighting fixtures:

1. Set level, plumb, and square with ceilings and walls unless otherwise indicated.
2. Install lamps in each luminaire.

B. Suspended Lighting Fixture Support:

1. Pendants and Rods: Where longer than 48 inches, brace to limit swinging.
2. Stem-Mounted, Single-Unit Fixtures: Suspend with twin-stem hangers.
3. Continuous Rows: Use tubing or stem for wiring at one point and tubing or rod for suspension for each unit length of fixture chassis, including one at each end.
4. Do not use grid as support for pendant luminaires. Connect support wires or rods to building structure.

C. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

3.2 IDENTIFICATION

A. Install labels with panel and circuit numbers on concealed junction and outlet boxes. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.3 FIELD QUALITY CONTROL

- A. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery and retransfer to normal.
- B. Verify that self-luminous exit signs are installed according to their listing and the requirements in NFPA 101.
- C. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.4 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting aimable luminaires to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose. Some of this work may be required after dark.

END OF SECTION 265100

SECTION 265600 - EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Exterior luminaires with lamps and ballasts.
 - 2. Luminaire-mounted photoelectric relays.
 - 3. Poles and accessories.

- B. Related Sections:

- 1. Section 265100 "Interior Lighting" for exterior luminaires normally mounted on exterior surfaces of buildings.

1.3 DEFINITIONS

- A. CCT: Correlated color temperature.
- B. CRI: Color-rendering index.
- C. LER: Luminaire efficacy rating.
- D. Luminaire: Complete lighting fixture, including ballast housing if provided.
- E. Pole: Luminaire support structure, including tower used for large area illumination.
- F. Standard: Same definition as "Pole" above.

1.4 STRUCTURAL ANALYSIS CRITERIA FOR POLE SELECTION

- A. Dead Load: Weight of luminaire and its horizontal and vertical supports, lowering devices, and supporting structure, applied as stated in AASHTO LTS-4-M.
- B. Wind Load: Pressure of wind on pole and luminaire and banners and banner arms, calculated and applied as stated in AASHTO LTS-4-M.
 - 1. Basic wind speed for calculating wind load for poles 50 feet (15 m) high or less is 100 mph (45 m/s) .

- a. Wind Importance Factor: 1.0.
- b. Minimum Design Life: 25 years.
- c. Velocity Conversion Factors: 1.0.

1.5 ACTION SUBMITTALS

- A. Product Data: For each luminaire, pole, and support component, arranged in order of lighting unit designation. Include data on features, accessories, finishes, and the following:
 - 1. Physical description of luminaire, including materials, dimensions, effective projected area, and verification of indicated parameters.
 - 2. Details of attaching luminaires and accessories.
 - 3. Details of installation and construction.
 - 4. Luminaire materials.
 - 5. Photometric data based on laboratory tests of each luminaire type, complete with indicated lamps, ballasts, and accessories.
 - a. Manufacturer Certified Data: Photometric data shall be certified by manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.
 - 6. Photoelectric relays.
 - 7. Lamps, including life, output, CCT, CRI, lumens, and energy-efficiency data.
 - 8. Materials, dimensions, and finishes of poles.
 - 9. Means of attaching luminaires to supports, and indication that attachment is suitable for components involved.
 - 10. Anchor bolts for poles.
 - 11. Manufactured pole foundations.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Anchor-bolt templates keyed to specific poles and certified by manufacturer.
 - 3. Wiring Diagrams: For power, signal, and control wiring.

1.6 INFORMATIONAL SUBMITTALS

- A. Pole and Support Component Certificates: Signed by manufacturers of poles, certifying that products are designed for indicated load requirements in AASHTO LTS-4-M and that load imposed by luminaire and attachments has been included in design. The certification shall be based on design calculations by a professional engineer.
- B. Qualification Data: For qualified agencies providing photometric data for lighting fixtures.
- C. Field quality-control reports.

- D. Warranty: Sample of special warranty.

1.7 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For luminaires to include in emergency, operation, and maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with IEEE C2, "National Electrical Safety Code."
- D. Comply with NFPA 70.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Package aluminum poles for shipping according to ASTM B 660.
- B. Store poles on decay-resistant-treated skids at least 12 inches (300 mm) above grade and vegetation. Support poles to prevent distortion and arrange to provide free air circulation.
- C. Retain factory-applied pole wrappings on metal poles until right before pole installation. For poles with nonmetallic finishes, handle with web fabric straps.

1.10 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs or alterations from special warranty coverage.
 - 1. Warranty Period for Luminaires: Five years from date of Substantial Completion.
 - 2. Warranty Period for Metal Corrosion: Five years from date of Substantial Completion.
 - 3. Warranty Period for Color Retention: Five years from date of Substantial Completion.
 - 4. Warranty Period for Poles: Repair or replace lighting poles and standards that fail in finish, materials, and workmanship within manufacturer's standard warranty period, but not less than three years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide product indicated on Drawings.

2.2 GENERAL REQUIREMENTS FOR LUMINAIRES

- A. Luminaires shall comply with UL 1598 and be listed and labeled for installation in wet locations by an NRTL acceptable to authorities having jurisdiction.
- B. Lateral Light Distribution Patterns: Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for luminaires.
- C. Metal Parts: Free of burrs and sharp corners and edges.
- D. Sheet Metal Components: Corrosion-resistant aluminum unless otherwise indicated. Form and support to prevent warping and sagging.
- E. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed luminaires.
- F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses. Designed to disconnect ballast when door opens.
- G. Exposed Hardware Material: Stainless steel.
- H. Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
- I. Light Shields: Metal baffles, factory installed and field adjustable, arranged to block light distribution to indicated portion of normally illuminated area or field.
- J. Reflecting surfaces shall have minimum reflectance as follows unless otherwise indicated:
 - 1. White Surfaces: 85 percent.
 - 2. Specular Surfaces: 83 percent.
 - 3. Diffusing Specular Surfaces: 75 percent.
- K. Lenses and Refractors Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.

- L. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and -tested luminaire before shipping. Where indicated, match finish process and color of pole or support materials.
- M. Factory-Applied Finish for Steel Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
 - 1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
 - 2. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.
 - a. Color: As selected from manufacturer's standard catalog of colors.
- N. Factory-Applied Finish for Aluminum Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
 - 1. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
 - 2. Natural Satin Finish: Provide fine, directional, medium satin polish (AA-M32); buff complying with AA-M20; and seal aluminum surfaces with clear, hard-coat wax.
- O. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps and ballasts. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.
 - 1. Label shall include the following lamp and ballast characteristics:
 - a. "USES ONLY" and include specific lamp type.
 - b. Lamp diameter code (T-4, T-5, T-8, T-12), tube configuration (twin, quad, triple), base type, and nominal wattage for fluorescent and compact fluorescent luminaires.
 - c. Lamp type, wattage, bulb type (ED17, BD56, etc.) and coating (clear or coated) for HID luminaires.
 - d. Start type (preheat, rapid start, instant start) for fluorescent and compact fluorescent luminaires.
 - e. ANSI ballast type (M98, M57, etc.) for HID luminaires.
 - f. CCT and CRI for all luminaires.

2.3 LUMINAIRE-MOUNTED PHOTOELECTRIC RELAYS

- A. Comply with UL 773 or UL 773A.

- B. Contact Relays: Factory mounted, single throw, designed to fail in the on position, and factory set to turn light unit on at 1.5 to 3 fc (16 to 32 lx) and off at 4.5 to 10 fc (48 to 108 lx) with 15-second minimum time delay. Relay shall have directional lens in front of photocell to prevent artificial light sources from causing false turnoff.
 - 1. Relay with locking-type receptacle shall comply with ANSI C136.10.
 - 2. Adjustable window slide for adjusting on-off set points.

2.4 GENERAL REQUIREMENTS FOR POLES AND SUPPORT COMPONENTS

- A. Structural Characteristics: Comply with AASHTO LTS-4-M.
 - 1. Wind-Load Strength of Poles: Adequate at indicated heights above grade without failure, permanent deflection, or whipping in steady winds of speed indicated in "Structural Analysis Criteria for Pole Selection" Article.
 - 2. Strength Analysis: For each pole, multiply the actual equivalent projected area of luminaires and brackets by a factor of 1.1 to obtain the equivalent projected area to be used in pole selection strength analysis.
- B. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless-steel fasteners and mounting bolts unless otherwise indicated.
- C. Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.
 - 1. Materials: Shall not cause galvanic action at contact points.
 - 2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication unless otherwise indicated.
 - 3. Anchor-Bolt Template: Plywood or steel.
- D. Handhole: Oval-shaped, with minimum clear opening of 2-1/2 by 5 inches (65 by 130 mm), with cover secured by stainless-steel captive screws.
- E. Concrete Pole Foundations: Cast in place, with anchor bolts to match pole-base flange. Concrete, reinforcement, and formwork are specified in Section 033000 "Cast-in-Place Concrete."
- F. Power-Installed Screw Foundations: Factory fabricated by pole manufacturer, with structural steel complying with ASTM A 36/A 36M and hot-dip galvanized according to ASTM A 123/A 123M; and with top-plate and mounting bolts to match pole base flange and strength required to support pole, luminaire, and accessories.
- G. Breakaway Supports: Frangible breakaway supports, tested by an independent testing agency acceptable to authorities having jurisdiction, according to AASHTO LTS-4-M.

2.5 ALUMINUM POLES

- A. Poles: Seamless, extruded structural tube complying with ASTM B 429/B 429M, Alloy 6063-T6 with access handhole in pole wall.
 - 1. Shape: Round, straight.
 - 2. Mounting Provisions: Butt flange for bolted mounting on foundation or breakaway support.
- B. Pole-Top Tenons: Fabricated to support luminaire or luminaires and brackets indicated, and securely fastened to pole top.
- C. Grounding and Bonding Lugs: Welded 1/2-inch (13-mm) threaded lug, complying with requirements in Section 260526 "Grounding and Bonding for Electrical Systems," listed for attaching grounding and bonding conductors of type and size listed in that Section, and accessible through handhole.
- D. Brackets for Luminaires: Detachable, with pole and adapter fittings of cast aluminum. Adapter fitting welded to pole and bracket, then bolted together with stainless-steel bolts.
 - 1. Tapered oval cross section, with straight tubular end section to accommodate luminaire.
 - 2. Finish: Same as pole.
- E. Aluminum Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
 - 1. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
 - 2. Class I, Color Anodic Finish: AA-M32C22A42/A44 (Mechanical Finish: medium satin; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.
 - a. Color: Dark bronze.

2.6 PRESTRESSED CONCRETE POLES

- A. Poles: Manufactured of cast concrete.
 - 1. Shape: Round, tapered.
 - 2. Mounting Provisions: Steel butt flange for bolted mounting to foundation.
 - 3. Finishing: Capped at top and plugged at bottom. Seat each steel reinforcing strand with epoxy adhesive.
 - 4. Grounding: Continuous copper ground wire cast into pole. Terminate at top of pole.
- B. Cure with wet steam and age for a minimum of 15 days before installation.

- C. Fabricate poles with a hard, nonporous surface that is resistant to water, frost, and road and soil chemicals and that has a maximum water-absorption rate of 3 percent.
- D. Cast aluminum nameplate into pole wall at approximately 5 feet (1.5 m) above ground line, listing name of manufacturer, Project identifier, overall height, and approximate weight.
- E. Pole Brackets: Comply with ANSI C136.13.
- F. Finish Color: Provided by color material complying with ASTM C 979, uniformly impregnated throughout the pole concrete. Color material shall provide a uniform, stable, permanent color and be as follows:
 - 1. Inert, and carbon free.
 - 2. Unaffected by environmental conditions and contaminants including, but not limited to, UV solar radiation, salts, and alkalis.
- G. Finish Texture: Polished exposed aggregate.

PART 3 - EXECUTION

3.1 LUMINAIRE INSTALLATION

- A. Install lamps in each luminaire.
- B. Fasten luminaire to indicated structural supports.
 - 1. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.
- C. Adjust luminaires that require field adjustment or aiming. Include adjustment of photoelectric device to prevent false operation of relay by artificial light sources, favoring a north orientation.

3.2 POLE INSTALLATION

- A. Alignment: Align pole foundations and poles for optimum directional alignment of luminaires and their mounting provisions on the pole.
- B. Clearances: Maintain the following minimum horizontal distances of poles from surface and underground features unless otherwise indicated on Drawings:
 - 1. Fire Hydrants and Storm Drainage Piping: 60 inches (1520 mm).
 - 2. Water, Gas, Electric, Communication, and Sewer Lines: 10 feet (3 m)].
 - 3. Trees: 15 feet (5 m) from tree trunk.
- C. Concrete Pole Foundations: Set anchor bolts according to anchor-bolt templates furnished by pole manufacturer. Concrete materials, installation, and finishing requirements are specified in Section 033000 "Cast-in-Place Concrete."

- D. Foundation-Mounted Poles: Mount pole with leveling nuts, and tighten top nuts to torque level recommended by pole manufacturer.
 - 1. Use anchor bolts and nuts selected to resist seismic forces defined for the application and approved by manufacturer.
 - 2. Grout void between pole base and foundation. Use non-shrink or expanding concrete grout firmly packed to fill space.
 - 3. Install base covers unless otherwise indicated.
 - 4. Use a short piece of 1/2-inch- (13-mm-) diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole.
- E. Poles and Pole Foundations Set in Concrete Paved Areas: Install poles with minimum of 6-inch- (150-mm-) wide, unpaved gap between the pole or pole foundation and the edge of adjacent concrete slab. Fill unpaved ring with pea gravel to a level 1 inch (25 mm) below top of concrete slab.
- F. Raise and set poles using web fabric slings (not chain or cable).

3.3 CORROSION PREVENTION

- A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum by insulating fittings or treatment.
- B. Steel Conduits: Comply with Section 260533 "Raceways and Boxes for Electrical Systems." In concrete foundations, wrap conduit with 0.010-inch- (0.254-mm-) thick, pipe-wrapping plastic tape applied with a 50 percent overlap.

3.4 GROUNDING

- A. Ground metal poles and support structures according to Section 260526 "Grounding and Bonding for Electrical Systems."
 - 1. Install grounding electrode for each pole unless otherwise indicated.
 - 2. Install grounding conductor pigtail in the base for connecting luminaire to grounding system.
- B. Ground nonmetallic poles and support structures according to Section 260526 "Grounding and Bonding for Electrical Systems."
 - 1. Install grounding conductor and conductor protector.
 - 2. Ground metallic components of pole accessories and foundations.

3.5 FIELD QUALITY CONTROL

- A. Inspect each installed fixture for damage. Replace damaged fixtures and components.
- B. Illumination Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with normal power source.
 - 1. Verify operation of photoelectric controls.

C. Illumination Tests:

1. Measure light intensities at night. Use photometers with calibration referenced to NIST standards. Comply with the following IESNA testing guide(s):
 - a. IESNA LM-5, "Photometric Measurements of Area and Sports Lighting Installations."
 - b. IESNA LM-64, "Photometric Measurements of Parking Areas."
 - c. IESNA LM-72, "Directional Positioning of Photometric Data."

- D. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

END OF SECTION 265600

SUPPLEMENTARY SPECIAL PROVISIONS

APPENDICES

APPENDIX A

NOTICE OF EXEMPTION

NOTICE OF EXEMPTION

(Check one or both)

TO: X Recorder/County Clerk
P.O. Box 1750, MS A-33
1600 Pacific Hwy, Room 260
San Diego, CA 92101-2400

FROM: City of San Diego
Engineering & Capital Projects Department
525 B Street, Suite 750, MS 908A
San Diego, CA 92101

 Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

Project Name: De Anza South Comfort Station, Parking Lot, and Playground Improvements (formerly known as Playa Pacifica Comfort Station, Parking Lot, and Playground Improvements)

WBS Nos.: B-19162.02.06; B-19172.02.06; B-19173.02.06

Project Location-Specific: The project is sited along the 1000 block of East Mission Bay Drive within the De Anza area of Mission Bay Park (Council District 2).

Project Location-City/County: San Diego/San Diego

Description of nature and purpose of the Project: The project will demolish an existing 1,260 square-foot comfort station and replace with a new comfort station inclusive of bathroom stalls, sinks, showers, maintenance and utility rooms, and security lighting; renovate and expand an existing 10,742 square-foot basketball court and 6,425 square-foot playground through installation of new picnic facilities, bicycle racks, and playground equipment; resurface and restripe an approximately 235,000 square-foot existing surface parking lot inclusive of Americans with Disabilities Act (ADA) accessibility modifications; replace approximately 51,000 square feet (SF) of existing sidewalk and construct approximately 27,000 SF of new ADA-compliant sidewalks and curb ramps; install electrical improvements for the comfort station, security light poles and fixtures, irrigation and landscaping, signage, storm water treatment system, and 212 linear feet of new 8-inch diameter polyvinyl chloride storm drain pipe; and remove four trees and install four new trees. All improvement work will occur within an existing paved parking lot and developed areas.

Name of Public Agency Approving Project: City of San Diego

Name of Person or Agency Carrying Out Project: City of San Diego
Engineering and Capital Projects Department
Contact: Jerry Jakubauskas, Senior Planner
Email/Phone: JJakubauskas@sandiego.gov / 619-533-3755
525 B Street, Suite 750 (MS 908A), San Diego, CA 92101

Exempt Status: (CHECK ONE)

- () Ministerial (Sec. 21080(b)(1); 15268);
- () Declared Emergency (Sec. 21080(b)(3); 15269(a));
- () Emergency Project (Sec. 21080(b)(4); 15269 (b)(c))
- (X) Categorical Exemption: 15301 (Existing Facilities); 15302 (Replacement or Reconstruction); and 15303 (New Construction or Conversion of Small Structures)
- () Statutory Exemptions:

Reasons why project is exempt: The City of San Diego conducted an environmental review which determined that the project meets the categorical exemption criteria set forth in CEQA State Guidelines, Sections 15301 (Existing Facilities), which allows for repair, maintenance, or minor alteration of structures, facilities, and topographical features involving negligible or no expansion of existing or former use including parking lots, sidewalks, and similar facilities to allow for installation of ADA improvements, pavement resurfacing, and restriping; 15302 (Replacement or Reconstruction), which allows for replacement or reconstruction of existing structures and facilities involving negligible or no expansion of capacity such as play and recreational areas, sidewalks, trees, landscaping, irrigation systems, comfort station and existing utility systems; 15303 (New Construction or Conversion of Small Structures) which allows for construction and location of limited numbers of new, small facilities, or structures such as utility extensions, storm water treatment systems and sidewalks; and where the exceptions listed in Section 15300.2 would not apply.

Lead Agency Contact Person: Jerry Jakubauskas

Telephone: (619) 533-3755

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a notice of exemption been filed by the public agency approving the project? () Yes () No

It is hereby certified that the City of San Diego has determined the above activity to be exempt from CEQA.

James Arnhart
James Arnhart, Program Manager

June 7, 2023
Date

Check One:

- (X) Signed By Lead Agency
() Signed by Applicant

Date Received for Filing with County Clerk or OPR:

APPENDIX B

FIRE HYDRANT METER PROGRAM

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 1 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

1. **PURPOSE**

- 1.1 To establish a Departmental policy and procedure for issuance, proper usage and charges for fire hydrant meters.

2. **AUTHORITY**

- 2.1 All authorities and references shall be current versions and revisions.
- 2.2 San Diego Municipal Code (NC) Chapter VI, Article 7, Sections 67.14 and 67.15
- 2.3 Code of Federal Regulations, Safe Drinking Water Act of 1986
- 2.4 California Code of Regulations, Titles 17 and 22
- 2.5 California State Penal Code, Section 498B.0
- 2.6 State of California Water Code, Section 110, 500-6, and 520-23
- 2.7 Water Department Director

Reference

- 2.8 State of California Guidance Manual for Cross Connection Programs
- 2.9 American Water Works Association Manual M-14, Recommended Practice for Backflow Prevention
- 2.10 American Water Works Association Standards for Water Meters
- 2.11 U.S.C. Foundation for Cross Connection Control and Hydraulic Research Manual

3. **DEFINITIONS**

- 3.1 **Fire Hydrant Meter:** A portable water meter which is connected to a fire hydrant for the purpose of temporary use. (These meters are sometimes referred to as Construction Meters.)

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3.2 **Temporary Water Use:** Water provided to the customer for no longer than twelve (12) months.

3.3 **Backflow Preventor:** A Reduced Pressure Principal Assembly connected to the outlet side of a Fire Hydrant Meter.

4. **POLICY**

4.1 The Water Department shall collect a deposit from every customer requiring a fire hydrant meter and appurtenances prior to providing the meter and appurtenances (see Section 7.1 regarding the Fees and Deposit Schedule). The deposit is refundable upon the termination of use and return of equipment and appurtenances in good working condition.

4.2 Fire hydrant meters will have a 2 ½" swivel connection between the meter and fire hydrant. The meter shall not be connected to the 4" port on the hydrant. All Fire Hydrant Meters issued shall have a Reduced Pressure Principle Assembly (RP) as part of the installation. Spanner wrenches are the only tool allowed to turn on water at the fire hydrant.

4.3 The use of private hydrant meters on City hydrants is prohibited, with exceptions as noted below. All private fire hydrant meters are to be phased out of the City of San Diego. All customers who wish to continue to use their own fire hydrant meters must adhere to the following conditions:

a. Meters shall meet all City specifications and American Water Works Association (AWWA) standards.

b. Customers currently using private fire hydrant meters in the City of San Diego water system will be allowed to continue using the meter under the following conditions:

1. The customer must submit a current certificate of accuracy and calibration results for private meters and private backflows annually to the City of San Diego, Water Department, Meter Shop.

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2. The meter must be properly identifiable with a clearly labeled serial number on the body of the fire hydrant meter. The serial number shall be plainly stamped on the register lid and the main casing. Serial numbers shall be visible from the top of the meter casing and the numbers shall be stamped on the top of the inlet casing flange.
3. All meters shall be locked to the fire hydrant by the Water Department, Meter Section (see Section 4.7).
4. All meters shall be read by the Water Department, Meter Section (see Section 4.7).
5. All meters shall be relocated by the Water Department, Meter Section (see Section 4.7).
6. These meters shall be tested on the anniversary of the original test date and proof of testing will be submitted to the Water Department, Meter Shop, on a yearly basis. If not tested, the meter will not be allowed for use in the City of San Diego.
7. All private fire hydrant meters shall have backflow devices attached when installed.
8. The customer must maintain and repair their own private meters and private backflows.
9. The customer must provide current test and calibration results to the Water Department, Meter Shop after any repairs.
10. When private meters are damaged beyond repair, these private meters will be replaced by City owned fire hydrant meters.

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11. When a private meter malfunctions, the customer will be notified and the meter will be removed by the City and returned to the customer for repairs. Testing and calibration results shall be given to the City prior to any re-installation.
12. The register shall be hermetically sealed straight reading and shall be readable from the inlet side. Registration shall be in hundred cubic feet.
13. The outlet shall have a 2 ½ "National Standards Tested (NST) fire hydrant male coupling.
14. Private fire hydrant meters shall not be transferable from one contracting company to another (i.e. if a company goes out of business or is bought out by another company).

4.4 All fire hydrant meters and appurtenances shall be installed, relocated and removed by the City of San Diego, Water Department. All City owned fire hydrant meters and appurtenances shall be maintained by the City of San Diego, Water Department, Meter Services.

4.5 If any fire hydrant meter is used in violation of this Department Instruction, the violation will be reported to the Code Compliance Section for investigation and appropriate action. Any customer using a fire hydrant meter in violation of the requirements set forth above is subject to fines or penalties pursuant to the Municipal Code, Section 67.15 and Section 67.37.

4.6 **Conditions and Processes for Issuance of a Fire Hydrant Meter**

Process for Issuance

- a. Fire hydrant meters shall only be used for the following purposes:
 1. Temporary irrigation purposes not to exceed one year.

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2. Construction and maintenance related activities (see Tab 2).

- b. No customer inside or outside the boundaries of the City of San Diego Water Department shall resell any portion of the water delivered through a fire hydrant by the City of San Diego Water Department.
- c. The City of San Diego allows for the issuance of a temporary fire hydrant meter for a period not to exceed 12 months (365 days). An extension can only be granted in writing from the Water Department Director for up to 90 additional days. A written request for an extension by the consumer must be submitted at least 30 days prior to the 12 month period ending. No extension shall be granted to any customer with a delinquent account with the Water Department. No further extensions shall be granted.
- d. Any customer requesting the issuance of a fire hydrant meter shall file an application with the Meter Section. The customer must complete a "Fire Hydrant Meter Application" (Tab 1) which includes the name of the company, the party responsible for payment, Social Security number and/or California ID, requested location of the meter (a detailed map signifying an exact location), local contact person, local phone number, a contractor's license (or a business license), description of specific water use, duration of use at the site and full name and address of the person responsible for payment.
- e. At the time of the application the customer will pay their fees according to the schedule set forth in the Rate Book of Fees and Charges, located in the City Clerk's Office. All fees must be paid by check, money order or cashiers check, made payable to the City Treasurer. Cash will not be accepted.
- f. No fire hydrant meters shall be furnished or relocated for any customer with a delinquent account with the Water Department.
- g. After the fees have been paid and an account has been created, the

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meter shall be installed within 48 hours (by the second business day). For an additional fee, at overtime rates, meters can be installed within 24 hours (within one business day).

4.7 Relocation of Existing Fire Hydrant Meters

- a. The customer shall call the Fire Hydrant Meter Hotline (herein referred to as “Hotline”), a minimum of 24 hours in advance, to request the relocation of a meter. A fee will be charged to the existing account, which must be current before a work order is generated for the meter’s relocation.
- b. The customer will supply in writing the address where the meter is to be relocated (map page, cross street, etc). The customer must update the original Fire Hydrant Meter Application with any changes as it applies to the new location.
- c. Fire hydrant meters shall be read on a monthly basis. While fire hydrant meters and backflow devices are in service, commodity, base fee and damage charges, if applicable, will be billed to the customer on a monthly basis. If the account becomes delinquent, the meter will be removed.

4.8 Disconnection of Fire Hydrant Meter

- a. After ten (10) months a “Notice of Discontinuation of Service” (Tab 3) will be issued to the site and the address of record to notify the customer of the date of discontinuance of service. An extension can only be granted in writing from the Water Department Director for up to 90 additional days (as stated in Section 4.6C) and a copy of the extension shall be forwarded to the Meter Shop Supervisor. If an extension has not been approved, the meter will be removed after twelve (12) months of use.
- b. Upon completion of the project the customer will notify the Meter Services office via the Hotline to request the removal of the fire hydrant meter and appurtenances. A work order will be generated

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for removal of the meter.

- c. Meter Section staff will remove the meter and backflow prevention assembly and return it to the Meter Shop. Once returned to the Meter Shop the meter and backflow will be tested for accuracy and functionality.
- d. Meter Section Staff will contact and notify Customer Services of the final read and any charges resulting from damages to the meter and backflow or its appurtenance. These charges will be added on the customer's final bill and will be sent to the address of record. Any customer who has an outstanding balance will not receive additional meters.
- e. Outstanding balances due may be deducted from deposits and any balances refunded to the customer. Any outstanding balances will be turned over to the City Treasurer for collection. Outstanding balances may also be transferred to any other existing accounts.

5. **EXCEPTIONS**

- 5.1 Any request for exceptions to this policy shall be presented, in writing, to the Customer Support Deputy Director, or his/her designee for consideration.

6. **MOBILE METER**

- 6.1 Mobile meters will be allowed on a case by case basis. All mobile meters will be protected by an approved backflow assembly and the minimum requirement will be a Reduced Pressure Principal Assembly. The two types of Mobile Meters are vehicle mounted and floating meters. Each style of meters has separate guidelines that shall be followed for the customer to retain service and are described below:
 - a) **Vehicle Mounted Meters:** Customer applies for and receives a City owned Fire Hydrant Meter from the Meter Shop. The customer mounts the meter on the vehicle and brings it to the Meter Shop for

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inspection. After installation is approved by the Meter Shop the vehicle and meter shall be brought to the Meter Shop on a monthly basis for meter reading and on a quarterly basis for testing of the backflow assembly. Meters mounted at the owner's expense shall have the one year contract expiration waived and shall have meter or backflow changed if either fails.

- b) **Floating Meters:** Floating Meters are meters that are not mounted to a vehicle. **(Note: All floating meters shall have an approved backflow assembly attached.)** The customer shall submit an application and a letter explaining the need for a floating meter to the Meter Shop. The Fire Hydrant Meter Administrator, after a thorough review of the needs of the customer, (i.e. number of jobsites per day, City contract work, lack of mounting area on work vehicle, etc.), may issue a floating meter. At the time of issue, it will be necessary for the customer to complete and sign the "Floating Fire Hydrant Meter Agreement" which states the following:

- 1) The meter will be brought to the Meter Shop at 2797 Caminito Chollas, San Diego on the third week of each month for the monthly read by Meter Shop personnel.
- 2) Every other month the meter will be read and the backflow will be tested. This date will be determined by the start date of the agreement.

If any of the conditions stated above are not met the Meter Shop has the right to cancel the contract for floating meter use and close the account associated with the meter. The Meter Shop will also exercise the right to refuse the issuance of another floating meter to the company in question.

Any Fire Hydrant Meter using reclaimed water shall not be allowed use again with any potable water supply. The customer shall incur the cost of replacing the meter and backflow device in this instance.

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7. **FEE AND DEPOSIT SCHEDULES**

- 7.1 **Fees and Deposit Schedules:** The fees and deposits, as listed in the Rate Book of Fees and Charges, on file with the Office of the City Clerk, are based on actual reimbursement of costs of services performed, equipment and materials. These deposits and fees will be amended, as needed, based on actual costs. Deposits, will be refunded at the end of the use of the fire hydrant meter, upon return of equipment in good working condition and all outstanding balances on account are paid. Deposits can also be used to cover outstanding balances.

All fees for equipment, installation, testing, relocation and other costs related to this program are subject to change without prior notification. The Mayor and Council will be notified of any future changes.

8. **UNAUTHORIZED USE OF WATER FROM A HYDRANT**

- 8.1 Use of water from any fire hydrant without a properly issued and installed fire hydrant meter is theft of City property. Customers who use water for unauthorized purposes or without a City of San Diego issued meter will be prosecuted.
- 8.2 If any unauthorized connection, disconnection or relocation of a fire hydrant meter, or other connection device is made by anyone other than authorized Water Department personnel, the person making the connection will be prosecuted for a violation of San Diego Municipal Code, Section 67.15. In the case of a second offense, the customer's fire hydrant meter shall be confiscated and/or the deposit will be forfeited.
- 8.3 Unauthorized water use shall be billed to the responsible party. Water use charges shall be based on meter readings, or estimates when meter readings are not available.
- 8.4 In case of unauthorized water use, the customer shall be billed for all applicable charges as if proper authorization for the water use had been obtained, including but not limited to bi-monthly service charges, installation charges and removal charges.

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- 8.5 If damage occurs to Water Department property (i.e. fire hydrant meter, backflow, various appurtenances), the cost of repairs or replacements will be charged to the customer of record (applicant).

Water Department Director

- Tabs: 1. Fire Hydrant Meter Application
2. Construction & Maintenance Related Activities With No Return To Sewer
3. Notice of Discontinuation of Service

APPENDIX

Administering Division: Customer Support Division

Subject Index: Construction Meters
Fire Hydrant
Fire Hydrant Meter Program
Meters, Floating or Vehicle Mounted
Mobile Meter
Program, Fire Hydrant Meter

Distribution: DI Manual Holders



Application for Fire (EXHIBIT A) Hydrant Meter

(For Office Use Only)

NS REQ	FAC#
DATE	BY

METER SHOP (619) 527-7449

Meter Information

Application Date	Requested Install Date:
------------------	-------------------------

Fire Hydrant Location: (Attach Detailed Map//Thomas Bros. Map Location or Construction drawing.) <u>Zip:</u>	<u>T.B.</u>	<u>G.B. (CITY USE)</u>
Specific Use of Water:		
Any Return to Sewer or Storm Drain, If so, explain:		
Estimated Duration of Meter Use: <input type="text"/>	<input type="checkbox"/>	Check Box if Reclaimed Water

Company Information

Company Name:			
Mailing Address:			
City:	State:	Zip:	Phone: ()
*Business license#		*Contractor license#	
A Copy of the Contractor's license OR Business License is required at the time of meter issuance.			
Name and Title of Billing Agent: <small>(PERSON IN ACCOUNTS PAYABLE)</small>		Phone: ()	
Site Contact Name and Title:		Phone: ()	
Responsible Party Name:		Title:	
Cal ID#		Phone: ()	
Signature:		Date:	
Guarantees Payment of all Charges Resulting from the use of this Meter. Insures that employees of this Organization understand the proper use of Fire Hydrant Meter			

Fire Hydrant Meter Removal Request		Requested Removal Date:
<input type="text"/>		
Provide Current Meter Location if Different from Above:		
Signature:		Title: Date:
Phone: ()	Pager: ()	

<input type="checkbox"/> City Meter	<input type="checkbox"/> Private Meter	
Contract Acct #:	Deposit Amount: \$ 936.00	Fees Amount: \$ 62.00
Meter Serial #	Meter Size: 05	Meter Make and Style: 6-7
Backflow #	Backflow Size:	Backflow Make and Style:
Name:	Signature:	Date:

WATER USES WITHOUT ANTICIPATED CHARGES FOR RETURN TO SEWER

Auto Detailing
Backfilling
Combination Cleaners (Vactors)
Compaction
Concrete Cutters
Construction Trailers
Cross Connection Testing
Dust Control
Flushing Water Mains
Hydro Blasting
Hydro Seeing
Irrigation (for establishing irrigation only; not continuing irrigation)
Mixing Concrete
Mobile Car Washing
Special Events
Street Sweeping
Water Tanks
Water Trucks
Window Washing

Note:

1. If there is any return to sewer or storm drain, then sewer and/or storm drain fees will be charges.

Date

Name of Responsible Party

Company Name and Address

Account Number: _____

Subject: Discontinuation of Fire Hydrant Meter Service

Dear Water Department Customer:

The authorization for use of Fire Hydrant Meter # _____, located at *(Meter Location Address)* ends in 60 days and will be removed on or after *(Date Authorization Expires)*. Extension requests for an additional 90 days must be submitted in writing for consideration 30 days prior to the discontinuation date. If you require an extension, please contact the Water Department, or mail your request for an extension to:

City of San Diego
Water Department
Attention: Meter Services
2797 Caminito Chollas
San Diego, CA 92105-5097

Should you have any questions regarding this matter, please call the Fire Hydrant Hotline at (619) _____ - _____.

Sincerely,

Water Department

APPENDIX C

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

1. Soil amendment
2. Fiber mulch
3. PVC or PE pipe up to 16 inch diameter
4. Stabilizing emulsion
5. Lime
6. Preformed elastomeric joint seal
7. Plain and fabric reinforced elastomeric bearing pads
8. Steel reinforced elastomeric bearing pads
9. Waterstops (Special Condition)
10. Epoxy coated bar reinforcement
11. Plain and reinforcing steel
12. Structural steel
13. Structural timber and lumber
14. Treated timber and lumber
15. Lumber and timber
16. Aluminum pipe and aluminum pipe arch
17. Corrugated steel pipe and corrugated steel pipe arch
18. Structural metal plate pipe arches and pipe arches
19. Perforated steel pipe
20. Aluminum underdrain pipe
21. Aluminum or steel entrance tapers, pipe downdrains, reducers, coupling bands and slip joints
22. Metal target plates
23. Paint (traffic striping)
24. Conductors
25. Painting of electrical equipment
26. Electrical components
27. Engineering fabric
28. Portland Cement
29. PCC admixtures
30. Minor concrete, asphalt
31. Asphalt (oil)
32. Liquid asphalt emulsion
33. Epoxy

APPENDIX D

SAMPLE CITY INVOICE

City of San Diego, CM&FE Div., 9573 Chesapeake Drive, SD CA 92123

Project Name:

Work Order No or Job Order No.

City Purchase Order No.

Resident Engineer (RE):

RE Phone#: Fax#:

Contractor's Name:

Contractor's Address:

Contractor's Phone #:

Contractor's fax #:

Contact Name:

Invoice No.

Invoice Date:

Billing Period: (To)

Trigger Asset	Item #	Item Description	Contract Authorization				Previous Totals To Date		This Estimate		Totals to Date		Amount Remaining
			Unit	Price	Qty	Extension	%/QTY	Amount	% / QTY	Amount	% / QTY	Amount	
	1				1.00	\$ -		\$0.00		\$0.00	0.00	\$0.00	\$ -
	2				1.00	\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	3				1.00	\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	4				1.00	\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	5				1.00	\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	6				1.00	\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	7				1.00	\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	8				1.00	\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	5				1.00	\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	6					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	7					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	8					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	9					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	10					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	11					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	12					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	13					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	14					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	15					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	16					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
	17					\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
						\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
		CHANGE ORDER No.				\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
						\$ -		\$0.00		\$0.00	0.00%	\$0.00	\$ -
		Total Auhtorized Amount (Original)				\$ -		\$0.00		\$0.00		\$0.00	\$ -
		Total Authorized Amount (including approved Change Order)				\$ -		\$0.00		\$0.00	Total Billed	\$0.00	Total Amount Remaining
												\$	-

SUMMARY

A. Original Contract Amount	\$0.00
B. Approved Change Order #00 Thru #00	\$0.00
C. Total Authorized Amount (A+B)	\$0.00
D. Total Billed to Date	\$0.00
E. Less Total Retention (5% of D)	\$0.00
F. Less Total Previous Payments	\$0.00
G. Payment Due Less Retention	\$0.00
H. Remaining Authorized Amount	\$0.00

I certify that the materials have been received by me, or services have been rendered, in the quality and quantity specified per the approved contracted amounts, and is approved for payment

Resident Engineer

Date

Construction Engineer

Date

Retention and/or Escrow Payment Schedule

Total Retention Required as of this billing (Item E)	\$0.00
Previous Retention Withheld in PO or in Escrow	\$0.00
Add'l Amt to Withhold in PO/Transfer in Escrow:	\$0.00
Amt to Release to Contractor from PO/Escrow:	\$0.00

Contractor Signature and Date: _____

1/10/2024 Rev

South De Anza Park Improvements

K-25-2349-DBB-3

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APPENDIX E
LOCATION MAP



Engineering &
Capital Projects

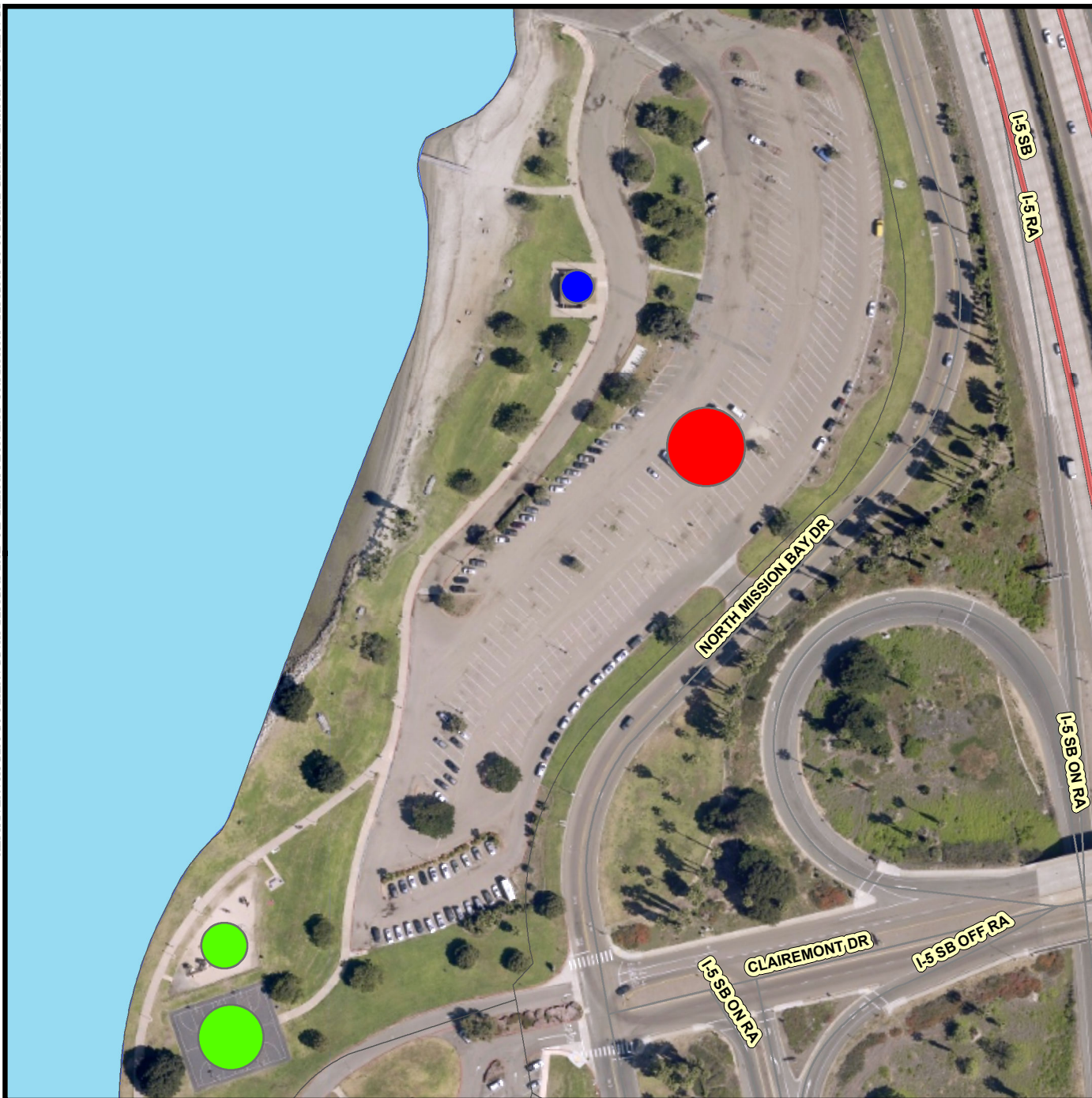
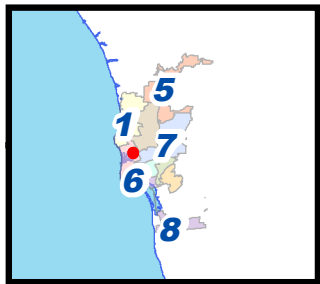
South De Anza Park Improvements Location Map

PROJECT OFFICER II
DARREN GENOVA

PROJECT MANAGER
FRANCIS MARQUEZ

PROJECT ENGINEER
SHANG AHMAD

FOR QUESTIONS ABOUT THIS PROJECT
Call: 619-533-4207
Email: engineering@sandiego.gov



Legend



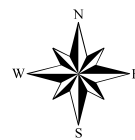
Playground and Basketball Court



Comfort Station



Parking Lot



COMMUNITY NAME: Mission Bay

Date: 7/10/2024
South De Anza Park Improvements

COUNCIL DISTRICT: 2
K-25-2349-DBB-3

WBS NO: B19162, B19172, B19173
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APPENDIX F

SAMPLE OF PUBLIC NOTICE



CONSTRUCTION NOTICE

PROJECT TITLE

Work on your street will begin within one week to replace the existing water mains servicing your community.

The work will consist of:

- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
- Streets where trenching takes place will be resurfaced and curb ramps will be upgraded to facilitate access for persons with disabilities where required.
- This work is anticipated to be complete in your community by December 2016.

How your neighborhood may be impacted:

- Water service to some properties during construction will be provided by a two-inch highline pipe that will run along the curb. To report a highline leak call 619-515-3525.
- Temporary water service disruptions are planned. If planned disruptions impact your property, you will receive advance notice.
- Parking restrictions will exist because of the presence of construction equipment and materials.
- "No Parking" signs will be displayed 72 hours in advance of the work.
- Cars parked in violation of signs will be TOWED.

Hours and Days of Operation:

Monday through Friday X:XX AM to X:XX PM.

City of San Diego Contractor:

Company Name, XXX-XXX-XXXX



CONSTRUCTION NOTICE

PROJECT TITLE

Work on your street will begin within one week to replace the existing water mains servicing your community.

The work will consist of:

- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
- Streets where trenching takes place will be resurfaced and curb ramps will be upgraded to facilitate access for persons with disabilities where required.
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- Parking restrictions will exist because of the presence of construction equipment and materials.
- "No Parking" signs will be displayed 72 hours in advance of the work.
- Cars parked in violation of signs will be TOWED.

Hours and Days of Operation:

Monday through Friday X:XX AM to X:XX PM.

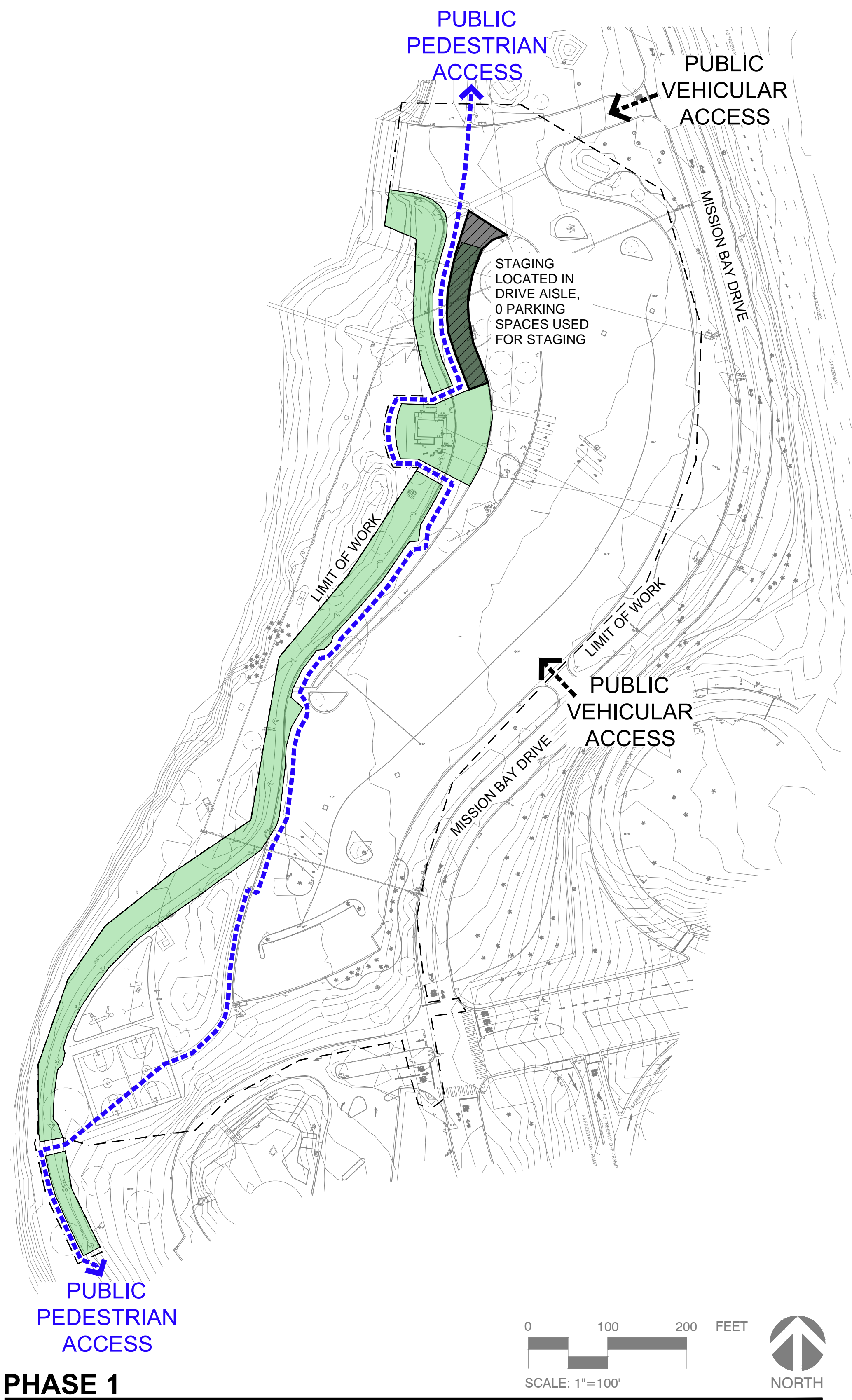
City of San Diego Contractor:

Company Name, XXX-XXX-XXXX

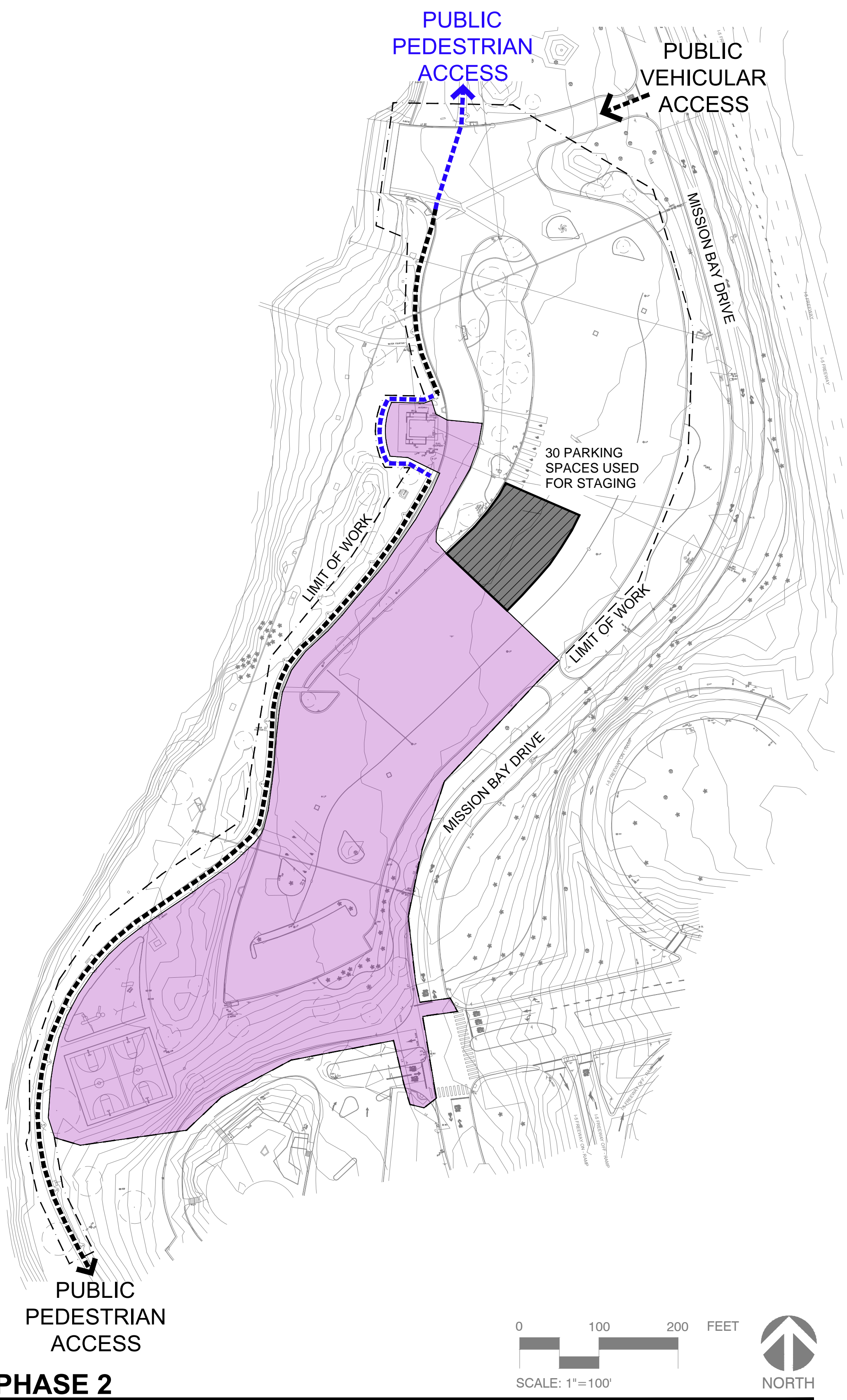
APPENDIX G

PROPOSED CONSTRUCTION PHASING

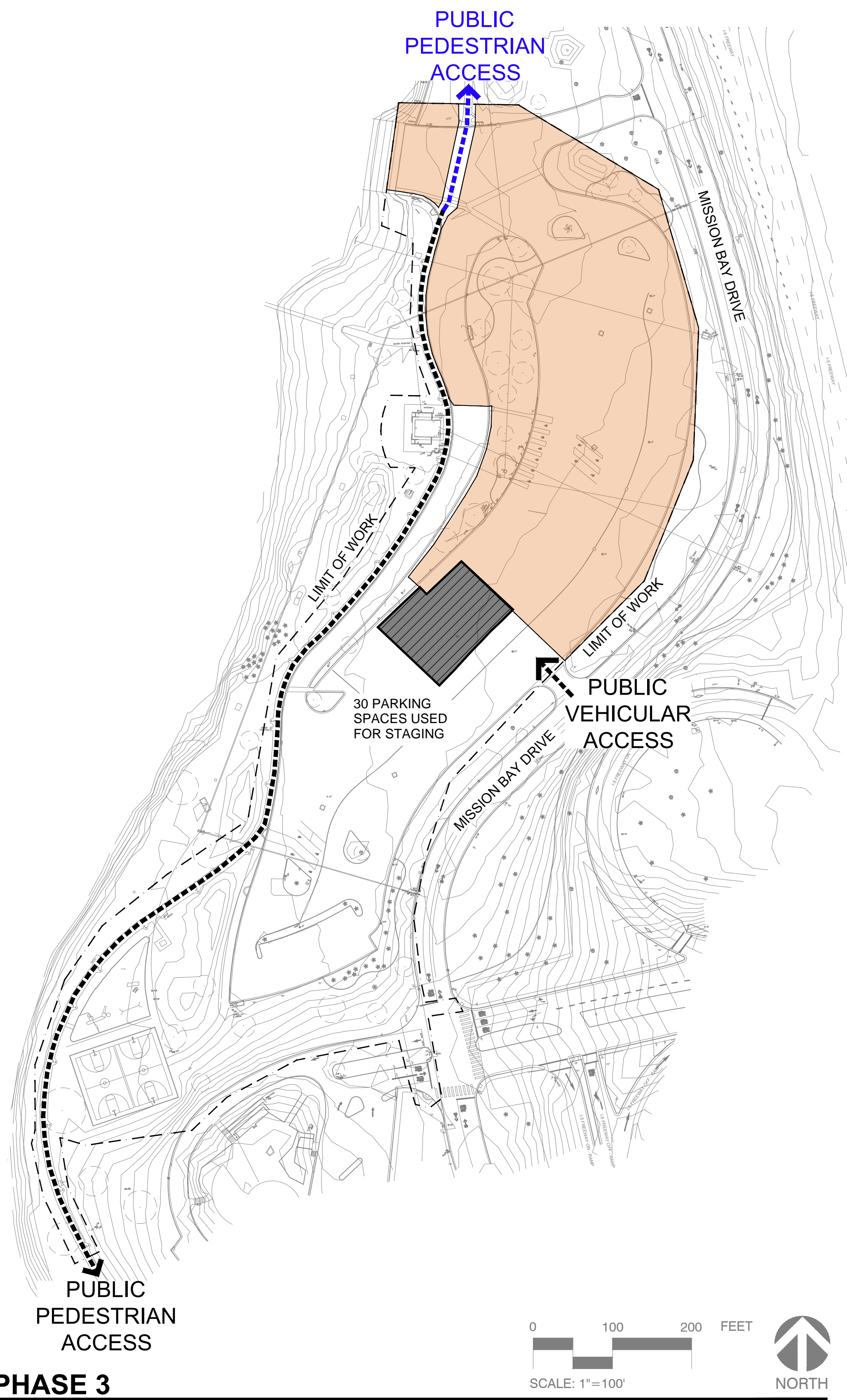
SOUTH DE ANZA PARK IMPROVEMENTS - PROPOSED CONSTRUCTION PHASING



PHASE 1



PHASE 2



PHASE 3

KEY (PHASES 1, 2, 3 ABOVE)

----- TEMPORARY ACCESS

----- PERMANENT ACCESS

KEY (CONSTRUCTION TIMELINE AT RIGHT)

CONSTRUCTION PERIOD

MORATORIUM

S. DE ANZA - TENTATIVE CONSTRUCTION PHASING PLAN

	2025						2026												2027		
	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
SUBMITTALS	MORATORIUM											MORATORIUM						PEP & PUNCHLIST			
PHASE 1	MORATORIUM											MORATORIUM						PEP & PUNCHLIST			
PHASE 2	MORATORIUM											MORATORIUM						PEP & PUNCHLIST			
PHASE 3	MORATORIUM											MORATORIUM						PEP & PUNCHLIST			

*NOTE: CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER AFTER ISSUANCE OF LIMITED NOTICE TO PROCEED (LNTP) TO FINALIZE THE CONSTRUCTION PHASING PLAN.

WORK TO BE PERFORMED

- PHASE 1:**

DEMOLITION: EXISTING CONCRETE PATH, COMFORT STATION, ASPHALT, LANDSCAPE AND IRRIGATION.

CONSTRUCTION: COMFORT STATION, CONCRETE PATH, BOATING CONCRETE EXTENSION, LANDSCAPE AND IRRIGATION
- PHASE 2:**

DEMOLITION: EXISTING PLAYGROUND, BASKETBALL COURTS, SIDEWALKS, ASPHALT, CURB AND GUTTER, LIGHTING, LANDSCAPE AND IRRIGATION

CONSTRUCTION: COMFORT STATION, PLAYGROUND, BASKETBALL COURTS, SIDEWALKS, ASPHALT, CURB AND GUTTER, TRASH ENCLOSURE, LIGHTING, STORMWATER BMP, LANDSCAPE AND IRRIGATION
- PHASE 3:**

DEMOLITION: EXISTING ASPHALT, CURB AND GUTTER, LANDSCAPE AND IRRIGATION

CONSTRUCTION: ASPHALT, CURB AND GUTTER, SIDEWALKS, STORMWATER BMP, LANDSCAPE AND IRRIGATION

APPENDIX H

ADVANCED METERING INFRASTRUCTURE (AMI) DEVICE PROTECTION

Protecting AMI Devices in Meter Boxes and on Street Lights

The Public Utilities Department (PUD) has begun the installation of the Advanced Metering Infrastructure (AMI) technology as a new tool to enhance water meter reading accuracy and efficiency, customer service and billing, and to be used by individual accounts to better manage the efficient use of water. **All AMI devices shall be protected per Section 402-2, "Protection", of the 2021 Whitebook.**

AMI technology allows water meters to be read electronically rather than through direct visual inspection by PUD field staff. This will assist PUD staff and customers in managing unusual consumption patterns which could indicate leaks or meter tampering on a customer's property.

Three of the main components of an AMI system are the:

- A. Endpoints, see Photo 1:

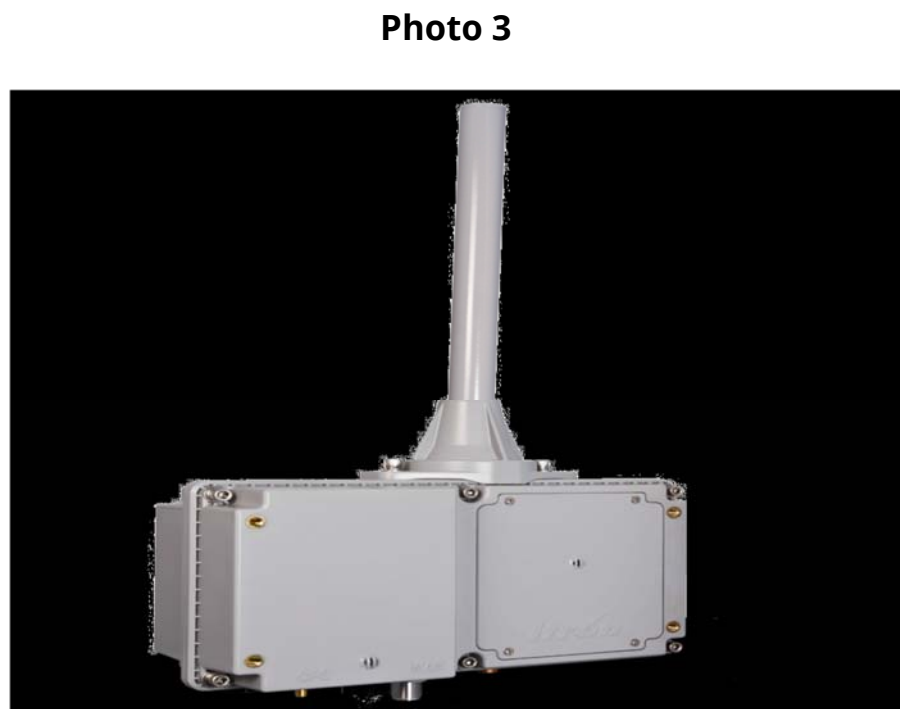
Photo 1



- B. AMI Antenna attached to Endpoint (antenna not always required), see Photo 2:



Network Devices, see Photo 3:



AMI endpoints transmit meter information to the AMI system and will soon be on the vast majority of meters in San Diego. These AMI devices provide interval consumption data to the PUD's Customer Support Division. If these devices are damaged or communication is interrupted, this Division will be alerted of the situation. The endpoints are installed in water meter boxes, coffins, and vaults adjacent to the meter. A separate flat round antenna may also be installed through the meter box lid. This antenna is connected to the endpoint via cable. The following proper installation shall be implemented when removing the lid to avoid damaging the antenna, cable, and/or endpoint. Photo 4 below demonstrates a diagram of the connection:

Photo 4



The AMI device ERT/Endpoint/Transmitter shall be positioned and installed as discussed in this Appendix. If the ERT/Endpoint/Transmitter is disturbed, it shall be re-installed and returned to its original installation with the end points pointed upwards as shown below in Photo 5.

The PUD's code compliance staff will issue citations and invoices to you for any damaged AMI devices that are not re-installed as discussed in the Contract Document

Photo 5 below shows a typical installation of an AMI endpoint on a water meter.

Photo 5

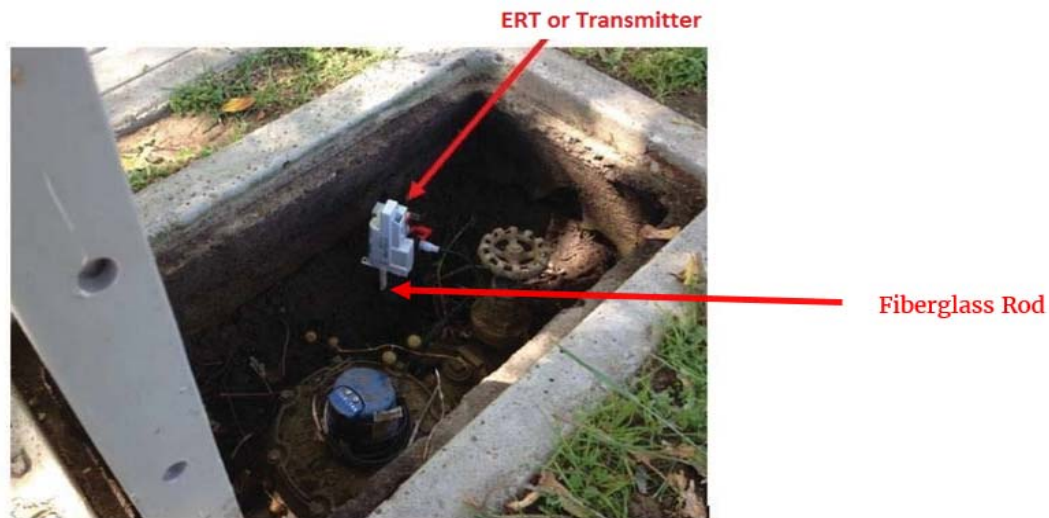


Photo 6 below is an example of disturbance that shall be avoided:

Photo 6



You are responsible when working in and around meter boxes. If you encounter these endpoints, use proper care and do not disconnect them from the registers on top of the water meter. If the lid has an antenna drilled through, do not change or tamper with the lid and inform the Resident Engineer immediately about the location of that lid. Refer to Photo 7 below:

Photo 7



Another component of the AMI system are the Network Devices. The Network Devices are strategically placed units (mainly on street light poles) that collect interval meter reading data from multiple meters for transmission to the Department Control Computer. **If you come across any of these devices on street lights that will be removed or replaced (refer to Photos 8 and 9 below), notify Elvira Santiesteban, Compliance & Metering Manager 619-380-3804 and Kevin Wilson, Senior Water Utility Supervisor 619-857-8257 immediately.**

Photo 8 shows an installed network device on a street light. On the back of each Network Device is a sticker with contact information. See Photo 9. **Call PUD Water Emergency Repairs at 619-515-3525 if your work will impact these street lights.** These are assets that belong to the City of San Diego and you shall be responsible for any costs of disruption of this network.

Photo 8



Network Device

Photo 9



If you encounter any bad installations, disconnected/broken/buried endpoints, or inadvertently damage any AMI devices or cables, notify the Resident Engineer immediately. The Resident Engineer will then immediately contact Elvira Santiesteban, Compliance & Metering Manager 619-380-3804 and Kevin Wilson, Senior Water Utility Supervisor 619-857-8257.

Rev. 9.11.2023

APPENDIX I
SWPPP CONSTRUCTION BMP MAINTENANCE LOG

SWPPP Construction BMP Maintenance Log

Examples of construction BMP maintenance activities include but are not limited to tasks listed below. The contractor is ultimately responsible for compliance with the Storm Water Standards Manual and/or the Construction General Permit, and for ensuring all BMPs function per manufacturer's specifications. Use the attached log to schedule and document maintenance activities. The log shall be kept with the project SWPPP document at all times.

Construction BMP Maintenance Activities

- Maintain stabilized construction entrances/exits
- Redress gravel/rock to full coverage and remove any sediment accumulation
- Remove and replace geotextile/compost blanket/plastic with holes or tears
- Redress and restabilize erosion or rilling greater than 1-inch deep
- Reapply hydraulic stabilization products to full coverage
- Remove and replace silt fence/fiber roll/gravel bags/etc. with holes or tears
- Reinstall or replace silt fence/fiber roll/etc. with sags
- Remove sediment accumulation from perimeter controls
- Remove sediment accumulation from storm drain inlet protection and check dams
- Remove sediment accumulation from energy dissipators
- Repair or remove any vehicle/equipment that leaks
- Remove any accumulation in drip pans or containment
- Empty concrete washouts when they reach 75% capacity
- Empty waste disposal containers when they reach 95% capacity

Construction BMP Maintenance Log

Project Title:
WBS/IO No:
WDID:

Scheduled Date/Time	Completion Date/Time	Location	Maintenance Tasks Performed	Logged By

ATTACHMENT F

**IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION)
COMPLIANCE (CARB)**

ATTACHMENT F

IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION) COMPLIANCE

The California Air Resources Board (CARB) approved amendments to the Off-Road Regulations which can be found at 13 California Code of Regulations (CCR) sections 2449, 2449.1, and 2449.2. These amendments apply to any person, business, or government agency who owns or operates within California any vehicles with a diesel-fueled or alternative diesel fueled off-road compression-ignition engine with maximum power (max hp) of 25 horsepower (hp) or greater provided that the vehicle cannot be registered and driven safely on-road or was not designed to be driven on-road, even if it has been modified so that it can be driven safely on-road. See 13 CCR section 2449 (b) for the full list of vehicles covered by these Off-Road Regulations.

Beginning **January 1, 2024**, Contractor shall be subject to the requirements below. No Contractor or public works awarding body, as applicable, shall enter into a contract with a fleet for which it does not have a valid Certificate of Reported Compliance for the fleet and its listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet. Contractor shall comply with the following requirements:

- (1) For a project involving the use of vehicles subject to the Off-Road Regulation, Contractor must obtain copies of the valid Certificates of Reported Compliance, as described in 13 CCR section 2449(n), for the fleet selected for this Contract and their listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet and provide copies of such Certificates of Reported Compliance to the City within 10 days of issuance of the Notice of Intent to Award letter. Contractor shall enter into a contract with a fleet for which it does not have a valid Certificates of Reported Compliance for the fleet and its listed subcontractors. City shall not enter into a contract with Contractor until all current Certificates of Reported Compliance for the fleet to be used on this Project are provided by Contractor.
- (2) The Certificates of Reported Compliance received by Contractor for this Project must be retained by Contractor for three years after the Project's completion. Upon request by CARB, these records must be provided to CARB within five business days of the request. Additionally, upon request by City, these records must be produced to City within five business days of the request.
- (3) For emergency contracts that meet the definition of "emergency operations" as defined in 13 CCR section 2449(c)(18), they are exempt from the requirements in 13 CCR section 2449(i)(1)-(3) and sections (1) and (2) above, but must still retain records verifying vehicles subject to the regulation that are operating on the "emergency operations" project are actually being operated on the project for "emergency operations" only. These records, as described in more detail below in section (B) must be retained by Contractor for three years after completion of the Project and upon request from either CARB or the City, Contractor shall provide those records to the requesting party within five business days. All other emergency contracts that do not meet the definition of "emergency operations" must comply with the requirements above and 13 CCR section 2449(i)(1) – (3).

- A. "Emergency Operations" is defined as:
1. Any activity for a project conducted during emergency, life threatening situations, where a sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or an essential public service; or in conjunction with any officially declared disaster or state of emergency, as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized health officer;
 2. Any activity for a project conducted by essential service utilities to provide electricity, natural gas, telephone, water, or sewer during periods of service outages and emergency; or
 3. Operations including repairing or preventing damage to roads, buildings, terrain, and infrastructure as a result of an earthquake, flood, storm, fire, other infrequent act of nature, or terrorism. Routine maintenance or construction to prevent public health risks does not constitute emergency operations under the Off-Road Regulations.
- B. The records retained by Contractor for "emergency operations" projects must include:
1. A description of the emergency;
 2. The address or a description of the specific location of the emergency;
 3. The dates on which the emergency operations were performed; and
 4. An attestation by the fleet that the vehicles are operated on the Project for "emergency operations" only.

Beginning **January 1, 2024**, Contractor is also subject to the requirements described in 13 CCR section 2449(j).

- (1) Between March 1 and June 1 of each year, Contractor must collect new valid Certificates of Reported Compliance for the current compliance year, as defined in 13 CCR section 2449(n), from all fleets that have an ongoing contract with Contractor as of March 1 of that year. Contractors shall not write contracts to evade this requirement.
- (2) Contractor shall only allow fleets with valid Certificates of Reported Compliance on the Contractor's job sites.
- (3) If Contractor discovers that any fleet intending to operate vehicles subject to this regulation for Contractor does not have a valid Certificate of Reported Compliance, as defined in 13 CCR section 2449(n), or if Contractor observes any noncompliant vehicles subject to the regulation on Contractor's job site, then Contractor must report the that to CARB at <https://calepacomplaints.secure.force.com/complaints/Complaint>, or email dieselcomplaints@arb.ca.gov, for each fleet without a valid Certificate of Reported Compliance or each noncompliant vehicle, as applicable, within five business days of such discovery. See 13 CCR 2449(n) for the information required to be disclosed to CARB when reporting non-compliance.

- (4) Upon request by CARB, Contractor must immediately disclose to CARB the name and contact information of each responsible party for all vehicles subject to this regulation operating at the job site or for Contractor.
- (5) Contractor shall prominently display signage for any project where vehicles subject to this Off-Road Regulation will operate for 8 calendar days or more. The signage must be posted by the eighth calendar day from which the first vehicle operates. The signage will be in lettering larger than size 14-point type and displayed in a conspicuous place where notices to employees are customarily posted at the job site or where there is employee foot traffic. If one of the above locations is also viewable by the public, it should be posted at that location. An exemption to this posting requirement is permitted if the operational time of a project is 7 calendar days or less. The signage must include the following language, verbatim:
- (A) Who does the In-Use Off-Road Regulation Apply to?
- The In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation) applies to all self-propelled off-road diesel vehicles 25 horsepower or greater and most two-engine vehicles (except on-road two-engine sweepers) owned or operated in California. This includes vehicles that are rented or leased (rental or leased fleets)."
- (B) "In-Use Off-Road Regulation Requirements
- Idling Limit: Vehicles cannot idle longer than five minutes. There are exceptions for vehicles that need to idle to perform work.
- Labeling: Vehicles must be labeled with a CARB assigned equipment identification number (EIN). The EIN shall be white on a red background, unless the vehicle is part of a captive attainment area fleet, in which case the EIN shall be white on a green background.
- The EIN shall be located in clear view on both sides of the outside of the vehicle."

ATTACHMENT G
CONTRACT AGREEMENT

ATTACHMENT G
CONTRACT AGREEMENT

CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and **De La Fuente Construction, Inc.**, tractor" for construction of **South De Anza Park Improvements**; Bid No. **K-25-2349-DBB-3**; in the total amount of **Nine Million Seven Hundred Thirty Eight Thousand Nine Hundred Thirty Eight Dollars and Zero Cents (\$9,738,938.00)**, which is comprised of the Base Bid plus Additive Alternate.

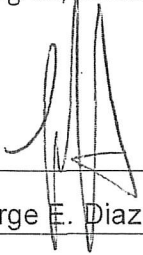
IN CONSIDERATION of the payments to be made hereunder and the mutual undertakings of the parties hereto, City and Contractor agree as follows:

1. The following are incorporated into this contract as though fully set forth herein:
 - (a) The attached Faithful Performance and Payment Bonds.
 - (b) The attached Proposal included in the Bid documents by the Contractor.
 - (c) Reference Standards listed in the Instruction to Bidders and the Supplementary Special Provisions (SSP).
 - (d) That certain documents entitled **South De Anza Park Improvements**, on file in the office of the Purchasing & Contracting Department as Document No. **B-19162**, **B-19172**, and **B-19173**, as well as all matters referenced therein.
2. The Contractor shall perform and be bound by all the terms and conditions of this contract and in strict conformity therewith shall perform and complete in a good and workmanlike manners **South De Anza Park Improvements**, Bid Number **K-25-2349-DBB-3**, San Diego, California.
3. For such performances, the City shall pay to Contractor the amounts set forth at the times and in the manner and with such additions or deductions as are provided for in this contract, and the Contractor shall accept such payment in full satisfaction of all claims incident to such performances.
4. No claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
5. This contract is effective as of the date that the Mayor or designee signs the agreement and is approved by the City Attorney in accordance with San Diego Charter Section 40.

CONTRACT AGREEMENT (continued)

IN WITNESS WHEREOF, this Agreement is signed by the City of San Diego, acting by and through its Mayor or designee, pursuant to Municipal Code §22.3102 authorizing such execution.

CONTRACTOR

By 

Print Name: Jorge E. Diaz De La Fuente

Title: President

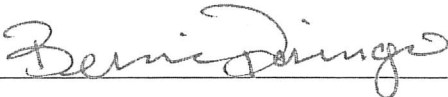
Date: 3/3/2025

City of San Diego License No.: B2010035758

State Contractor's License No.: 919666

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000043346

THE CITY OF SAN DIEGO

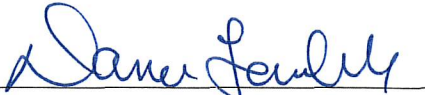
By: 

Print Name: Berric Doringo
Deputy Director
Purchasing & Contracting Department

Date: 4/29/2025

APPROVED AS TO FORM

Heather Ferbert, City Attorney

By: 

Print Name: Dana Fairchild
Deputy City Attorney

Date: 5/9/2025

ATTACHMENT H
PROJECT LABOR AGREEMENT

ORIGINAL

CITY OF SAN DIEGO
PROJECT LABOR AGREEMENT
FOR
CITY-PROCURED CAPITAL IMPROVEMENT PROJECTS
AND OTHER PROJECTS

DOCUMENT NO 00- 21764
FILED FEB 13 2024
OFFICE OF THE CITY CLERK
SAN DIEGO, CALIFORNIA

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CITY OF SAN DIEGO
PROJECT LABOR AGREEMENT
FOR
CITY-PROCURED CAPITAL IMPROVEMENT PROJECTS
AND OTHER PROJECTS

This Project Labor Agreement ("PLA") is entered into by and between the City of San Diego ("City"), the San Diego County Building and Construction Trades Council, AFL-CIO ("Council"), and the signatory Craft Unions ("Unions").

ARTICLE 1
RECITALS

WHEREAS, this PLA will be beneficial to the efficient delivery of City-procured projects included in the City's adopted Capital Improvements Program budget and other projects specifically identified by the City that are of regional significance critical to the safety, economic sustainability, and quality of life of the citizens of San Diego; and

WHEREAS, the City is committed to creating programs that provide access to a skilled and trained workforce and address the needs of underserved groups who have historically experienced significant barriers to participating in employment within the construction industry. Through the construction of City-procured projects included in the City's adopted Capital Improvements Program budget, the City aims to create economically sustainable benefits to the region, derived from employment and training programs to help individuals that are historically marginalized. The City supports policies that create careers, advance equity, and assist vulnerable individuals located in underserved communities; and

WHEREAS, the City desires the completion of the Covered Projects in a professional, safe, efficient, and economical manner, without undue delay or work stoppage; and

WHEREAS, the successful completion of Covered Projects are of the utmost importance to the San Diego region; and

WHEREAS, the Parties have pledged their full commitment to work towards a mutually satisfactory completion of the Covered Projects; and

WHEREAS, large numbers of workers of various skills will be required in the performance of the construction work on the Covered Projects, including workers affiliated with and/or represented by the Unions; and

WHEREAS, it is recognized that on construction projects with multiple contractors and bargaining units on the job site at the same time over an extended period of time, the potential for work disruption is substantial without an overriding commitment to maintain continuity of work; and

WHEREAS, the Parties agree that by establishing and stabilizing wages, hours, and working conditions for the workers employed on the Covered Projects, a satisfactory, continuous, and harmonious relationship will exist among labor and management that will lead to the efficient and economical completion of Covered Projects; and

WHEREAS, in recognition of the special needs of the Covered Projects and to maintain a spirit of harmony, labor-management relations, peace, and stability during the term of this PLA, the Parties agree to establish effective and binding methods for the settlement of all misunderstandings, disputes and grievances without any strikes, slowdowns, work interruptions, or disruption of Covered Projects, and the Contractors agree not to engage in any lockout; and

WHEREAS, the City places high priority upon the development of comprehensive programs for the recruitment, training, and employment of Local Workers and Targeted Workers, and also recognizes the ability of local Apprenticeship Programs to provide meaningful and sustainable careers in the building and construction industry. The City, Contractors and Unions will encourage Local Workers and Targeted Workers to participate in Covered Projects through programs and procedures jointly developed to prepare and encourage such individuals for entrance into Apprenticeship Programs and formal employment on the Covered Projects through the referral programs sponsored and/or supported by the Parties to this PLA; and

WHEREAS, the Covered Projects will provide opportunities for Disadvantaged Businesses to participate as Contractors, subcontractors, or suppliers, and the Parties therefore agree that they will cooperate with all efforts of the City, the Project Labor Coordinator, Contractors and other organizations retained by the City for this purpose, to encourage and assist the participation of Disadvantaged Businesses in the Covered Projects. Specifically, Contractors and Unions understand that the City has established and quantified goals which place a strong emphasis on the utilization of Disadvantaged Businesses on Covered Projects. The City, Contractors and Unions shall participate in outreach programs and provide education and assistance to businesses not familiar with working on projects of this scope. Further, the Parties shall ensure that the provisions of this PLA do not inadvertently establish impediments to participation of such Disadvantaged Businesses, Local Workers and Targeted Workers; and

WHEREAS, it is further understood that the City shall administer the obligations under this PLA to ensure that the benefits of the PLA flow to all signatory Parties, Contractors, craft persons working under it, and residents of the San Diego region. The City may designate a Project Labor Coordinator, either from its own staff and/or a consultant acting on behalf of the City, to monitor compliance with the PLA. The Project Labor Coordinator, as the authorized representative of the City, will assist with the development and implementation of the programs referenced in this PLA, all of which are critical to fulfilling the intent and purposes of the Parties and this PLA.

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES AS FOLLOWS:

ARTICLE 2

DEFINITIONS

Capitalized terms utilized in this PLA which are not otherwise defined herein shall have the meanings ascribed to said terms below. All definitions include both singular and plural forms.

“Applicable Prevailing Wage Laws” means the prevailing wage laws, regulations, and determinations applicable to a Covered Project pursuant to the State of California Labor Code and/or the Davis-Bacon Act and related federal laws.

“Apprentice” means an apprentice properly registered in an Apprenticeship Program for the entire time they are employed on a Covered Project.

“Apprenticeship Program” means an apprenticeship program (i) approved by the State of California’s Division of Apprenticeship Standards; (ii) registered with the U.S. Department of Labor; or (iii) registered with a State Apprenticeship Agency granted authority by the U.S. Department of Labor to register apprenticeship programs for federal purposes, pursuant to 29 CFR Part 29.

“Apprenticeship Readiness Program” means an apprenticeship readiness program authorized by North America’s Building Trades Unions and the Council to teach the Multi-Craft Core Curriculum (MC3) and prepare Local Workers and Targeted Workers for entry into Apprenticeship Programs.

“City” means the City of San Diego.

“Contractor” means the Prime Contractor and any subcontractor of any tier awarded Covered Work. The term “Contractor” includes any individual, firm, partnership, corporation, owner operator, consultant or combination thereof, including joint ventures, performing Covered Work.

“Core Employee” is defined in Article 4, Section 4.6(a).

“Council” means the San Diego County Building & Construction Trades Council.

“Covered Contract” means a prime contract or subcontract awarded for performance of Covered Work.

“Covered Professional Services Agreement” means either (1) a project specific consultant agreement for an individual Covered Project that includes Covered Work or (2) the following specialized as-needed consultant agreements that include Covered Work: (a) as needed construction management services; (b) as-needed geotechnical engineering services; (c) as-needed land surveying, mapping, and digitizing services; and (d) as-needed material testing services.

“Covered Project” means either: (1) a City-procured construction project included in the City’s adopted Capital Improvements Program budget that is advertised with a City-estimated construction contract value of: (a) at least \$5 million in the first and second years of this PLA (July 1, 2024 to June 30, 2026); or (b) more than \$1 million thereafter; or (2) a construction project that is not procured by the City, but which is enumerated on Attachment A and for which a bid is advertised during the term of this PLA. The City Council may, by resolution at its sole discretion, include other construction projects for coverage under the PLA or exclude a Covered Project from coverage under the PLA.

“Covered Work” means construction work on a Covered Project, except for work that is excluded under a specific exemption in this PLA. Covered Work also includes work identified as requiring payment of prevailing wages under the State of California general prevailing wage determination for Field Surveyor and/or Building/Construction Inspector and Field Soils and Material Tester in a Covered Professional Services Agreement. The scope of work includes: making precise measurements to determine relative position or as-built locations; providing stakes, markers, or similar information for location or construction in support of construction operations; field surveying services to support work performed under the direction of a Licensed Land Surveyor or Civil Engineer; field inspections and testing for reinforced concrete, soils, structural masonry, prestressed concrete, structural steel and welding, and other construction materials used in buildings, roads, and related projects. In the event work is referred to by such terms as “quality control” or “quality assurance,” such work shall be included under the PLA if it satisfies the above criteria.

“Disadvantaged Business” means a business that is either: (1) a Disadvantaged Business Enterprise pursuant to 49 C.F.R §26.5 that has been certified by either the California Department of Transportation (“Caltrans”) or a Caltrans-approved California certifying agency; (2) a Minority Business Enterprise or a Woman Business Enterprise certified by Caltrans, a Caltrans-approved certifying agency or the California Public Utilities Commission (“CPUC”); or (3) a Small Local Business Enterprises or Emerging Local Business Enterprises certified by the City of San Diego.

“Jobs Coordinator” means an independent third-party individual, entity or employee with whom the Prime Contractor enters into a contract or employs to assist the Contractor with achieving and exceeding the Local Worker and Targeted Worker goals set forth in Section 4.5 of this PLA. The City may elect to assign City staff to perform the duties of the “Jobs Coordinator.”

“Local Worker” means an individual domiciled in San Diego County, CA or a Veteran residing anywhere. “Domiciled” has the meaning set forth in section 349(b) of the California Election Code, indicating a fixed address with intent of continued residency.

“Master Agreement” means the local master labor agreement of a Union.

“Parties” means the City, the Council, and Unions.

“Prime Contractor” means the contractor awarded a Covered Contract in privity directly with the City.

“Project Labor Coordinator” means the designee(s) of the City, either from its own staff and/or a consultant acting on behalf of the City, to monitor compliance with this PLA and assist with developing, implementing and administering the requirements, policies and programs referenced herein.

“Targeted Worker” means any individual qualifying for one or more of the following categories, at initial time of employment on the Covered Project in question:

- (a) is a Veteran;
- (b) is an Apprentice with less than fifteen percent of the work hours required for completion of the Apprenticeship Program;
- (c) has no high school diploma or general education diploma (GED);
- (d) is homeless or has been homeless within the last year;
- (e) is a former foster youth;
- (f) is a custodial single parent;
- (g) is experiencing protracted unemployment (defined as receiving unemployment benefits for at least three months);
- (h) is a current recipient of government cash or food assistance benefits;
- (i) has a documented income at or below 100 percent of the Federal Poverty Level;
- (j) has spent time in a jail, a youth correctional facility or a prison; or
- (k) is a graduate of an Apprenticeship Readiness Program approved to use the Multi-Craft Core Curriculum (MC3).

“Union” means any labor organization signatory to this PLA.

“Veteran” means a veteran or 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)).

“Workforce Dispatch Request Form” means the project-specific form by which Contractors request workers from the Union hiring halls on Covered Projects, an example of which is attached as Attachment C-1.

ARTICLE 3

SCOPE OF THE PLA

Section 3.1 This PLA is limited to covering all onsite construction work on Covered Projects within the scope of each Covered Contract.

Section 3.2 Exclusions. Items specifically excluded from the scope of this PLA include the following:

- (a) Work of non-manual employees, including but not limited to, superintendents, supervisors, staff engineers, quality control and quality assurance personnel (subject to definition of Covered Work), timekeepers, mail carriers, clerks, office workers, messengers, guards, safety personnel, emergency medical and first aid technicians, and other professional, engineering, administrative, supervisory, and management employees.
- (b) Off-site manufacturing, fabrication, maintenance, hauling of equipment, machinery, or materials, and hauling of recyclable metals, such as copper, steel, and aluminum, that have been separated from other materials at the Covered Project jobsite prior to transportation and that are to be sold at fair market value to a bona fide purchaser as defined in Labor Code section 1720.3. However, any lay down or storage areas for equipment, materials, and manufacturing (*i.e.*, prefabrication) sites dedicated solely for the Covered Project, on-site fabrication, and the movement of materials or goods between locations on a Covered Project site are within the scope of the PLA. On-site fabrication work includes work done for the Covered Project in temporary yards or areas near the jobsite. On-site construction shall also include the site of any batch plant constructed solely to supply materials to the Covered Project. Hauling and delivery of materials used for paving, grading, and fill (which include ready-mixed concrete, soil, sand, gravel, rocks, and asphalt) onto a Covered Project jobsite are included under the PLA if the individual driver's work is integrated into the flow process of construction. Hauling of refuse from the Covered Project jobsite will also be covered by the terms and conditions of the PLA to the fullest extent allowed by law and by the prevailing wage determinations of the California Department of Industrial Relations.
- (c) All employees of the City and Project Labor Coordinator.
- (d) Employees of design teams (including, but not limited to, architects, engineers, and master planners), or any other consultants for the City (including, but not limited to, project managers, resident engineers, construction managers and their employees) and their sub-consultants,

and other employees of professional service organizations, not performing manual labor within the scope of this PLA.

- (e) Any as-needed professional services agreement that does not meet the definition of Covered Professional Services Agreements, even if the agreement includes surveying and inspection work that requires payment of prevailing wages under the State of California general prevailing wage determination for Field Surveyor and/or Building/Construction Inspector and Field Soils and Material Tester.
- (f) Any professional services agreement that was awarded prior to the effective date of the PLA. This exclusion also includes any subsequent amendment to a professional services agreement awarded prior to the effective date of the PLA that is necessary to complete a construction project.
- (g) Any work performed on or near or leading to or into a site of work covered by this PLA and undertaken by state, county, City, private utilities or other governmental bodies, or their contractors (other than work within the scope of this PLA undertaken by contractors to the City).
- (h) Work performed by employees of a manufacturer or vendor on the manufacturer's or vendor's equipment, if required by the warranty agreement in order to maintain the warranty or guarantee, and provided that the warranty agreement is the manufacturer's or vendor's usual and customary warranty agreement for such equipment and is consistent with industry practice. Any work to be excluded pursuant to this subsection shall be identified and discussed at the relevant pre-job conference. Upon request from the Council, the City shall review with the vendor whether installation or application may be performed pursuant to terms of the PLA without affecting the status of the warranty.
- (i) Specialized or technical work requiring specialized training, unique skills, or a level of specific technical experience which employees represented by the Union do not possess. At least ten (10) working days' notice shall be given to the Council before any work is performed pursuant to this exemption.
- (j) Laboratory testing work.
- (k) Non-construction support services contracted by the City, Project Labor Coordinator, or Contractor in connection with Covered Projects.

- (l) Work on emergency contracts awarded pursuant to San Diego Municipal Code (SDMC) sections 22.3108 or 22.3208.
- (m) Work on a construction project that was not procured by the City except a project that is specifically enumerated as a Covered Project on Attachment A or is subsequently included and approved by the City Council by resolution at its discretion during the effective dates of this Agreement.

Section 3.3 Awarding of Contracts.

- (a) The City has the absolute right to bid or award Covered Contracts regardless of delivery method to any Contractor notwithstanding the existence or non-existence of any agreements between such Contractor and any Union, provided only that such Contractor is willing, ready, and able to execute and comply with this PLA should such Contractor be awarded work covered by this PLA.

The solicitation of bids shall be based upon the same terms, conditions and scope of work requested of all potential bidders.

- (b) It is agreed that all Contractors awarded Covered Work shall be required to accept and be bound by the terms and conditions of this PLA. Contractors shall evidence their acceptance of this PLA by executing a Letter of Assent as set forth in Attachment B hereto. The Prime Contractor must sign and submit the Letter of Assent as a condition of award prior to the execution of a Covered Contract. No Contractor shall commence Covered Projects without first providing a copy of the signed Letter of Assent to the Project Labor Coordinator.
- (c) The City and all Contractors awarded Covered Work agree that, to the extent permitted by law and consistent with the economy and efficiency of construction and operation, they will use best efforts to purchase materials, equipment, and supplies that will not create labor strife. Under all circumstances, however, the City and Contractors shall retain the absolute right to select Contractors for the award of contracts and subcontracts on all Covered Projects.

Section 3.4 Coverage Exception. The Parties agree and understand that this PLA shall not apply to any Covered Project or portion thereof that would otherwise be covered by the PLA if a governmental agency or granting authority partially or fully funding such work determines that it will not fund the Covered Project if it is covered by this PLA. The City agrees that it will make a reasonable effort to establish the inclusion of this PLA with any governmental agency or granting authority funding a Covered Project.

Under no circumstance shall the City be required to forgo project funding due to potential application of this PLA. In such instance, the PLA and its terms shall not apply.

Section 3.5 Master Agreements.

- (a) The provisions of this PLA, including the Master Agreements (which are the local Master Agreements of the signatory Unions having jurisdiction over the work on the Covered Project, as such may be changed from time to time consistent with Section 21.3, and which are incorporated herein by reference), shall apply to Covered Work, notwithstanding the provisions of any other local, area and/or national agreement that may conflict with or differ from the terms of this PLA. Where a subject covered by the provisions of this PLA is also covered by a Master Agreement, the provisions of this PLA shall prevail. Where a subject is covered by a provision of a Master Agreement and not covered by this PLA, the provisions of the Master Agreement shall apply. Any dispute as to the applicable source between this PLA and any Master Agreement shall be resolved under the procedures established in Article 10.
- (b) This PLA, together with the referenced Master Agreements, constitutes a self-contained, stand-alone agreement and, by virtue of having become bound to this PLA, the Contractor will not be obligated to sign any other local, area, or national collective bargaining agreement as a condition of performing work within the scope of this PLA. Provided, however, that pursuant to Section 6.2, the Contractor may be required to sign a uniformly applied non-discriminatory Participation or Subscription Agreement at the request of the trustees or administrator of a trust fund established pursuant to Section 302 of the Labor Management Relations Act, and to which such Contractor may be bound to make contributions under this PLA, provided that such Participation or Subscription Agreement does not purport to bind the Contractor beyond the terms and conditions of this PLA for work on Covered Projects and/or expand its obligation to make contributions pursuant thereto. It shall be the responsibility of the Prime Contractor to have each of its Contractors of any tier sign the documents with the appropriate Union prior to the Contractor beginning work on Covered Projects.

Section 3.6 The Parties agree that this PLA will be made available to, and will fully apply to, any successful bidder for Covered Projects, without regard to whether that successful bidder performs work at other sites on either a Union or non-Union basis. This PLA shall not apply to any work of any Contractor other than that on Covered Projects specifically covered by this PLA.

- Section 3.7** Binding Signatories Only. This PLA and Letter of Assent shall only be binding on Contractors in the performance of Covered Work, and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any such Contractors.
- Section 3.8** Other City Work. Nothing contained herein shall be interpreted to prohibit, restrict, or interfere with the performance of any other operation, work, or function not covered by this PLA, which may be performed by the City employees or contracted for by the City for its own account, on its property, or in and around a project site.
- Section 3.9** Separate Liability. It is understood that the liability of the Contractor(s) and the liability of the separate Unions under this PLA shall be several and not joint. The Unions agree that this PLA does not have the effect of creating any joint employment status between or among the City or Project Labor Coordinator and/or any Contractor.
- Section 3.10** Completed Covered Projects. As portions of Covered Projects are completed, this PLA shall have no further force or effect on such portions of projects, except where the Contractor is directed by the City or its representatives to engage in repairs, modification and/or check-out functions required by its contract(s) with the City.
- Section 3.11** Except for all work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, and the National Cooling Tower Agreement, all instrument calibrations work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Article 7 (Work Stoppages and Lockouts), Article 8 (Work Assignments and Jurisdictional Disputes) and Article 10 (Settlement of Grievances and Disputes) of this PLA, which shall apply to such work.

ARTICLE 4

UNION RECOGNITION AND EMPLOYMENT

- Section 4.1** Recognition. The Contractor recognizes the Unions as the exclusive bargaining representative for the employees engaged in Covered Projects. Such recognition does not extend beyond the period when the employee is engaged in Covered Projects.
- Section 4.2** Contractor Selection of Employees. The Contractor shall have the right to determine the competency of all employees, the number of employees required, the duties of such employees within their craft jurisdiction, and shall have the sole responsibility for selecting employees to be laid off, consistent with this Article.

The Contractor shall also have the right to reject any applicant referred by a Union for any lawful reason, subject to any reporting time requirements of the applicable Master Agreement; provided, however, that such right is exercised in good faith and not for the purpose of avoiding the Contractor's commitment to employ qualified workers through the procedures endorsed in this PLA.

Section 4.3 Referral Procedures.

- (a) For Unions having a job referral system contained in a Master Agreement, the Contractor agrees to comply with such system, and such system shall be used exclusively by such Contractor, except as modified by this PLA. Such job referral system will be operated in a nondiscriminatory manner and in full compliance with federal, state, and local laws and regulations that require equal employment opportunities and non-discrimination. All of the foregoing hiring procedures, including related practices affecting apprenticeship, shall be operated so as to consider the goals of the City to encourage employment of Local Workers, Targeted Workers, and utilization of Disadvantaged Businesses on the Covered Projects, and to facilitate the ability of all Contractors to meet their employment needs.
- (b) The local Unions will exert their best efforts to recruit and refer sufficient numbers of skilled craft workers to fulfill the labor requirements of the Contractor, including specific employment obligations to which the Contractor may be legally and/or contractually obligated; and to refer Apprentices as requested to develop a larger, skilled workforce. The Unions will work with the Project Labor Coordinator and others designated by the City to identify and refer competent craft persons as needed for Covered Work, and to identify individuals, particularly local residents, for entrance into Apprenticeship Programs, or participation in other identified programs and procedures to assist individuals, particularly Local Workers and Targeted Workers, in qualifying and becoming eligible for such Apprenticeship Readiness Programs and Apprenticeship Programs, all maintained to increase the available supply of skilled craft personnel for Covered Projects.
- (c) The Union shall not knowingly refer an employee currently employed by a Contractor on Covered Projects to any other Contractor.

Section 4.4 Non-Discrimination in Referral, Employment, and Contracting. The Parties and Contractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, ethnicity, color, ancestry, religious creed, national origin, sexual orientation, physical disability, mental disability, medical condition, age, marital status, denial of family care leave, genetic information, gender,

gender identity, gender expression, military and veteran status, criminal records, past incarceration, previous status as a foster youth, political affiliation or membership in a labor organization in hiring and dispatching workers for the Covered Projects. The Parties and Contractors will ensure that the evaluation and treatment of their employees, members, and applicants for employment or membership are free from such discrimination, harassment, and retaliation. Further, it is recognized that the City has certain policies, programs, and goals for the utilization of Disadvantaged Businesses. The Parties and Contractors shall jointly endeavor to assure that these commitments are fully met, and that any provisions of this PLA that may appear to interfere with Disadvantaged Businesses successfully bidding for work on Covered Projects shall be carefully reviewed, and adjustments made as may be appropriate and agreed upon among the Parties, to ensure full compliance with the City's policies and commitment to its goals for the significant utilization of Disadvantaged Businesses as Contractors, vendors or suppliers on Covered Projects.

Section 4.5 Employment of Local Workers and Targeted Workers.

- (a) In recognition of the City's mission to maximize employment opportunities for Local Workers and Targeted Workers, Unions and Contractors agree that Local Workers, as well as Targeted Workers, to the extent such status is known, shall be first referred for Covered Projects. The list of qualifying zip codes for Local Workers will be posted on the City's website, as indicated in the Workforce Dispatch Request Form.
- (b) The Contractors and Unions agree to work together to achieve a goal of at least thirty percent (30%) of the total construction craft hours worked on each Covered Project being performed by Local Workers, if the Covered Project does not receive federal funding, or if local hiring requirements are pre-approved by federal funding sources. If the Covered Project receives federal funding and local hiring requirements have not been pre-approved by the federal funding source(s), the aforementioned goal will be based on the total construction craft hours worked performed by California residents and shall not consider the craft hours worked by residents of states other than California.
- (c) The Contractors and Unions agree to increase participation of Targeted Workers on each Covered Project. Strategies and outcomes for increasing such participation will be reported annually by the Project Labor Coordinator with support and assistance from Contractors and Unions.
- (d) Contractors shall attempt to satisfy the goals set forth in Section 4.5(b) by (i) assigning current craft employees who are Local Workers to perform Covered Work; (ii) if necessary, requesting referral of Local

Workers from Union hiring halls (using the Workforce Dispatch Request Form) and Apprenticeship Programs; and (iii) if the goals are not satisfied after following such steps, considering qualifying workers available from other sources, in compliance with Section 4.7. Contractors that follow these procedures in good faith and with concerted efforts to identify and retain Local Workers shall not be considered in non-compliance for failure to meet the goals set forth in Section 4.5(b).

- (e) Covered Professional Services Agreements entered into by the City for covered surveying or inspection services, which are separate and apart from the Covered Contract for a Covered Project, are exempt from the foregoing Local Worker and Targeted Worker hiring goals.
- (f) To facilitate the dispatch of Local Workers and Targeted Workers, as well as all Contractor requests for referral and dispatch of workers from the applicable Union referral system, all Contractors are required to utilize the Workforce Dispatch Request Form. When Local Workers and Targeted Workers are requested by a Contractor, the Unions will refer Local Workers, and Targeted Workers to the extent such status is known, regardless of their place in the Union hiring halls' list and normal referral procedures.
- (g) The Project Labor Coordinator shall work with the Unions and Contractors in the administration, monitoring, and reporting of the foregoing Local Worker hiring goals.

Section 4.6 Core Employees. This Section only applies to Contractors who are not signatory to an applicable Master Agreement.

- (a) Core Employees must meet the following eligibility requirements to qualify for employment on Covered Projects:
 - (1) A Core Employee must be a journeyperson and appear on the Contractor's active payroll for at least sixty (60) of the last one-hundred-twenty (120) working days prior to being designated as a Core Employee. The date a Core Employee is designated is the date the Core Employee list is submitted to the Project Labor Coordinator and Union prior to the Contractor commencing work; and
 - (2) A Core Employee must possess any license required by state or federal law for the Covered Projects to be performed.

- (b) Core Employee Hiring Procedure for Disadvantaged Businesses. The Parties recognize the City's interest in promoting competition and inclusion of Disadvantaged Businesses, which may not be signatory to a current Master Agreement. In order to promote participation and attract Disadvantaged Businesses to work under this PLA, and subject to the limitations set forth below, each Contractor that is a Disadvantaged Business may first employ three (3) of its Core Employees per craft on each Covered Project prior to employing an employee through the appropriate Union hiring hall. The next (fourth) employee shall be hired from the appropriate Union hiring hall and thereafter, such Contractor may employ, as needed, two (2) additional Core Employees in an alternating manner with Union referrals, up to a total of five (5) Core Employees. Thereafter, all additional employees in the affected trade or craft shall be requested and referred from the appropriate Union hiring hall.

The foregoing Core Employee hiring procedure for Disadvantaged Businesses is subject to the following limitations:

- (1) Disadvantaged Businesses are limited to utilizing the foregoing Core Employee hiring procedure on subcontracts with a value of \$500,000 or less; and
- (2) The total value of all subcontracts utilizing the foregoing Core Employee hiring procedure shall not exceed ten percent (10%) of the total value of any Covered Project; and
- (3) Each Disadvantaged Business performing work as a subcontractor is limited to using this hiring procedure for one subcontract per Covered Project.

The City may at its sole discretion modify the above Core Employee limitations for Disadvantaged Businesses. Any modifications to the limitations for Disadvantaged Businesses will be reflected in the SDMC, including but not limited to Chapter 2, Article 2, Division 36, Small and Local Business Program Administration. If there is conflict, ambiguity, or other inconsistency between any provision in this PLA and the SDMC, the SDMC will control and take precedence.

In order to assist the Project Labor Coordinator in monitoring compliance with this Section, each Prime Contractor will be responsible for tracking, reporting and providing notice to the Project Labor Coordinator describing each Disadvantaged Business subcontract that qualifies for the foregoing hiring procedure prior to work commencing.

- (c) Contractors who do not qualify for the hiring procedure for Disadvantaged Businesses set forth in Section 4.6(b), and who are not otherwise signatory to a current Master Agreement, may employ, as needed, first, a Core Employee, then an employee through a referral from the appropriate Union hiring hall, then a second Core Employee, then a second employee through the referral system, and so on until a maximum of three (3) Core Employees are employed per craft on each Covered Project. Thereafter, all additional employees in the affected trade or craft shall be requested and referred from the appropriate Union hiring hall in accordance with this Article. Contractors employing more than fifty (50) craft workers at the same time in a specific trade on a Covered Project may hire an additional two (2) Core Employees.

Section 4.6 only applies to Contractors who are not directly signatory to a current Master Agreement for the craft worker in its employ and is not intended to limit the transfer provisions of the Master Agreement of any trade. As part of this process, and in order to facilitate the contract administration procedures, as well as appropriate fringe benefit fund coverage, all Contractors shall require their Core Employees and any other persons employed other than through the referral process, to register with the appropriate Union hiring hall, if any, prior to their first day of employment working under the Covered Contract at a Covered Project site.

- (d) Prior to each Contractor performing Covered Work, the Contractor shall provide a list of Core Employees using Attachment C-2, Contractor Core Workforce Form, to the Project Labor Coordinator and the Union having jurisdiction over the work. After submitting the Core Employee list prior to commencing work, Contractors shall not make any changes or substitutions to the Core Employee list for the duration of the Covered Project, except in cases where a Core Employee is injured or otherwise cannot work on the Covered Project due to factors beyond the Contractor's control. Failure to submit the Core Employee list prior to work commencing will prohibit the Contractor from using any Core Employees until 30 calendar days after the list is provided to the Project Labor Coordinator and Union having jurisdiction over the work.
- (e) Upon request by any Party to this PLA, a Contractor hiring one or more Core Employees shall provide satisfactory proof (*i.e.*, payroll records, quarterly tax records, and such other documentation) evidencing Core Employees' qualifications as such to the Project Labor Coordinator and the Council.

- (f) In addition to the core employee provisions set forth herein, all Contractors may avail themselves of any opportunity provided for in the applicable Master Agreements to call for specific employees by name.
- (g) During any layoffs or reductions in workforce, Contractors shall layoff employees in an order and manner consistent with the Core Employee hiring procedures and maintain the required Core Employee-to-Union referral ratios required by this Section for the duration of each Covered Project.

Section 4.7 Time for Referral. If any Union's registration and referral system does not fulfill the requirements for specific classifications of covered employees (including Local Workers and Targeted Workers) requested by any Contractor within forty-eight (48) hours (excluding Saturdays, Sundays, and holidays), that Contractor may employ Core Employees without reference to the ratio requirements in Section 4.6 or use employment sources other than the Union registration and referral services, and may employ applicants from any other available source. The Contractor should promptly inform the Union of any applicants hired from other sources, and such applicants shall register with the appropriate hiring hall, if any.

Section 4.8 Lack of Referral Procedure. If a signatory local Union does not have a job referral system as set forth in Section 4.3 above, the Contractors shall give the Union equal opportunity to refer applicants in conformance with remaining provisions of this Article 4. The Contractors shall notify the Union of employees so hired, as set forth in Section 4.7.

Section 4.9 Union Membership. Employees are not required to become or remain Union members or pay Union dues or fees as a condition of performing Covered Work under this PLA. Nothing in this Section 4.9 is intended to supersede independent requirements of the applicable Master Agreements as to those Contractors otherwise signatory to such Master Agreements and as to the employees of those Contractors who are performing work on Covered Projects. Contractors otherwise signatory to such Master Agreements shall make and transmit all deductions for Union dues, fees, and assessments that have been authorized by employees in writing in accordance with the applicable Master Agreement.

Section 4.10 Foremen. The selection and number of craft foremen and/or general foremen shall be the responsibility of the Contractor, consistent with the Master Agreements. All foremen shall take orders exclusively from the designated Contractor representatives. Craft foremen shall be designated as working foreman at the request of the Contractors.

ARTICLE 5

UNION ACCESS AND STEWARDS

Section 5.1 Access to Project Sites. Authorized representatives of the Union shall have access to Covered Projects, provided that they do not interfere with the work of employees and further provided that such representatives fully comply with posted visitor, security, and safety rules.

Section 5.2 Stewards.

- (a) Each signatory local Union shall have the right to dispatch a working journeyperson as a steward for each shift, and shall notify the Contractor in writing of the identity of the designated steward or stewards prior to the assumption of such person's duties as steward. Such designated steward or stewards shall not exercise any supervisory functions. There will be no non-working stewards. Stewards will receive the regular rate of pay for their respective crafts.
- (b) In addition to his/her work as an employee, the steward should have the right to receive, but not to solicit, complaints or grievances and to discuss and assist in the adjustment of the same with the employee's appropriate supervisor. Each steward should be concerned only with the employees of the steward's Contractor and not with the employees of any other Contractor. The Contractor will not discriminate against the steward in the proper performance of his/her Union duties.
- (c) When a Contractor has multiple, non-contiguous work locations at one site, the Contractor may request and the Union shall appoint such additional working stewards as the Contractor requests to provide independent coverage of one or more such locations. In such cases, a steward may not service more than one work location without the approval of the Contractor.
- (d) The stewards shall not have the right to determine when overtime shall be worked or who shall work overtime.

Section 5.3 Steward Layoff/Discharge. The Contractor agrees to notify the appropriate Union twenty-four (24) hours before the layoff of a steward, except in the case of disciplinary discharge for just cause. If the steward is protected against such layoff by the provisions of the applicable Master Agreement, such provisions shall be recognized when the steward possesses the necessary qualifications to perform the remaining work. In any case in which the steward is discharged or disciplined for just cause, the appropriate Union will be notified immediately by the Contractor, and such discharge or discipline

shall not become final (subject to any later filed grievance) until twenty-four (24) hours after such notice has been given.

Section 5.4 Employees on Non-Covered Projects. On work where the personnel of the City or its contractors may be working in close proximity to the construction activities covered by this PLA on non-covered projects, the Union agrees that the Union representatives, stewards, and individual workers will not interfere with City personnel, or with personnel employed by any other employer not performing Covered Work.

ARTICLE 6

WAGES AND BENEFITS

Section 6.1 Wages. At a minimum, all employees covered by this PLA shall be classified in accordance with work performed and paid the hourly wage rates for those classifications in compliance with the Applicable Prevailing Wage Laws.

Section 6.2 Benefits.

- (a) Subject to the exception set forth below for Disadvantaged Businesses, otherwise, for all employees performing Covered Work, Contractors shall pay, at a minimum, all employee fringe benefits and other required Contractor contributions to the established Union employee benefit funds in the amounts required by Applicable Prevailing Wage Laws. In addition, the Contractors and Unions agree that only such bona fide employee benefits that accrue to the direct benefit of the employees (such as pension and annuity, health and welfare, vacation, apprenticeship, and training funds) shall be included in this requirement and required to be paid by the Contractor for performance of Covered Work.
- (b) Union Benefit Fund Contributions for Disadvantaged Businesses. Disadvantaged Businesses not otherwise signatory to a Master Agreement are exempt from the requirement of subsection (a) to pay fringe benefits and other required Contractor contributions on behalf of their Core Employees to the Union employee benefit funds, subject to the following exemption limitations:
 - (1) Disadvantaged Businesses are limited to utilizing the foregoing Core Employee exemption on subcontracts with a value of \$500,000 or less; and
 - (2) The total value of all subcontracts utilizing this exemption shall not exceed ten percent (10%) of the total value of any Covered Project; and

- (3) Each Disadvantaged Business performing work as a subcontractor is limited to using this exemption for one subcontract per Covered Project.

The City may at its sole discretion modify the above Union Benefit Fund Contribution limitations for Disadvantaged Businesses. Any modifications to the limitations for Disadvantaged Businesses will be reflected in the SDMC, including but not limited to Chapter 2, Article 2, Division 36, Small and Local Business Program Administration. If there is conflict, ambiguity, or other inconsistency between any provision in this PLA and the SDMC, the SDMC will control and take precedence.

Disadvantaged Businesses are required to pay all fringe benefits and other required Contractor contributions to the established Union employee benefit funds for all employees other than their Core Employees, and must comply with the Applicable Prevailing Wage Laws, including the payment of fringe benefits, for all employees performing Covered Work.

- (c) Where benefits payments are required by subsection (a), the Contractor adopts and agrees to be bound by the written terms of the applicable, legally established, Union trust agreement(s) specifying the detailed basis how payments will be made into, and benefits paid out of, such trust funds for its employees. The Contractor authorizes the parties to such trust funds to appoint trustees and successors' trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor. The Contractor obligations to the applicable Union benefit fund(s) and trust agreement(s) are limited to work performed on a Covered Project. The applicable Union benefit funds and trust agreement(s) to each Contractor are determined by the pre-job conference and Union work assignment process described in Articles 8 and 16.
- (d) Each Contractor is required to certify to the Project Labor Coordinator that it has paid all benefit contributions due and owing to the appropriate Union trust(s) and benefit funds prior to the receipt of its final payment and/or retention. Further, upon timely notification by a Union to the Project Labor Coordinator, the Project Labor Coordinator shall work with any Contractor who is delinquent in payments to assure that proper benefit contributions are made, to the extent of requesting the City and/or the Prime Contractor to withhold payments otherwise due such Contractor, until such contributions have been made or otherwise guaranteed.
- (e) Notwithstanding any other provisions, this PLA is an agreement under Section 8(f) of the National Labor Relations Act (NLRA),

which covers work performed in the building and construction industry. In addition, the work performed under this PLA qualifies for the Construction Industry Exemption under the Employee Retirement and Income Security Act of 1974 ("ERISA"), as amended as well. If any Union Pension Trust Fund ("Fund") covered by the terms and conditions of this PLA does not qualify for the ERISA Construction Industry Exemption authorized by Section 4203 (B)(1)(i), as amended, 29 U.S.C. § 1383(b)(1)(i), or has not taken the necessary steps to amend the Fund documents to qualify for the Construction Industry Exemption as authorized by Section 4203(B)(1)(ii) of ERISA, as amended, 29 U.S.C. § 1383(b)(1)(B)(ii), and to recognize the work performed under this PLA to qualify for the Construction Industry Exemption, the Contractors signatory to this PLA will not be obligated to make pension fund contributions to that Fund. In such an event, the Contractor shall pay all required amounts otherwise allocated for payment toward the non- exempt Fund to the employees' wages or other bona fide retirement plan program pursuant to Applicable Prevailing Wage Laws.

Section 6.3 Wage Premiums. Wage premiums, including, but not limited to, pay based on height of work, shift premiums, hazard pay, scaffold pay, and special skills shall not be applicable to work under this PLA, except to the extent provided for in any Applicable Prevailing Wage Laws.

Section 6.4 Compliance with Prevailing Wage Laws. All complaints regarding possible violations of Applicable Prevailing Wage Laws may be referred to the City's Prevailing Wage Program for processing, investigation and resolution, and if not resolved within thirty (30) calendar days, may be referred by any Party to the State Labor Commissioner. To facilitate compliance with Applicable Prevailing Wage Laws, each Contractor agree to provide copies of certified payroll reports, redacted only to the extent required by law, to the Unions (or to any Labor Management Cooperation Committee in which a Union or its affiliate participates) within ten (10) days of their request.

ARTICLE 7

WORK STOPPAGE AND LOCKOUTS

Section 7.1 No Work Stoppages or Disruptive Activity. The Council and the Unions signatory hereto agree that neither they, nor their respective officers, or agents or representatives, shall incite or encourage, condone or participate in any strike, walk-out, slowdown, picketing, observation of picket lines, or other activity of any nature or kind whatsoever, for any cause or dispute whatsoever with respect to or in any way related to Covered Projects, or which interferes with or otherwise disrupts Covered Projects, or with respect to or related to the City or Contractors or subcontractors, including, but not limited to, economic strikes, unfair labor practice strikes, safety strikes, sympathy

strikes, and jurisdictional strikes, whether or not the underlying dispute is arbitrable. Any such actions by the Council, or Unions, or their members, agents, representatives, or the employees they represent shall constitute a material violation of this PLA. The Council and the Union shall take all steps necessary to obtain compliance with this Article.

Section 7.2 Employee Violations. The Contractor may discharge any employee violating Section 7.1 above, and any such employee will not be eligible for rehire for performance of Covered Work.

Section 7.3 Standing to Enforce. The City and any Contractor affected by an alleged violation of this Article shall have standing and the right to enforce the obligations established herein.

Section 7.4 Expiration of Master Agreements. If a Master Agreement between a Union-signatory Contractor and one or more of the Union(s) expires before the Contractor completes the performance of a Covered Contract for a Covered Project, and the Union or the Contractor gives notice of demand for a new or modified Master Agreement, the Unions agree that they will not strike the Contractor on any Covered Project, and the Union and the Contractor agree that the expired Master Agreement will continue in full force and effect for the Covered Projects until a new or modified Master Agreement is put in place between the Union and the Contractor. If the new or modified Master Agreement between the Union and the Contractor provides that any terms of the Master Agreement shall be retroactive, the Contractor agrees to comply, consistent with the terms of this PLA and the Applicable Prevailing Wage Laws, with any retroactive terms of the new or modified Master Agreement which are applicable to employees of said Contractor that are employed on a Covered Project within seven (7) days at no cost to the City. All employees shall continue to work and to perform all their obligations with respect to Covered Projects despite the expiration of any Master Agreement. Should a Contractor engaged in Covered Projects enter into an interim agreement with the Unions for work being performed elsewhere after the expiration, and before the renewal of a local collective bargaining agreement forming the basis for a Master Agreement, such interim agreement shall be utilized by that Contractor for Covered Projects, subject to the provisions of Section 21.3.

Section 7.5 No Lock Outs. Contractors shall not cause, incite, encourage, condone or participate in any lock-out of employees with respect to Covered Projects during the term of this PLA. The term "lock-out" refers only to a Contractor's exclusion of employees in order to secure collective bargaining advantage, and does not refer to the discharge, termination, or layoff of employees by the Contractor for any reason in the exercise of rights pursuant to any provision of this PLA, or any other agreement, nor does "lock-out" include the City's decision to stop, suspend, or discontinue any Covered Projects or any portion thereof for any reason.

Section 7.6 Best Efforts to End Violations.

- (a) If a Contractor or the City contends that there is any violation of this Article, it shall, at least twenty-four (24) hours prior to invoking the procedures of Section 7.7, provide written notification to the Council of the involved Union(s) and to the Project Labor Coordinator, setting forth the facts which the Contractor contends violates this Article. The Council and the leadership of the involved Union(s) will immediately instruct, order, and use their best efforts to cause the cessation of any violation of the Article.
- (b) If the Union contends that any Contractor has violated this Article, it will notify the Contractor and the Project Labor Coordinator, setting forth the facts which the Union contends violate this Article, at least twenty-four (24) hours prior to invoking the procedures of Section 7.7. The Project Labor Coordinator shall promptly order the involved Contractor(s) to cease any violation of the Article.

Section 7.7 Expedited Enforcement Procedure. Any Party, including the City, which is an intended beneficiary of this Article, and affected Contractors, may institute the following procedures, in lieu of or in addition to any other action at law or equity, when a breach of this Article is alleged.

- (a) The party, including any affected Contractor, invoking this procedure shall notify Robert Hirsch, who has been selected by the Parties, and whom the Parties agree shall be the permanent arbitrator under this procedure, or John Kagel, as the alternate arbitrator under this procedure. If the permanent arbitrator is unavailable at any time, the alternate will be contacted. If neither is available, then a selection shall be made from the list of arbitrators as set forth in Article 10. Notice to the arbitrator shall be by the most expeditious means available, with notices to the Contractor or Union alleged to be in violation, and to the Project Labor Coordinator and Council. For purposes of this Article, written notice may be given by email, facsimile, hand delivery, or overnight mail and will be deemed effective upon receipt.
- (b) Upon receipt of said notice, the arbitrator named above or their alternate shall sit and hold a hearing within seventy-two (72) hours if it is contended that the violation still exists, but not sooner than twenty-four (24) hours after notice has been dispatched to the Council of the involved Union(s) and/or Contractor as required by Section 7.6, above.
- (c) The arbitrator shall notify the disputing parties of the place and time chosen for this hearing. Said hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion,

shall not exceed twenty- four (24) hours unless otherwise agreed upon by all disputing parties. A failure of any of the disputing parties to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

- (d) The sole issue at the hearing shall be whether or not a violation of this Article has in fact occurred. The arbitrator shall have no authority to consider any matter in justification, explanation, or mitigation of such violation or to award damages, (except for damages as set forth in Section 7.8 below) which issue is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours after the close of the hearing and may be issued without an opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the award. The arbitrator may order cessation of the violation of the Article and other appropriate relief, and such award shall be served on all disputing parties by hand or registered mail upon issuance.
- (e) Such award shall be final and binding on all disputing parties and may be enforced by any court of competent jurisdiction upon the filing of this PLA and all other relevant documents referred to herein above in the following manner. Written notice of the filing of such enforcement proceedings shall be given to the other party. In any judicial proceeding to obtain a temporary order enforcing the arbitrator's award as issued under Section 7.7(d) of this Article, all disputing parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The court's order or orders enforcing the arbitrator's award shall be sent to all disputing parties.
- (f) Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance hereto are hereby waived by the Parties and Contractors to whom they accrue.
- (g) The fees and expenses of the arbitrator shall be equally divided between the disputing parties.

Section 7.8 Liquidated Damages.

- (a) If the arbitrator determines in accordance with Section 7.7 above that a work stoppage or other disruption to a Covered Project has occurred, the respondent Union(s) shall, within eight (8) hours of receipt of the Award, direct all the employees they represent on the Covered Project to immediately return to work. If the craft(s) involved do not return to work by the beginning of the next regularly scheduled shift following

such eight (8) hour period after receipt of the arbitrator's Award, and the respondent Union(s) have not complied with their obligations to immediately instruct, order, and use their best efforts to cause a cessation of the violation and return the employees they represent to work, then the non-complying Union(s) shall each pay a sum as liquidated damages to the City, and each will pay an additional sum per shift, as set forth in (c), below, for each shift thereafter on which the craft(s) has not returned to work.

- (b) If the arbitrator determines in accordance with Section 7.7 above that a lock-out has occurred, the respondent Contractor shall, within eight (8) hours after receipt of the award, return all the affected employees to work on the Covered Project, or otherwise correct the violations found by the arbitrator. If the respondent Contractor does not take such action by the beginning of the next regular scheduled shift following the eight (8) hour period, each non-complying respondent Contractor shall pay or give as liquidated damages, to the affected Union (to be apportioned among the affected employees and the benefit funds to which contributions are made on their behalf, as designated by the arbitrator) an amount equal to the total hourly wages and benefits lost for all affected employees of the Contractor on Covered Projects. In addition, the Contractor shall pay an additional sum per shift to the City, as set forth in (c), below, for each shift thereafter in which compliance by the respondent Contractor has not been completed.
- (c) The Parties agree that project delays caused by violations of this Article will cause the City to sustain damages. They agree that it would be impractical or extremely difficult to fix the amount of such damages. Therefore, the Parties agree that, in the event of a breach of this Article, the disputing party in breach shall pay to the City the sum of not less than \$10,000.00 and no more than \$20,000.00 per shift, as determined by the arbitrator, from the time the arbitrator determines that a delay has occurred until the arbitrator determines that the Covered Project is no longer disrupted. The payment, when made, shall constitute a damages remedy of the City for the delay specified, but shall not prevent the City from seeking injunctive or other monetary relief, including termination of this PLA. Payment of these sums as liquidated damages is not intended as a forfeiture or penalty within the meaning of California Civil Code sections 3275 or 3369, but instead, is intended to constitute liquidated damages to the City pursuant to section 1671 of the California Civil Code.

Section 7.9

Payroll and Benefit Delinquencies. Notwithstanding other provisions of this PLA, it shall not be a violation of this PLA for any Union to withhold the services of its members from a Contractor who fails to timely pay its weekly payroll in accordance with the applicable Master Agreement, or fails to make

timely payments to the applicable Union benefit funds. This Section 7.9 does not inhibit or affect responsibilities of the Council and the Union under Section 7.1 to refrain from picketing or other disruption of Covered Projects.

Prior to withholding its members' services for the Contractor's failure to meet its weekly payroll, the Union shall give at least five (5) calendar days written notice of such failure to pay by certified mail, and by facsimile or email transmission to the involved Contractor, Prime Contractor and Project Labor Coordinator. The Prime Contractor, together with the involved Contractor and affected Union, shall meet within five (5) working days after the written notice of such failure to pay was sent to attempt to resolve the payroll delinquency. If the payroll delinquency remains unresolved, then the affected Union may withhold the services of its members from the involved Contractor. Upon the payment of all monies due and then owing for wages, the Union shall direct its members to immediately return to work and the Contractor shall return all such members back to work.

Prior to withholding its members' services for the Contractor's failure to make timely payments to the applicable Union benefit funds, the Union shall give at least thirty (30) days written notice of such failure to pay by certified mail, and by facsimile or email transmission to the involved Contractor, the Prime Contractor and Project Labor Coordinator. The Prime Contractor, together with the involved Contractor and affected Union, shall meet within five (5) working days after the written notice of such failure to pay was sent to attempt to resolve the delinquency. If the delinquency remains unresolved, then the affected Union may withhold the services of its members from the involved Contractor. Upon payment by the delinquent Contractor of all monies due and then owing for employee benefit contributions, the Union shall direct its members to immediately return to work and the Contractor shall return all such members back to work.

Nothing in this section should be construed to prevent the Union having jurisdiction over the involved work from submitting a grievance under the procedures of Article 10 for any alleged or actual violations of Article 6 or referring any alleged or actual prevailing wage violation to the Project Labor Coordinator and the City labor compliance program for review and enforcement, in accordance with Section 6.4.

The Prime Contractor shall have the right to replace any delinquent Contractor in accordance with the terms and conditions of their prime contract with the City, and applicable law.

ARTICLE 8

WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

Section 8.1 No Jobsite Disruption. There will be no strikes, work stoppages, picketing, sympathy strikes, slowdowns, or other interferences with the work because of jurisdictional disputes between Unions. The assignment of work will be solely the responsibility of the Contractor performing the work involved; and such work assignments will be in accordance with the Plan for Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

Section 8.2 All jurisdictional disputes on a Covered Project shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted by the Building and Construction Trades Department. Decisions rendered shall be final and binding and conclusive on the Contractors and Unions with regard to Covered Work.

All jurisdictional disputes shall be resolved without the occurrence of any of the activities prohibited in Article 7 (Work Stoppages and Lockouts), and the Contractor's assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

Section 8.2.1 If a dispute arising under this Article involves the Southwest Regional Council of Carpenters or any of its subordinate bodies, an arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of Thomas Pagan, Robert Hirsch, and John Kagel, and the arbitrator's hearing on the dispute shall be held at the offices of the Council within fourteen (14) days of the selection of the arbitrator. All other procedures shall be as specified in the Plan.

Section 8.3 Failure to Comply. If any Union or Contractor fails to immediately and fully comply with the final decision rendered by the Plan, affected Union(s) or Contractor(s) may seek legal redress for such conduct, including, but not limited to, injunctive relief and/or damages.

Section 8.4 Pre-job Conference. It is required that a pre-job conference be held not later than ten (10) calendar days prior to the start of work by each Contractor for the Covered Project in accordance with the procedure described in Article 16.

ARTICLE 9

MANAGEMENT RIGHTS

Section 9.1 Contractor and City Rights. The Contractors and the City have the sole and exclusive right and authority to oversee and manage construction operations on Covered Projects without any limitations unless expressly limited by a specific

provision of this PLA. In addition to the following and other rights of the Contractors enumerated in this PLA, the Contractors expressly reserve their management rights and all the rights conferred upon them by law. The Contractor's rights include, but are not limited to, the right to:

- (a) Plan, direct, and control operations of all work; and
- (b) Hire, promote, transfer, and layoff their own employees, respectively, as deemed appropriate to satisfy work and/or skill requirements; and
- (c) Promulgate and require all employees to observe reasonable job rules and security and safety regulations; and
- (d) Discharge, suspend, or discipline their own employees for just cause; and
- (e) Utilize, in accordance with the City's approval, any work methods, procedures, or techniques, and select, use, and install any types or kinds of materials, apparatus, or equipment, regardless of source of manufacture or construction; and
- (f) Assign and schedule work at their discretion; and
- (g) Assign overtime, determine when it will be worked and the number and identity of employees engaged in such work, subject to such provisions in the applicable Master Agreement(s) requiring such assignments be equalized or otherwise made in a nondiscriminatory manner.

Section 9.2 Specific City Rights. In addition to the following and other rights of the City enumerated in this PLA, the City expressly reserves its management rights and all the rights conferred on it by law and contract. The City's rights (and those of the Project Labor Coordinator on its behalf) include, but are not limited to the right to:

- (a) Inspect any construction site or facility to ensure that the Contractor follows the applicable safety and other work requirements; and
- (b) At its sole option, terminate, delay, and/or suspend any and all portions of the Covered Projects at any time; prohibit some or all work on certain days or during certain hours of the day to accommodate the ongoing operations of the City and/or to mitigate the effect of ongoing Covered Projects on businesses and residents in the neighborhood of the Covered Project sites; and/or require any other operational or schedule changes it deems necessary, in its sole

judgment, to meet Covered Project deadlines and remain a good neighbor to those in the area of the Covered Projects. (In order to permit the Contractors and Unions to make appropriate scheduling plans, the City will provide the Prime Contractor and affected Unions with reasonable notice of any changes it requires pursuant to this section); and

- (c) Approve any work methods, procedures, and techniques used by Contractors whether or not these methods, procedures, or techniques are part of industry practices or customs; and
- (d) Investigate and process complaints or disagreements, through the Project Labor Coordinator.

Section 9.3 Use of Materials. There should be no limitations or restrictions by the Union upon a Contractor's choice of materials or design, nor, regardless of source or location, upon the full use and utilization of equipment, machinery, packaging, precast, prefabricated, prefinished, or preassembled materials, tools, or other labor-saving devices, subject to the application of the California Public Contract and Labor Codes. Generally, the onsite installation or application of such items shall be performed by the craft having jurisdiction over such work.

Section 9.4 Special Equipment, Warranties and Guaranties.

- (a) It is recognized that certain equipment of a highly technical and specialized nature may be installed at Covered Project sites. The nature of the equipment, together with the requirements for manufacturer's warranties, may dictate that it be prefabricated, pre-piped, and/or pre-wired and that it be installed under the supervision and direction of the City and/or manufacturer's personnel or certified specialist contractor. The Unions agree that such equipment is to be installed without incident and without violation of this PLA.
- (b) The Parties recognize that the Contractor will initiate from time to time the use of new technology, equipment, machinery, tools, and other labor-savings devices and methods of performing Covered Projects. The Unions agree that they will not restrict the implementation of such devices or work methods. The Unions will accept and will not refuse to handle, install, or work with any standardized and/or catalogue parts, assemblies, accessories, prefabricated items, preassembled items, partially assembled items, or materials whatever their source of manufacture or construction.
- (c) If any disagreement between the Contractor and the Union concerning the methods of implementation or installation of any equipment, device, or item, or method of work arises, or whether a

particular part or pre-assembled item is a standardized or catalog part or item, the work will proceed as directed by the Contractor, and the Contractor and Union shall immediately consult over the matter. If the disagreement is not resolved, the affected Union(s) shall have the right to proceed through the procedures set forth in Article 10.

ARTICLE 10

SETTLEMENT OF GRIEVANCES AND DISPUTES

Section 10.1 Cooperation and Harmony on Site.

- (a) This PLA is intended to establish and foster continued close cooperation between management and labor. The Council shall assign a representative to the Covered Project for the purpose of assisting the local Unions, and working with the Project Labor Coordinator, together with the Contractors, to complete construction of the Covered Projects economically, efficiently, continuously, and without any interruption, delays, or work stoppages.
- (b) The City, the Contractors, Unions, and employees collectively and individually, realize the importance of maintaining continuous and uninterrupted performance of Covered Projects, and agree to resolve disputes in accordance with the grievance provisions set forth in this Article or, as appropriate, those of Article 7 or 8.
- (c) The Project Labor Coordinator shall observe the processing of grievances under this Article and Articles 7 and 8, including the scheduling and arrangements of facilities for meetings, selection of the arbitrator from the agreed-upon panel to hear the case, and any other administrative matters necessary to facilitate the timely resolution of any dispute; provided, however, it is the responsibility of the grievance parties to ensure the time limits and deadlines are met.

Section 10.2 Processing Grievances. Any questions, complaints or alleged violations of this PLA, which includes questions, complaints or alleged violations of any applicable provisions of the Master Agreements, but not alleged violations of Articles 7 or 8, shall be considered a grievance and subject to resolution under the following procedures.

Step 1.

- (a) Employee Grievances. When any employee subject to the provisions of this PLA feels aggrieved by an alleged violation of this PLA, the employee shall, through his local Union business representative or job steward, within ten (10) working days after the occurrence of the violation, give notice to the work site representative of the involved

Contractor stating the provision(s) alleged to have been violated, the details of the alleged violation and the remedy sought to resolve the matter. A grievance shall be considered null and void if notice of the grievance is not given within the ten (10) day period. A business representative of the local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within ten (10) working days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party may, within ten (10) working days thereafter, pursue Step 2 of this grievance procedure provided the grievance is reduced to writing, setting forth the relevant information, including a short description thereof, the date on which the alleged violation occurred, and the provision(s) of the applicable agreement alleged to have been violated. Grievances and disputes settled at Step 1 shall be non- precedential except as to the grievance parties.

- (b) Union, Contractor, or City Grievances. Should a Union, a Contractor, or the City (each a "complaining party") allege a violation of this PLA by a Party or a Contractor, and, if after conferring within ten (10) working days after the complaining party knew or should have known of the facts or occurrence giving rise to the dispute, a settlement is not reached within five (5) working days, the dispute shall be reduced to writing and processed to Step 2 in the same manner as outlined in Step 1(a) above for the processing of an employee complaint.

Step 2.

A representative of the complaining party, and a representative of any responding party to the grievance ("responding party"), shall meet within seven working days of the referral of the dispute to this second step to attempt to arrive at a satisfactory settlement thereof. The City may participate as an interested Party in any dispute brought under this Article. If the complaining party and responding parties fail to reach an agreement to the satisfaction of the complaining party, the dispute may be submitted in writing in accordance with the provisions of Step 3 within seven (7) working days after the initial meeting at Step 2.

Step 3.

- (a) If the grievance is submitted but not resolved under Step 2, the complaining party may request in writing to the Project Labor Coordinator (with copy[ies] to the other party[ies] to the grievance) within seven (7) working days after the initial Step 2 meeting, that the grievance be submitted to an arbitrator selected from the agreed-upon list below, on a rotational basis in the order listed. Those arbitrators are: (1) Barry Winograd; (2) Najeeb Khoury; (3) Andrea Dooley; (4) Robert Hirsch; and (5) John Kagel. In the event any of

these arbitrators retire or become permanently unavailable, the City and the Council shall jointly select a replacement arbitrator for the list. Any arbitrator not available to conduct the arbitration within 120 calendar days of the referral of the grievance to arbitration will be considered unavailable, and the Project Labor Coordinator shall move to the next arbitrator. The decision of the arbitrator shall be final and binding on all parties to the grievance, and the fee and expenses of such arbitrations shall be borne equally by the parties to the grievance. In cases for which the arbitrator finds a violation of this PLA, the arbitrator may order cessation of the violation and other appropriate relief, and such award shall be served on all parties to the grievance and the City. This grievance process and arbitration proceedings do not impede the ability of the City to advance any available dispute resolution processes and remedies under its prime contracts for violations thereof.

- (b) Failure of the complaining party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the parties to the grievance involved at the particular step where the extension is agreed upon. The arbitrator shall have the authority to make decisions only on issues presented and shall not have the authority to change, amend, add to, or detract from any of the provisions of this PLA.

Section 10.3 Limit on Use of Procedures. Procedures contained in this Article shall not be applicable to any alleged violation of Article 7 or 8, with a single exception that any employee discharged for violation of Section 7.2 may resort to the procedures of this Article to determine only if they were, in fact, engaged in that violation.

Section 10.4 Notice. The Project Labor Coordinator shall be notified by the involved Union(s) and Contractor(s) of all actions at Steps 2 and 3, and further, the Project Labor Coordinator or other City representative shall, upon its own request, be permitted to participate fully in all proceedings at such steps.

ARTICLE 11 **COMPLIANCE**

Section 11.1 Compliance with All Laws. The Council and all Unions, Contractors, and their employees shall comply with all applicable federal and state laws, ordinances, and regulations including, but not limited to, those relating to safety and health, employment, and applications for employment. All employees shall comply with the safety regulations established by the City, the Project Labor Coordinator, and the Contractor. Employees must promptly report any injuries or accidents to a supervisor.

ARTICLE 12
SAFETY AND PROTECTION OF PERSON AND PROPERTY

Section 12.1 Safety.

- (a) It shall be the responsibility of each Contractor to ensure safe working conditions and employee compliance with all applicable safety laws and regulations and any safety rules contained herein or established by the City and the Contractor. It is understood that employees have an individual obligation to use diligent care to perform their work in a safe manner and to protect themselves and the property of the Contractor and the City.
- (b) All Parties, Contractors and Contractor employees shall be bound by the safety, security, and visitor rules established by the Contractor, the Project Labor Coordinator, and the City. These rules will be published and posted. An employee's failure to satisfy his/her obligations under this Section will subject him/her to discipline, up to and including discharge.

Section 12.2 Drug and Alcohol Testing Policy. The Parties and Contractors shall adopt the Drug and Alcohol Testing Policy attached hereto as Attachment D and City Council Policy 100-17 Drug-Free Workplace/City Contractors attached hereto as Attachment E, which are the exclusive Drug and Alcohol Testing Policies for Covered Projects.

Section 12.3 Inspection. The inspection of shipments of equipment, machinery, and construction materials of every kind shall be performed at the discretion of the Contractor by individuals of its choice.

ARTICLE 13
TRAVEL AND SUBSISTENCE

Section 13.1 Travel expenses, travel time, subsistence allowances and/or zone rates, and parking reimbursements shall not be applicable to work under this PLA, except to the extent provided for in Applicable Prevailing Wage Laws. Parking for employees covered by this PLA shall be provided by the Contractor(s) according to the provision of the applicable Master Agreement(s).

ARTICLE 14

APPRENTICES

Section 14.1 **Importance of Training.** The Parties and Contractors recognize the need to maintain continuing support of the programs designed to develop adequate numbers of competent workers in the construction industry, the obligation to capitalize on the availability of the local work force in the area served by the City, and the opportunities to provide continuing work on Covered Projects for Local Workers and Targeted Workers. To these ends, and consistent with any laws or regulations, the Parties and Contractors will facilitate, encourage, and assist Local Workers and Targeted Workers in enrolling in and progressing through Apprenticeship Programs and/or Apprenticeship Readiness Programs in the construction industry that lead to participation in Apprenticeship Programs. The City, the Project Labor Coordinator, other City consultants, the Contractors, and the Council and Unions, will work cooperatively to identify, or establish and maintain, effective programs and procedures for persons interested in entering the construction industry and which will help prepare them for the entry into Apprenticeship Programs.

Section 14.2 **Use of Apprentices.**

- (a) The Unions and Contractors agree to cooperate in referring and employing Apprentices up to the maximum percentage allowed by the State Labor Code or applicable federal law, and the standards of each Apprenticeship Program. The minimum ratios for Apprentice to journeyperson hours worked shall be in compliance, at a minimum, with the applicable provisions of the State Labor Code relating to utilization of Apprentices. The City, unless otherwise required by law, shall encourage such utilization, and, both as to Apprentices and the overall supply of experienced workers, the Project Labor Coordinator will work with the Council, Apprenticeship Programs, and Contractors to assure appropriate and maximum utilization of Apprentices and the continuing availability of both Apprentices and journeypersons.
- (b) The Parties and Contractors will comply with all applicable laws and regulations in the request for dispatch and employment of Apprentices.
- (c) The Parties and Contractors agree that Apprentices will not be dispatched to Contractors working under this PLA unless there is a journeyperson or other Contractor employee working on the Covered Project where the Apprentice is to be employed who is qualified to assist and oversee the Apprentice's progress through the program in which they are participating. Apprentices must be supervised and utilized in accordance with all applicable Federal and State laws.

ARTICLE 15

LEGAL ACTION

Section 15.1 Legal Action. The City, Council and Unions recognize the substantial legal costs (including all attorney's fees and associated disbursements) that might accrue with regard to any legal challenge over the adoption by the City of this PLA, and related to claims directly challenging the legality of this PLA, or a particular section or language that has been adopted herein. In the event of a legal challenge, the Council, on behalf of itself and affiliated Unions, agrees to seek to intervene in the legal action and actively participate in the litigation or other action to defend the legality of this PLA, or a particular section or language herein. The failure of the Council to seek to intervene in the legal action and actively participate to defend the legality of this PLA will constitute a material breach of this PLA. In the event the Council is denied leave to intervene in the legal action, the Council shall have its counsel coordinate with the City's counsel, at the Council's own expense, regarding how the Council can best support the City's legal position.

ARTICLE 16

PRE-JOB CONFERENCE

Section 16.1 Each Contractor is required to conduct a pre-job conference with the Unions not later than ten (10) calendar days prior to commencing work. The purpose of the conference will be to, among other things, convey craft manpower needs, the schedule of work for the Covered Project, the Covered Project's rules, and propose preliminary Union work assignments.

Section 16.2 The Project Labor Coordinator may work with the Prime Contractor and Council to facilitate the scheduling of all pre-job conferences, but ensuring each Contractor conducts a pre-job conference in accordance with this PLA is the responsibility of the Prime Contractor. The Contractors shall make the relevant plans and specifications available to the Unions prior to each pre-job conference.

Section 16.3 All preliminary Union work assignments shall be disclosed by each Contractor at the pre-job conference. Should there be Covered Work that was not previously assigned at a pre-job conference, or additional Covered Work be added to the scope of the Covered Project, the Contractor(s) performing such work will conduct a separate pre-job conference.

Section 16.4 Any Union in disagreement with a proposed preliminary assignment shall notify the affected Contractor of its position in writing, with a copy sent to the Project Labor Coordinator, within five (5) calendar days after the pre-job conference occurred. Within five (5) calendar days after the period allowed for Union notices of disagreement with the Contractor's proposed assignments, but prior to the commencement of any work, the Contractor shall make final

assignments in writing with copies sent to the Project Labor Coordinator and Council.

Section 16.5 A Contractor's failure to conduct a pre-job conference in accordance with this PLA is considered a breach of contract, and any affected Union may pursue a grievance under Article 10 of this PLA to seek a remedy for such a violation. Provided, however, if the Contractor has conducted a pre-job conference in accordance with this PLA, that Contractor is not required to participate in any additional pre-job conferences or mark-up meetings related to the original scope(s) of work assigned at the pre-job conference.

Section 16.6 The Project Labor Coordinator shall attend each pre-job conference. At each pre-job conference, the Project Labor Coordinator shall address the programs, goals and outcomes related to Local Worker and Targeted Worker employment, as well as the progress of implementing a work opportunities program.

ARTICLE 17

LABOR/MANAGEMENT COLLABORATION

Section 17.1 Labor/Management Collaboration Meetings. The Parties will conduct periodic labor/management cooperation meetings, which will be chaired jointly by a designee of the City and a designee of the Council. The co-chairs shall determine the frequency and scheduling of the meetings with the assistance of the Project Labor Coordinator. The purpose of the meetings shall be to promote harmonious and stable labor management relations, ensure effective and constructive communication between labor and management Parties, advance the proficiency of work in the industry, and to evaluate and ensure an adequate supply of skilled labor for all Covered Projects. The Project Labor Coordinator shall prepare reports detailing the outcomes of the Local Worker, Targeted Worker, and Apprentice utilization goals on each Covered Project, and the implementation and progress of a work opportunities program. All Parties will be invited to attend the labor/management cooperation meetings. Substantive grievances or disputes shall not be reviewed or discussed by this Committee, but shall be processed pursuant to the provisions of the appropriate Article.

ARTICLE 18

SAVINGS AND SEPARABILITY

Section 18.1 Savings Clause. It is not the intention of any Party to violate any laws governing the subject matter of this PLA. In the event any provision of this PLA is finally held or determined to be illegal or void as being in contravention of any applicable law or regulation, the remainder of the PLA shall remain in full force and effect unless the part or parts so found to be

void are wholly inseparable from the remaining portions of this PLA. If and when any provision(s) of this PLA is finally held or determined to be illegal or void by a court of competent jurisdiction, the Parties will promptly enter into negotiations concerning the substantive effect of such decision for the purposes of achieving conformity with the requirements of any applicable laws and the intent of the Parties hereto. If the legality of this PLA is challenged and any form of injunctive relief is granted by any court suspending temporarily or permanently the implementation of this PLA, then all Covered Projects that would otherwise be covered by this PLA should be continued to be bid and constructed without application of this PLA, so that there is no delay or interference with the ongoing planning, bidding, and construction of any Covered Projects.

Section 18.2 Effect of Injunctions or Other Court Orders. The Parties recognize the right of the City to withdraw, at its absolute discretion, the utilization of the PLA as part of any bid specification should a court of competent jurisdiction issue any order, or any applicable statute that could result, temporarily or permanently, in delay of the bidding, awarding, and/or construction on the project, or jeopardize project funding.

ARTICLE 19

WAIVER

Section 19.1 Waiver. A waiver of or a failure to assert any provisions of this PLA by any or all of the Parties hereto shall not constitute a waiver of such provision for the future. Any such waiver shall not constitute a modification of the PLA or change in the terms and conditions of the PLA and shall not relieve, excuse or release any of the Parties or Contractors from any of their rights, duties, or obligations hereunder.

ARTICLE 20

AMENDMENTS

Section 20.1 Amendments. The provisions of this PLA can be renegotiated, supplemented, rescinded, or otherwise altered only by mutual agreement in writing, hereafter signed by the City and the Council.

ARTICLE 21

EFFECTIVENESS OF THE PLA

Section 21.1 Term and Application.

- (a) Term of Years. This PLA shall become effective July 1, 2024, if executed by the City, Council, and Unions, and approved by the City Attorney in accordance with San Diego Charter Section 40. Any Union that fails to sign the PLA prior to approval by the City Attorney

shall not be a party to the PLA or covered by the terms of the Agreement. The PLA shall continue in full force and effect for a term of seven (7) years after the effective date.

- (b) Application to Covered Projects. The PLA will apply only to Covered Contracts for Covered Projects for which the bid advertisement date for the Covered Contract is between July 1, 2024 and seven (7) years from the effective date of the PLA, and it will continue in effect with regard to each Covered Project until all Covered Work under a Covered Contract is completed and accepted by the City, under procedures described in Section 21.2 below. The PLA shall be included in all Covered Contracts or Covered Professional Services Agreements under which Covered Work may be performed.
- (c) Extension. Either the City or the Council may provide written notice to the other not less than nine (9) months prior to the expiration of the PLA of its interest in extending the term of the PLA. Failure to provide such notice nine (9) months prior shall not preclude either the City or the Council from negotiating to extend the term of the PLA, but may impact the ability of the City Council to approve an extension prior to this PLA's expiration. Subject to adoption by the City Council and execution by the Council, the terms and conditions set forth under the PLA may not exceed five (5) years, unless approved by City ordinance. Absent mutual agreement on the extension as described above, the PLA shall expire.

Section 21.2 Turnover and Final Acceptance of Completed Work.

- (a) Construction of any phase, portion, section, or segment of Covered Projects shall be deemed complete when such phase, portion, section or segment has been turned over to the City by the Prime Contractor and the City has accepted such phase, portion, section, or segment. As areas and systems of the Covered Project are inspected and construction-tested and/or approved and accepted by the City or third parties on behalf of the City, the PLA shall have no further force or effect on such items or areas, except when the Contractor is directed by the City to engage in repairs or modifications required by its Covered Contract(s) with the City.
- (b) Notice of each final acceptance received by the Contractor will be provided to the Council with the description of what portion, segment, etc. has been accepted. Final acceptance may be subject to a "punch" list, and in such case, the PLA will continue to apply to each such item on the list until it is completed to the satisfaction of the City and Notice of Acceptance is given by the City or its representative to the Prime Contractor.

Section 21.3 Continuation of Master Agreements. A Master Agreement shall continue in full force and effect with regard to Covered Work as set forth in Section 3.5, until the Master Agreement is modified by parties thereto.

In such case, Contractors and Unions agree to recognize and implement all applicable changes on their effective dates as set forth in the modified Master Agreement, except as otherwise provided by this PLA; provided, however, that any such provisions negotiated in said Master Agreements will not apply to work covered by this PLA if such provisions are less favorable to the Contractor performing Covered Work than those uniformly required of Contractors for construction work normally covered by those agreements; nor shall any provision be recognized or applied if it may be construed to apply exclusively or predominantly to work covered by this PLA. Any disagreement between any Party and Contractor over application of a modified term of a Master Agreement shall be resolved under the procedures established in Article 10.

Section 21.4 Final Termination. Final termination of all obligations, rights, and liabilities, and disagreements shall occur upon receipt by the Council of a Notice from the City saying that no work remains within the scope of the PLA.

ARTICLE 22

WORK OPPORTUNITIES PROGRAM

Section 22.1 The magnitude, duration, and complexity of the Covered Projects will require large numbers of skilled craft personnel and create significant economic opportunities for Local Workers and Targeted Workers. It is therefore the understanding and intention of the Parties to use the opportunities provided by the extensive amount of work to collaborate and implement programs and procedures, which may include, for example, North America's Building Trades Unions Multi-Craft Core Curriculum (MC3) Apprenticeship Readiness Programs, to prepare persons, especially Local Workers and Targeted Workers, for entrance into Apprenticeship Programs to begin or continue their construction careers on Covered Projects and future projects. With assistance from the Project Labor Coordinator, the Contractors, the Unions and their affiliated regional and national organizations will work jointly to promptly develop and implement procedures for the identification of craft needs, the scheduling of work to facilitate the utilization of available craft workers, and the securing of services of craft workers in sufficient numbers to meet the high demands of the Covered Projects to be undertaken.

Section 22.2 The Parties support the development of increased numbers of skilled construction workers who are Local Workers and Targeted Workers to meet the labor needs of Covered Projects. Towards that end, the Parties, together with the Project Labor Coordinator, agree to develop and implement a work

opportunities program for Local Workers and Targeted Workers to maximize construction career opportunities and create a construction career pipeline to becoming employed on Covered Projects. In furtherance of the foregoing, the Council and Unions specifically agree to work with the Project Labor Coordinator to:

- (a) Collaborate with existing or newly created MC3 apprenticeship readiness programs in San Diego County to offer opportunities for Local Workers and Targeted Workers, including students, to enroll in free short-term construction apprenticeship readiness training to prepare them to enter into Apprenticeship Programs and become employed by a Contractor on Covered Projects. The Project Labor Coordinator, with the assistance of the Parties, will assist with the recruitment, career placement, and tracking of such Local Workers and Targeted Workers who graduate from these apprenticeship readiness programs; and
- (b) The Parties will cooperate and collaborate with the Project Labor Coordinator to conduct outreach to and include Local Workers and Targeted Workers from traditionally underrepresented segments of the local population in the construction craft workforce for Covered Projects; and
- (c) The Project Labor Coordinator, with input from the Council, shall produce detailed annual reports to measure and report the outcomes of the policies, requirements, and programs established in this PLA, including the achievement of Local Worker employment participation on Covered Projects; and
- (d) The Unions will partner with the Contractors and Project Labor Coordinator to conduct outreach and recruitment activities by establishing or continuing to maintain existing centers, programs, and events to facilitate the entry of Local Workers and Targeted Workers into the building and construction trades. These programs shall serve as a resource for preliminary orientation, assessment of construction aptitude, referral to MC3 apprenticeship readiness programs or Apprenticeship Programs, referral to hiring halls, and provide tailored orientation and mentoring for women; and
- (e) The Unions shall assist Local Workers with contacting the Apprenticeship Programs for the crafts and trades they are interested in. The Unions shall assist Local Workers who are seeking employment on the Covered Project and provide opportunities for Union membership by assessing their work experience and giving them credit for provable past experience in their relevant craft or trade, including experience gained working for non-Union Contractors. The Unions shall put on their rolls qualified bona fide Local Workers for employment on the Covered Project.

- (f) Jobs Coordinator. Each Contractor shall utilize the Jobs Coordinator retained by the Prime Contractor to assist with achieving and exceeding the Local Worker goals set forth in Section 4.5 of this PLA. In addition, each Contractor shall utilize the Jobs Coordinator to assist the Contractor in fulfilling its work opportunities program and “Helmets to Hardhats” goals described herein.

The City may elect to develop and implement a Jobs Coordinator program with input from the Council that will include a pre-qualification process, selection guidelines and accountability measures to ensure the Jobs Coordinators are qualified and capable of performing the Jobs Coordinator function in accordance with the intent of the PLA. Alternatively, the City may direct the Prime Contractor to develop and implement such a program. Regardless of which entity develops and implement the program, the City shall have the right to remove Jobs Coordinators from the pre-qualification list, in which case such individuals or entities shall not be eligible for further selection by Prime Contractors.

Section 22.3 Joint Subcommittee on Work Opportunities. To carry out the intent and purpose of the work opportunities program, a joint subcommittee under the PLA shall be established, jointly chaired by a designee of the City and a designee of the Council, to oversee the effective development and implementation of the programs and policies described herein, and to work with representatives of each Union’s Apprenticeship Program and representatives of the MC3 Apprenticeship Readiness Programs to maximize employment opportunities for Local Workers and Targeted Workers who reflect the diversity of the communities surrounding each Covered Project, and who may not be previously qualified for the construction career opportunities created by the Covered Projects. The joint subcommittee will meet at least quarterly to promptly facilitate its purposes in an expeditious manner as soon as this PLA becomes effective. All Unions and Prime Contractors working on active Covered Projects may be invited to attend the joint subcommittee meetings, and the joint chairs, at their discretion, may invite other community partners to attend the committee meetings. The Project Labor Coordinator will assist with the scheduling and facilitation of the joint subcommittee meetings.

ARTICLE 23

HELMETS TO HARDHATS


Section 23.1 Veterans Entry into Building and Construction Trades. The Parties recognize a desire to facilitate the entry into the building and construction trades of Veterans who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the

services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment, and construction aptitude, referral to Apprenticeship Programs or hiring halls, counseling and mentoring, support network, employment opportunities, and other needs as identified by the Parties.

Section 23.2 Integrated Database. The Unions and Contractors agree to coordinate with the Center to create and maintain an integrated database of Veterans interested in working on a Covered Project and of apprenticeship and employment opportunities for a Covered Project. The Project Labor Coordinator may assist the Contractors and Unions with scheduling opportunities for outreach, recruitment, interviews, assessment and commencing with an Apprenticeship Program's application and entrance process. The Contractors and Unions agree to engage and participate in such opportunities.

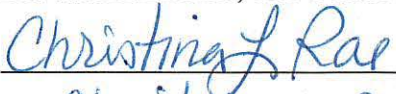
In witness whereof, the Parties have caused this Project Labor Agreement for the City to be executed as of the date and year stated below.

CITY OF SAN DIEGO

By: 
Name: Todd Gloria
Title: Mayor
Dated: July 1, 2024

APPROVED AS TO FORM

MARA W. ELLIOTT, CITY ATTORNEY

By:  for Bonny Hsu
Name: Christina L. Rae
Title: Deputy City Attorney
Dated: July 1, 2024

SAN DIEGO BUILDING AND CONSTRUCTION TRADES COUNCIL

By: Carol Kim
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Name: Carol Kim

Title: Business Manager

Dated: June 25, 2024

SIGNATORY UNIONS
(See Attached)

SIGNATORY UNIONS

DocuSigned by:
By: Michael Patterson
Allied Workers Local 5

DocuSigned by:
By: Luis Miramontes
Boilermakers Local 92

DocuSigned by:
By: Chris Brisson
Brooklyn & Allied Crafts Local 4

DocuSigned by:
By: Jack Alvarado
Cement Masons Local 500 / Area 744

DocuSigned by:
By: [Signature]
Electrical Workers Local 569

DocuSigned by:
By: [Signature]
Elevator Constructors Local 18

DocuSigned by:
By: Ernesto Toscano
Painters & Allied Trades District Council 36

DocuSigned by:
By: Beau Coleman
Iron Workers Local 229

By: _____
Laborers Local 89

DocuSigned by:
By: Christian Betancourt
Plasterers Local 200

DocuSigned by:
By: Jose Sanchez
Plaster Tenders Local 1414

By: _____
Operating Engineers Local 12

DocuSigned by:
By: Steve Beringer
Plumbers & Pipefitters Local 230

By: _____
Operating Engineers Local 12

DocuSigned by:
By: Paul Colmenero
Roofers & Waterproofers Local 45

By: _____
Operating Engineers Local 12

DocuSigned by:
By: [Signature]
Laborers Local 1184

DocuSigned by:
By: Dave Gauthier
Sheet Metal Workers' Local 206

DocuSigned by:
By: Ed learn
Laborers Local 345

DocuSigned by:
By: Jose Estrada
Teamsters Local 166

DocuSigned by:
By: Ricardo Perez
UA Local 345

DocuSigned by:
By: SERGIO RASCON
Laborers Local 300

DocuSigned by:
By: Todd Barry on behalf of B.M. Robert Cooper Jr
Road Sprinkler Fitters Local 669

DocuSigned by:
By: Jon Preciado
Southern California District Council of Laborers

DocuSigned by:
By: Doug Hick
Southwest Regional Council of Carpenters

DocuSigned by:
By: Victor Torres
Teamsters Local 481

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By: Michael Patterson
Allied Workers Local 5

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Boilermakers Local 92

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Brooklyn & Allied Crafts Local 4

DocuSigned by:
By: Jack Alvarado
Cement Masons Local 500 / Area 744

DocuSigned by:
By: [Signature]
Electrical Workers Local 569

By: _____
Elevator Constructors Local 18

By: _____
Painters & Allied Trades District Council 36

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Iron Workers Local 229

By: Valentine R. Macedo
Laborers Local 89

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Plasterers Local 200

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Plaster Tenders Local 1414

By: _____
Operating Engineers Local 12

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Teamsters Local 166

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Laborers Local 300

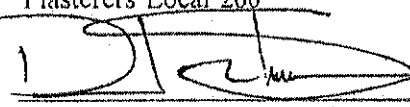
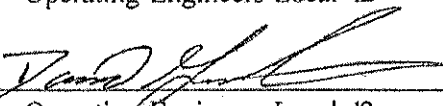
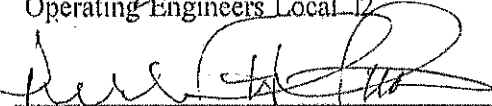
DocuSigned by:
By: Todd Barry on behalf of B.M. Robert Cooper, Jr.
Road Sprinkler Fitters Local 669

DocuSigned by:
By: Jon Preciado
Southern California District Council of Laborers

By: _____
Southwest Regional Council of Carpenters

DocuSigned by:
By: Victor Torres
Teamsters Local 481

SIGNATORY UNIONS

By: _____ Allied Workers Local 5	By: _____ Boilermakers Local 92
By: _____ Bricklayer & Allied Crafts Local 4	By: _____ Cement Masons Local 500 / Area 744
By: _____ Electrical Workers Local 569	By: _____ Elevator Constructors Local 18
By: _____ Painters & Allied Trades District Council 36	By: _____ Iron Workers Local 229
By: _____ Laborers Local 89	By: _____ Plasterers Local 200
By: _____ Plaster Tenders Local 1414	By:  _____ Operating Engineers Local 12
By: _____ Plumbers & Pipefitters Local 230	By:  _____ Operating Engineers Local 12
By: _____ Roofers & Waterproofers Local 45	By:  _____ Operating Engineers Local 12
By: _____ Laborers Local 1184	By: _____ Sheet Metal Workers' Local 206
By: _____ Laborers Local 345	By: _____ Teamsters Local 166
By: _____ UA Local 345	By: _____ Laborers Local 300
By: _____ Road Sprinkler Fitters Local 669	By: _____ Southern California District Council of Laborers
By: _____ Southwest Regional Council of Carpenters	By: _____ Teamsters Local 481

ATTACHMENT A – CONSTRUCTION PROJECTS NOT PROCURED BY THE CITY

The following construction projects that are not procured by the City shall be considered Covered Projects for the purposes of this Agreement if the bid advertisement for these projects occurs during the effective dates pursuant to Section 21.1:

1. Phase III - Convention Center Expansion;
2. Phase I - Ocean Beach Pier Replacement;
3. New City Administration Building;
4. San Diego Fire Training Facility; and
5. Resource Recovery Facility at the Miramar Landfill

* In the event that the parties to the Project Labor Agreement for Construction of Pure Water Program Phase I Projects (Pure Water PLA), dated June 16, 2020, amend that agreement such that the terms of this PLA cover and apply to Pure Water Phase II projects, the terms and conditions under this PLA shall apply so long as a bid for the covered project or project work has not yet been advertised.

The City Council may elect to, by resolution, add other construction projects, not otherwise covered by this PLA, for coverage as Covered Projects.

ATTACHMENT B – LETTER OF ASSENT

To be signed by all Contractors awarded work covered by the Project Labor Agreement prior to commencing work.

De La Fuente Construction Inc.

03/03/2025

VIA EMAIL: CityofSDPLA@saniego.gov

Cindy Crocker, Project Labor Coordinator
City of San Diego
1200 Third Ave, Suite 916
San Diego, CA 92101

Re: City of San Diego Project Labor Agreement

Dear Project Labor Coordinator:

This is to confirm **De La Fuente Construction, Inc.** agrees to be bound by the City of San Diego's Project Labor Agreement ("PLA"), as such Agreement may from time to time be amended by the Parties or interpreted pursuant to its terms. Such obligation to be bound by the PLA shall extend to all work covered by the PLA undertaken by this Company on the Covered Project pursuant to **K-25-2349-DBB-3; South De Anza Park Improvements**, and this Company shall require all of its subcontractors of whatever tier to be similarly bound for all work within the scope of the PLA by signing and furnishing to you an identical Letter of Assent prior to their commencement of work.

Sincerely,

De La Fuente Construction, Inc.

By:

Jorge E. Diaz De La Fuente, President

[Copies of this Letter must be submitted to the Project Labor Coordinator and to the Council consistent with Article 3, Section 3.3(b)]

ATTACHMENT C-1 – WORKFORCE DISPATCH REQUEST FORM

City of San Diego Project Labor Agreement

The City of San Diego Project Labor Agreement ("PLA") establishes a goal of at least thirty percent (30%) of the total craft hours on each Covered Project being performed by Local Workers. The City PLA also establishes a goal of at least ten percent (10%) of the total craft hours on each Covered Project being performed by Targeted Workers. The Unions and Contractors agree that Local Workers shall be first referred for Covered Projects when requested through use of this Workforce Dispatch Request Form.

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

Please complete and fax/email this form to the applicable union to request craft workers that fulfill the hiring requirements for this project. After faxing/emailing your request, please call the local union to verify receipt and substantiate their capacity to furnish workers as specified below. Please print and retain copies of your fax or email transmission for your records.

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

UNION CRAFT WORKER REQUEST

Craft Classification	Journeyman or Apprentice	Local Worker and/or Veteran	No. of Workers
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
Total Number of Workers Requested:			

In accordance with the PLA, Article 4, Union Recognition and Employment, we are requesting the union:

* Please provide priority referral of Local Workers, based on zip code residence as described on the following page, or veteran status.

WORKER REPORTING INSTRUCTIONS:

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

City of San Diego PLA Attachment C-1: Workforce Dispatch Request Form [Page 1 of 2]

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.

Date Dispatch Received: Dispatch Received by: Date Worker(s) Dispatched:				
Name:	JM or App	Veteran	Local Worker? *	Zip Code
	<input type="checkbox"/> JM <input checked="" type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

* PLEASE NOTE: By marking the "No" box for either the "Veteran", "Local Worker", and "Targeted Worker" categories you are certifying, on behalf of the Union, that the Union has exhausted all reasonable efforts to locate and dispatch such Veteran, Local Worker, or Targeted Worker.
 ** Please indicate number of the Targeted Worker category (a through k, as shown below). You may indicate multiple categories per worker.

A **Local Worker** is an individual who resides in a Disadvantaged Area or a Veteran residing anywhere. Below is a list of the Disadvantaged Area zip codes within the San Diego area.

91901	91902	91905	91906	91910	91911	91913	91914	91915	91916	91917	
91910	91932	91934	91935	91941	91942	91945	91948	91950	91962	91963	
91941	91978	91980	92003	92004	92007	92008	92009	92010	92011	92014	
92004	92020	92021	92024	92025	92026	92027	92028	92029	92036	92037	
92025	92054	92055	92056	92057	92058	92059	92060	92061	92064	92065	
92057	92067	92069	92070	92071	92075	92078	92081	92082	92083	92084	
92071	92091	92093	92096	92101	92102	92103	92104	92105	92106	92107	
92101	92109	92110	92111	92113	92114	92115	92116	92117	92118	92119	
92113	92121	92122	92123	92124	92126	92127	92128	92129	92130	92131	
92124	92135	92136	92139	92140	92145	92154	92155	92161	92173	92182	
92140	92536	92672									

ATTACHMENT C-2 – CONTRACTOR CORE WORKFORCE FORM

City of San Diego Project Labor Agreement

The City of San Diego's Project Labor Agreement Article 4, Section 4.6 requires Contractors who are not directly signatory to an applicable Master Agreement to provide a list of Core Employees to the Project Labor Coordinator and applicable Union, prior to performing Covered Work. After submitting the Core Employee list prior to commencing work, Contractors shall not make any changes or substitutions to the Core Employee list for the duration of the Covered Project except in cases where a Core Employee is injured or otherwise cannot work on the Covered Project due to factors beyond the Contractor's control. Failure to submit the Core Employee list prior to work commencing will prohibit the Contractor from using any Core Employees for 30 calendar days after the list is provided to the Project Labor Coordinator and applicable Union.

C O N T R A C T O R I N F O R M A T I O N			
Covered Project Name:			
Contractor/Firm Name:			
Submitted by:		Date Submitted:	
Email:		Phone:	

In accordance with the City of San Diego's Project Labor Agreement, Article 4, Section 4.6 (f), a Core Employee must meet all of the following requirements:

- Be either a journeyman or Apprentice;
- Be on Contractor's active payroll for at least sixty (60) of the last one-hundred-twenty (120) working days prior to being designated as a Core Employee; and
- Possess any license required by state or federal law for the Covered Projects to be performed.

Please see Article 4.6 of the Project Labor Agreement for additional information regarding use of Core Employees, including limits and order of referrals.

CRAFT / TRADE	EMPLOYEE NAME	LAST 4 SSN	HIRE DATE	DATE LAST EMPLOYED

Please use additional sheets as necessary.

ATTACHMENT D – DRUG AND ALCOHOL TESTING POLICY

The Parties recognize the problems that drug and alcohol abuse have created in the construction industry and the need to develop drug and alcohol abuse prevention programs. Accordingly, the Parties agree that in order to enhance the safety of the workplace and to maintain a drug and alcohol-free work environment, individual Contractors shall require applicants or employees to undergo drug and alcohol testing in accordance with this PLA and this policy, Attachment D – Drug and Alcohol Testing Policy, hereafter “PLA Drug Policy” and City Council Policy No. 100-17, “Drug-Free Workplace/City Contractors,” Attachment E. To the extent there is any conflict between the terms set forth in the PLA Drug Policy and in the City Council Policy No. 100-17, the terms set forth in City Council Policy No. 100-17 shall prevail and apply.

1. It is understood that the use, possession, transfer, or sale of illegal drugs, narcotics, or other unlawful substances, as well as being under the influence of alcohol and the possession of or consuming alcohol is absolutely prohibited while employees are on the Contractor’s job premises or while working on any jobsite in connection with work performed under the PLA.
2. No Contractor may implement a drug and alcohol testing program that does not conform in all respects to the provisions of this Policy.
3. No Contractor may implement drug and alcohol testing at any jobsite unless written notice is given to the Union setting forth the location of the jobsite, a description of the project under construction, and the name and telephone number of the Prime Contractor’s project manager. Said notice shall be provided at the pre-job conferences for each Covered Project. Failure to give such notice shall make any drug and alcohol testing engaged in by the Contractor a violation of the Agreement and subject to the Article 10 grievance procedure.
4. A Contractor who elects to implement drug and alcohol testing pursuant to this Policy shall require all craft employees on the Covered Project to be tested. With respect to individuals who become employed on the Covered Project subsequent to the proper implementation of a valid drug and alcohol testing program, such test shall be administered upon the commencement of employment on the project, whether by referral from a Union Dispatch Office, transfer from another project, or another method. Individuals who were employed on the project prior to proper implementation of a valid drug and alcohol testing program may only be subjected to testing for the reasons set forth in paragraphs 5(g)(1) through 5(g)(3) and paragraphs 6(a) through 6(e) of this Policy. Refusal to undergo such testing shall be considered sufficient grounds to deny employment on the project.
5. The following procedure shall apply to all drug and alcohol testing:
 - a. The Contractor may request urine samples only. The applicant or employee shall not be observed when the urine specimen is given. An applicant or employee, at his or her sole option, shall, upon request, receive a blood test in lieu of a urine test. No employee of the Contractor shall draw blood from a bargaining unit employee, touch or handle urine specimens, or in any way become involved in the chain of custody of urine or blood specimens. A Union Business Representative, subject to the approval of the individual applicant or employee, shall be permitted to accompany the applicant or employee to the collection facility to observe the collection, bottling, and sealing of the specimen.

- b. A Contractor may request an applicant or employee promptly, within four (4) hours of the Contractor's request, perform an alcohol breathalyzer test at a certified laboratory only, and cutoff levels shall be those mandated by applicable state or federal law.
- c. The testing shall be done by a laboratory approved by the Substance Abuse & Mental Health Services Administration (SAMHSA), which is chosen by the Contractor and the Union.
- d. An initial test shall be performed using the Enzyme Multiplied Immunoassay Technique (EMIT). In the event a question or positive result arises from the initial test, a confirmation test must be utilized before action can be taken against the applicant or employee. The confirmation test will be by Gas Chromatography/Mass Spectrometry (GC/MS). Cutoff levels for both the initial test and confirmation test will be those established by SAMHSA and this Policy. Should these SAMHSA levels be changed during the course of the PLA or new testing procedures are approved, then these new regulations will be deemed as part of this existing PLA. Confirmed positive samples will be retained by the testing laboratory in secured long-term frozen storage for a minimum of one (1) year. Handling and transportation of each sample must be documented through strict chain-of-custody procedures.
- e. In the event of a confirmed positive test result, the applicant or employee may request, within forty-eight (48) hours, a sample of his/her specimen from the testing laboratory for purposes of a second test to be performed at a second laboratory, designated by the Union and approved by SAMHSA. The retest must be performed within ten (10) days of the request. Chain of custody for this sample shall be maintained by the Contractor between the original testing laboratory and the Union's designated laboratory. Retesting shall be performed at the applicant's or employee's expense. In the event of conflicting test results, the Contractor may require a third test, at the Contractor's expense.
- f. If, as a result of the above testing procedure, it is determined that an applicant or employee has tested positive, this shall be considered sufficient grounds to deny the applicant or employee his/her employment on the project.
- g. No individual who tests negative for drugs and alcohol pursuant to the above procedure and becomes employed on the project shall again be subjected to drug and alcohol testing with the following exceptions:
 - 1) Employees who are involved in industrial accidents resulting in damage to plant, property, or equipment or injury to him/her or others may be tested for drugs or alcohol pursuant to the procedures stated hereinabove.
 - 2) The Contractor may test employees following thirty (30) days' advance written notice to the employee(s) to be tested and to the applicable Union. Notice to the applicable Union shall be sent by certified mail to the affected Union with a copy to the Project Labor Coordinator. Such testing shall be pursuant to the procedures stated hereinabove.
 - 3) The Contractor may test an employee where the Contractor has reasonable cause to believe that the employee is impaired from performing his/her job. Reasonable cause shall be defined as being aberrant or unusual behavior, the type of which is a recognized and accepted symptom of impairment (e.g., slurred speech, unusual lack of muscular coordination). Such behavior must be actually observed by at least two (2) persons, one (1) of whom shall be a supervisor who has been trained to recognize the symptoms of drug and alcohol abuse or impairment and the other of whom shall be the Job Steward. If the Job Steward is unavailable

or there is no Job Steward on the Covered Project, the other person shall be a member of the applicable Union's bargaining unit. Testing shall be pursuant to the procedures stated hereinabove. Employees who are tested pursuant to the exceptions set forth in this paragraph and who test positive will be removed from the Contractor's payroll.

- h. Applicants or employees who do not test positive shall be paid for all time lost while undergoing drug and alcohol testing. Payment shall be at the applicable wage and benefit rates set forth in the applicable Union's Master Labor Agreement. Applicants who have been dispatched from the Union and who are not put to work pending the results of a test will be paid waiting time until such time as they are put to work. It is understood that an applicant must pass the test as a condition of employment. Applicants who are put to work pending the results of a test will be considered probationary employees.
6. The Contractors will be allowed to conduct periodic jobsite drug and alcohol testing on the Project under the following conditions:
 - a. The entire jobsite must be tested, including any employee or subcontractor's employee who worked on that project three (3) working days before or after the date of the test;
 - b. Jobsite testing cannot commence sooner than fifteen (15) days after start of the work on the project;
 - c. Prior to start of periodic testing, a Business Representative will be allowed to conduct an educational period on company time to explain periodic jobsite testing program to affected employees;
 - d. Testing shall be conducted by an SAMHSA-certified laboratory, pursuant to the provisions set forth in paragraph 5 hereinabove.
 - e. Only two (2) periodic tests may be performed in a twelve (12)-month period.
7. It is understood that the unsafe use of prescribed medication, or where the use of prescribed medication impairs the employee's ability to perform work, is a basis for the Contractor to remove the employee from the jobsite.
8. Any grievance or dispute that may arise out of the application of this Policy shall be subject to the grievance and arbitration procedures set forth in the PLA.
9. The establishment or operation of this Policy shall not curtail any right of any employee found in any law, rule, or regulation. Should any part of this Policy be found unlawful by a court of competent jurisdiction or a public agency having jurisdiction over the Parties, the remaining portions of the Agreement shall be unaffected, and the Parties shall enter negotiations to replace the affected provision.
10. Present employees, if tested positive, shall have the prerogative for rehabilitation program at the employee's expense. When such program has been successfully completed, the Contractor shall not discriminate in any way against the employee. If work for which the employee is qualified exists, he/she may be reinstated.

11. The Contractor agrees that results of urine and blood tests performed hereunder will be considered medical records held confidential to the extent permitted or required by law. Such records shall not be released to any persons or entities other than designated Contractor representatives and the applicable Union. Such release to the applicable Union shall only be allowed upon the signing of a written release by the employee, and the information contained therein shall not be used to discourage the employment of the individual applicant or employee on any subsequent occasion.
12. Employees who seek voluntary assistance for substance abuse may not be disciplined for seeking such assistance. Requests from employees for such assistance shall remain confidential and shall not be revealed to other employees or management personnel without the employee's consent. Employees enrolled in substance abuse programs will be subject to all Contractor rules, regulations, and job performance standards with the understanding that an employee enrolled in such a program is receiving treatment for an illness.
13. The Contractor shall indemnify and hold the Union harmless against any and all claims, demands, suits, or liabilities that may arise out of the application of this Policy.
14. This Policy shall constitute the only Policy in effect between the Parties concerning drug and alcohol abuse, prevention, and testing. Any modifications thereto must be accomplished pursuant to collective bargaining negotiations between the Parties.

SPECIMEN REPORTING CRITERIA

Initial Test Analyte	Initial Test Cutoff ¹	Confirmatory Test Analyte	Confirmatory Test Cutoff Concentration
Marijuana metabolites (THCA) ²	50 ng/ml ³	THCA	15 ng/ml
Cocaine metabolite (Benzoylecgonine)	150 ng/ml ³	Benzoylecgonine	100 ng/ml
Codeine/ Morphine	2000 ng/ml	Codeine Morphine	2000 ng/ml 2000 ng/ml
Hydrocodone/ Hydromorphone	300 ng/ml	Hydrocodone Hydromorphone	100 ng/ml 100 ng/ml
Alcohol	0.02%	Ethanol	0.02%
Oxycodone/ Oxymorphone	100 ng/ml	Oxycodone Oxymorphone	100 ng/ml 100 ng/ml
6-Acetylmorphine	10 ng/ml	6-Acetylmorphine	10 ng/ml
Phencyclidine	25 ng/ml	Phencyclidine	25 ng/ml
Amphetamine/ Methamphetamine	500 ng/ml	Amphetamine Methamphetamine	250 ng/ml 250 ng/ml
MDMA ⁴ /MDA ⁵	500 ng/ml	MDMA MDA	250 ng/ml 250 ng/ml
Initial Test Analyte	Initial Test Cutoff	Confirmatory Test Analyte	Confirmatory Test Cutoff Concentration
Barbiturates	300 ng/ml	Barbiturates	200 ng/ml
Benzodiazepines	300 ng/ml	Benzodiazepines	300 ng/ml
Methadone ⁶	300 ng/ml	Methadone	100 ng/ml
Methaqualone	300 ng/ml	Methaqualone	300 ng/ml
Propoxyphene	300 ng/ml	Propoxyphene	100 ng/ml

¹ For grouped analytes (i.e., two or more analytes that are in the same drug class and have the same initial test cutoff):

Immunoassay: The test must be calibrated with one analyte from the group identified as the target analyte. The cross-reactivity of the immunoassay to the other analyte(s) within the group must be 80 percent or greater; if not, separate immunoassays must be used for the analytes within the group.

Alternate technology: Either one analyte or all analytes from the group must be used for calibration, depending on the technology. At least one analyte within the group must have a concentration equal to or greater than the initial test cutoff or, alternatively, the sum of the analytes present (i.e., equal to or greater than the laboratory's validated limit of quantification) must be equal to or greater than the initial test cutoff.

² An immunoassay must be calibrated with the target analyte, 9-tetrahydrocannabinol-9-carboxylic acid (THCA).

³ **Alternate technology (THCA and benzoylecgonine):** The confirmatory test cutoff must be used for an alternate technology initial test that is specific for the target analyte (i.e., 15 ng/ml for THCA, 100 ng/ml for benzoylecgonine).

⁴ Methylenedioxymethamphetamine (MDMA)

⁵ Methylenedioxyamphetamine (MDA)

⁶ Employees with a prescription for methadone who are using the medication as prescribed, and are not impaired and can safely perform their work, will not be considered to have violated this Policy.

**MEMORANDUM OF UNDERSTANDING REGARDING
"QUICK" DRUG SCREENING TESTS PURSUANT TO
ATTACHMENT D – DRUG AND ALCOHOL TESTING POLICY**

It is hereby agreed between the Parties hereto that a Contractor who has otherwise properly implemented drug and alcohol testing, as set forth in the Policy, shall have the right to offer an applicant or employee a "quick" drug screening test. This "quick" screen test shall consist either of the "ICUP" urine screen or similar test or an oral screen test. The applicant or employee shall have the absolute right to select either of the two "quick" screen tests, or to reject both and request a full drug test.

An applicant or employee who selects one of the "quick" screen tests, and who passes the test, shall be put to work immediately. An applicant or employee who fails the "quick" screen test, or who rejects the "quick" screen tests, shall be tested pursuant to the procedures set forth in the Policy. The sample used for the "quick" screen test shall be discarded immediately upon conclusion of the test. An applicant or employee shall not be deprived of any rights granted to them by the Policy as a result of any occurrence related to the "quick" screen test.

ATTACHMENT E – CITY COUNCIL POLICY NO. 100-17

“DRUG-FREE WORKPLACE/CITY CONTRACTORS”

CITY OF SAN DIEGO, CALIFORNIA

COUNCIL POLICY

CURRENT

SUBJECT: DRUG-FREE WORKPLACE/CITY CONTRACTORS
POLICY NO.: 100-17
EFFECTIVE DATE: May 20, 1991

BACKGROUND:

The issue of substance abuse, the misuse of both legal and illegal drugs, has been identified as a major problem. It is well documented that substance abuse in the workplace can negatively impact employee performance, worker safety and the safety of the general public.

PURPOSE:

It is the intent of the City Council that the City of San Diego take a leadership role in addressing the issue of drug abuse in the workplace. It is the purpose of this policy to establish the requirement that all City construction contractors, consultants, grantees and providers of non-professional services agree to comply with this Drug-Free Workplace Policy.

POLICY:

Section 1. Definitions

- A. “Drug-free workplace” means a site for the performance of work done in connection with a contract let by City of San Diego for the construction, maintenance, or repair of any facility or public work by an entity at which employees of the entity are prohibited from engaging in the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance in accordance with the requirements of this section.
- B. “Employee” means the employee of a contractor directly engaged in the performance of work pursuant to a contract as described in Section 2.
- C. “Controlled substance” means a controlled substance in schedules I through V of Section 202 of the Controlled Substance Act (21 U.S.C. Sec. 812).
- D. “Contractor” means the department, division, or other unit of a person or organization responsible to the contractor for the performance of a portion of the work under the contract.

Section 2. City Contractor Requirements

- A. Every person or organization awarded a contract or grant by the City of San Diego for the provision of services shall certify to the City that it will provide a drug-free workplace by doing all of the following:

- (1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation,

possession, or use of a controlled substance is prohibited in the person's organization's workplace and specifying the actions that will be taken against employees for violations of the prohibition.

- (2) Establishing a drug-free awareness program to inform employees about all of the following:
 - (a) The dangers of drug abuse in the workplace.
 - (b) The person's or organization's policy of maintaining a drug-free workplace.
 - (c) Any available drug counseling, rehabilitation, and employee assistance programs.
 - (d) The penalties that may be imposed upon employees for drug abuse violations.
 - (3) Posting the statement required by subdivision (1) in a prominent place at contractors main office. For projects large enough to necessitate a construction trailer at the job site, the required signage would also be posted at the job site.
- B. Contractors shall include in each subcontract agreement language which indicates the subcontractor's agreement to abide by the provisions of subdivisions (1) through (3) inclusive of Section 2A. Contractors and subcontractors shall be individually responsible for their own drug-free workplace programs.

HISTORY:

Adopted by Resolution R-277952 05/20/1991

APPENDIX A –

MEMORANDUM OF UNDERSTANDING #1

STARTUP AND COMMISSIONING

The Parties and Contractors agree that work covered by this PLA on Covered Projects includes all onsite physical craft work that is part of startup and commissioning, including, but not limited to, system flushes and testing, loop checks, rework and modifications, and functional and operational testing up to and including the final running test. It is understood that the City's personnel and/or its representatives, together with the manufacturer's and/or vendor's representatives, and/or project operating personnel may supervise and direct the startup, commissioning, rework, and modification activity, and that the onsite physical craft work is typically performed as part of a joint effort with these representatives and personnel. A manufacturer or its representatives may perform industry standard startup and commissioning work to satisfy its guarantee or warranty on a piece of equipment, and such work will be exempt from the PLA to the extent the work is excluded by Section 3.2(g) and/or Section 3.2(h).

CERTIFICATIONS AND FORMS

The Bidder, by submitting its electronic bid, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certifications, forms and affidavits submitted as part of this bid are true and correct.

BIDDER'S GENERAL INFORMATION

To the City of San Diego:

Pursuant to "Notice Inviting Bids", specifications, and requirements on file with the City Clerk, and subject to all provisions of the Charter and Ordinances of the City of San Diego and applicable laws and regulations of the United States and the State of California, the undersigned hereby proposes to furnish to the City of San Diego, complete at the prices stated herein, the items or services hereinafter mentioned. The undersigned further warrants that this 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.

The undersigned bidder(s) further warrants that bidder(s) has thoroughly examined and understands the entire Contract Documents (plans and specifications) and the Bidding Documents therefore, and that by submitting said Bidding Documents as its bid proposal, bidder(s) acknowledges and is bound by the entire Contract Documents, including any addenda issued thereto, as such Contract Documents incorporated by reference in the Bidding Documents.

**NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID UNDER 23
UNITED STATES CODE 112 AND PUBLIC CONTRACT CODE 7106**

State of California

County of San Diego

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

CONTRACTOR CERTIFICATION

DRUG-FREE WORKPLACE

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-17 regarding Drug-Free Workplace as outlined in the WHITEBOOK, Section 5-1.3, "Drug-Free Workplace", of the project specifications, and that;

This company has in place a drug-free workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of subdivisions a) through c) of the policy as outlined.

CONTRACTOR CERTIFICATION

AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-4 regarding the Americans With Disabilities Act (ADA) outlined in the WHITEBOOK, Section 5-1.2, "California Building Code, California Code of Regulations Title 24 and Americans with Disabilities Act". of the project specifications, and that:

This company has in place workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of the policy as outlined.

CONTRACTOR CERTIFICATION

CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE

I declare under penalty of perjury that I am authorized to make this certification on behalf of the company submitting this bid/proposal, that as Contractor, I am familiar with the requirements of City of San Diego Municipal Code § 22.3004 regarding Contractor Standards as outlined in the WHITEBOOK, Section 5-1.4, ("Contractor Standards and Pledge of Compliance"), of the project specifications, and that Contractor has complied with those requirements.

I further certify that each of the Contractor's subcontractors has completed a Pledge of Compliance attesting under penalty of perjury of having complied with City of San Diego Municipal Code § 22.3004.

CONTRACTOR CERTIFICATION

EQUAL BENEFITS ORDINANCE CERTIFICATION

I declare under penalty of perjury that I am familiar with the requirements of and in compliance with the City of San Diego Municipal Code § 22.4300 regarding Equal Benefits Ordinance.

CONTRACTOR CERTIFICATION

EQUAL PAY ORDINANCE CERTIFICATION

Contractor shall comply with the Equal Pay Ordinance (EPO) codified in the San Diego Municipal Code (SDMC) at section 22.4801 through 22.4809, unless compliance is not required based on an exception listed in SDMC section 22.4804.

Contractor shall require all of its subcontractors to certify compliance with the EPO in their written subcontracts.

Contractor must post a notice informing its employees of their rights under the EPO in the workplace or job site.

By signing this Contract with the City of San Diego, Contractor acknowledges the EPO requirements and pledges ongoing compliance with the requirements of SDMC Division 48, section 22.4801 et seq., throughout the duration of this Contract.

CONTRACTOR CERTIFICATION

IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION) COMPLIANCE

I hereby certify that Contractor is familiar with the requirements 13 CCR 2449, 2449.1, and 2449.2, as well as Attachment F, In-Use Off-Road Diesel Fueled Fleet Regulation (Off-Road Regulation) Compliance (CARB), and that Contractor shall comply with these requirements.

I further certify that each of the Contractor's listed subcontractors is familiar with these requirements and shall also comply.

CONTRACTOR CERTIFICATION

PRODUCT ENDORSEMENT

I declare under penalty of perjury that I acknowledge and agree to comply with the provisions of City of San Diego Administrative Regulation 95.65, concerning product endorsement. Any advertisement identifying or referring to the City as the user of a product or service requires the prior written approval of the City.

AFFIDAVIT OF DISPOSAL

(To be submitted upon completion of Construction pursuant to the contracts Certificate of Completion)

WHEREAS, on the _____ DAY OF _____, 2____ the undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

South De Anza Park Improvements

(Project Title)

as particularly described in said contract and identified as Bid No. **K-25-2349-DBB-3**; SAP No. (WBS) **B-19162, B-19172, and B-19173**; and **WHEREAS**, the specification of said contract requires the Contractor to affirm that "all brush, trash, debris, and surplus materials resulting from this project have been disposed of in a legal manner"; and **WHEREAS**, said contract has been completed and all surplus materials disposed of:

NOW, THEREFORE, in consideration of the final payment by the City of San Diego to said Contractor under the terms of said contract, the undersigned Contractor, does hereby affirm that all surplus materials as described in said contract have been disposed of at the following location(s)

and that they have been disposed of according to all applicable laws and regulations.

Dated this _____ DAY OF _____, _____.

By: _____
Contractor

ATTEST:

State of _____ County of _____

On this _____ DAY OF _____, 2____, before the undersigned, a Notary Public in and for said County and State, duly commissioned and sworn, personally appeared _____ known to me to be the _____ Contractor named in the foregoing Release, and whose name is subscribed thereto, and acknowledged to me that said Contractor executed the said Release.

Notary Public in and for said County and State

JOBS COORDINATOR DESIGNATION FORM

JOBS COORDINATOR. A Jobs Coordinator is an independent third-party individual, entity or employee with whom the Prime Contractor enters into a contract or employs to assist the with achieving and exceeding the Local Worker goals set forth in the PLA, Article 4, Section 4.5, to assist with fulfilling the Work Opportunities Program as set forth in Article 22, and to assist with Helmets to Hardhats participation as set forth in Article 23. Each subcontractor, regardless of tier, shall utilize the Jobs Coordinator retained by the Prime Contractor, pursuant to the PLA, Article 22 Section 22.2 (f). The Prime Contractor must submit a Jobs Coordinator Designation Form prior to award of a contract.

List the applicable Jobs Coordinator information below.

Legal Name and Full Street Address of Jobs Coordinator Firm	Name of Individual Acting as Jobs Coordinator	DBE Certification Number (if Applicable)	Amount of Work by Subcontractor in Dollars
TransCal Services, LLC 6109 South Western Avenue, Suite 103 Los Angeles, CA 90047	Jeffery Henderson, St.	DBE# 41395	\$27,800

Bidder Signature: _____ Dated: 03/05/2025

Disadvantaged Business Enterprise Credit: If the Jobs Coordinator is a certified DBE pursuant to the PLA, Article 22 prior to contract award, its work can be counted towards the DBE goal commitment and attainment. If utilizing the Jobs Coordinator for DBE credit, they must also be included on the List of Subcontractors form.

JOBS COORDINATOR QUALIFICATIONS. Jobs Coordinator qualifications may include, but are not limited to the following:

- A. 3 years' experience providing Jobs Coordinator services.
- B. Possess working relationships with the San Diego Building and Construction Trades Council, Veteran Worker organizations, and signatory craft councils and unions operating within Counties of San Diego by describing previous interactions, relationships, and partnerships with these parties/groups.
- C. Demonstrate that they possess experience with Targeted and/or Veteran Worker populations.
- D. Experience in working with services of the Center for Military Recruitment, Assessment and Veterans Employment and "Helmets to Hardhats" programs.

JOBS COORDINATOR DESIGNATION FORM
July 1, 2024

Page 1 of 2

JOBS COORDINATOR RESPONSIBILITIES. The Prime Contractor may require the selected Jobs Coordinator to perform a list of duties that include, but are not limited to, the following:

- A. Develop, create, design, and market specific programs to attract Local, Targeted and/or Veteran Workers for construction opportunities (e.g. handouts and fliers for "walk-ins" demonstrating program entrance procedures).
- B. Coordinate services for contractors to use in the recruitment of Local, Targeted and/or Veteran Workers.
- C. Conduct orientations, job fairs, and community outreach meetings in the local community.
- D. Screen and certify the Targeted and/or Veteran Workers status.
- E. Establish a referral and retention tracking mechanism for placed Local, Targeted and/or Veteran workers and apprentices.
- F. Network with the various work source centers, community organizations, and other non-profit entities that provide qualified Local, Targeted, and/or Veteran Workers.
- G. Coordinate with the various building trades crafts for referral and placement of Local, Targeted, and/or Veteran Workers.
- H. Maintain a database of pre-qualified Targeted and/or Veteran Workers for referral.
- I. Be the point of contact to provide information about available job opportunities on projects.
- J. Assist all subcontractors, regardless of tier, with their documentation efforts and other reports as it relates to their Local, Targeted and/or Veteran Worker hiring requirements.
- K. Work closely with the City, the building trades, and all contractors in achieving and/or exceeding the Local hiring goal.

ELECTRONICALLY SUBMITTED FORMS

FAILURE TO FULLY COMPLETE AND SUBMIT ANY OF THE FOLLOWING FORMS WILL DEEM YOUR BID NON-RESPONSIVE.

PLANETBIDS WILL NOT ALLOW FOR BID SUBMISSIONS WITHOUT THE ATTACHMENT OF THESE FORMS

The following forms are to be completed by the bidder and submitted (uploaded) electronically with the bid in PlanetBids.

- A. BID BOND – See Instructions to Bidders, Bidders Guarantee of Good Faith (Bid Security) for further instructions**
- B. CONTRACTOR’S CERTIFICATION OF PENDING ACTIONS**
- C. SUBCONTRACTORS FOR ALTERNATES**
- D. MANDATORY DISCLOSURE OF BUSINESS INTERESTS FORM**
- E. DEBARMENT AND SUSPENSION CERTIFICATION FOR PRIME CONTRACTOR**
- F. DEBARMENT AND SUSPENSION CERTIFICATION FOR SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS**

BID BOND

See Instructions to Bidders, Bidder Guarantee of Good Faith (Bid Security)

KNOW ALL MEN BY THESE PRESENTS,

That De La Fuente Construction, Inc. as Principal,
and Everest National Insurance Company as Surety, are held
and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum
of **10% OF THE TOTAL BID AMOUNT** for the payment of which sum, well and truly to be made, we
bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally,
firmly by these presents.

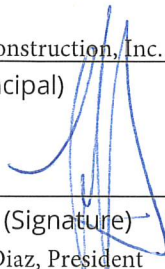
WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required under
the bidding schedule(s) of the OWNER's Contract Documents entitled

South de Anza Park Improvements K-25-2349-DBB-3

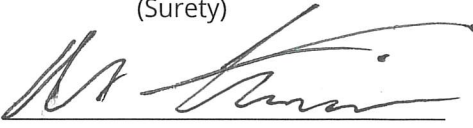
NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and in
the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form of
agreement bound with said Contract Documents, furnishes the required certificates of insurance, and
furnishes the required Performance Bond and Payment Bond, then this obligation shall be null and
void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by
said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit,
including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this 10th day of January, 2025

De La Fuente Construction, Inc. (SEAL)
(Principal)

By: 
(Signature)
Jorge Diaz, President

Everest National Insurance Company (SEAL)
(Surety)

By: 
(Signature)
Alex Karaniwan, Attorney-in-Fact

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)



**POWER OF ATTORNEY
EVEREST REINSURANCE COMPANY and EVEREST NATIONAL INSURANCE COMPANY**

KNOW ALL PERSONS BY THESE PRESENTS: That Everest Reinsurance Company and Everest National Insurance Company, corporations of the State of Delaware ("Company") having their principal offices located at Warren Corporate Center, 100 Everest Way, Warren, New Jersey, 07059, do hereby nominate, constitute, and appoint:

Kyle King, Travis R. Pearson, William Bodensadt III, Kimberly Acevedo, Chanel Asfaw, Alex Karaniwan

its true and lawful Attorney(s)-in-fact to make, execute, attest, seal and deliver for and on its behalf, as surety, and as its act and deed, where required, any and all bonds and undertakings in the nature thereof, for the penal sum of no one of which is in any event to exceed UNLIMITED, reserving for itself the full power of substitution and revocation.

Such bonds and undertakings, when duly executed by the aforesaid Attorney(s)-in-fact shall be binding upon the Company as fully and to the same extent as if such bonds and undertakings were signed by the President and Secretary of the Company and sealed with its corporate seal.

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Board of Directors of Company ("Board") on April 21, 2016:

RESOLVED, that the President, any Executive Vice President, and any Senior Vice President are hereby appointed by the Board as authorized to make, execute, seal and deliver for and on behalf of the Company, any and all bonds, undertakings, contracts or obligations in surety or co-surety with others and that the Secretary or any Assistant Secretary of the Company be and that each of them hereby is authorized to attest to the execution of any such bonds, undertakings, contracts or obligations in surety or co-surety and attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that the President, any Executive Vice President, and any Senior Vice President are hereby authorized to execute powers of attorney qualifying the attorney named in the given power of attorney to execute, on behalf of the Company, bonds and undertakings in surety or co-surety with others, and that the Secretary or any Assistant Secretary of the Company be, and that each of them is hereby authorized to attest the execution of any such power of attorney, and to attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that the signature of such officers named in the preceding resolutions and the corporate seal of the Company may be affixed to such powers of attorney or to any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be thereafter valid and binding upon the Company with respect to any bond, undertaking, contract or obligation in surety or co-surety with others to which it is attached.

IN WITNESS WHEREOF, Everest Reinsurance Company and Everest National Insurance Company have caused their corporate seals to be affixed hereto, and these presents to be signed by their duly authorized officers this 10th day of October 2023.



Everest Reinsurance Company and Everest National Insurance Company

By: Anthony Romano, Senior Vice President

On this 22nd of March 2023, before me personally came Anthony Romano, known to me, who, being duly sworn, did execute the above instrument; that he knows the seal of said Company; that the seal affixed to the aforesaid instrument is such corporate seal and was affixed thereto; and that he executed said instrument by like order.

LINDA ROBINS
Notary Public, State of New York
No 01R06239736
Qualified in Queens County
Term Expires April 25, 2027

Linda Robins, Notary Public

I, Sylvia Semerdjian, Assistant Secretary of Everest Reinsurance Company and Everest National Insurance Company do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Section of the bylaws and resolutions of said Corporation as set forth in said Power of Attorney, with the ORIGINALS ON FILE IN THE HOME OFFICE OF SAID CORPORATION, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Company, this 10th day of January 2025.



By: Sylvia Semerdjian, Assistant Secretary

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT Civil Code § 1189

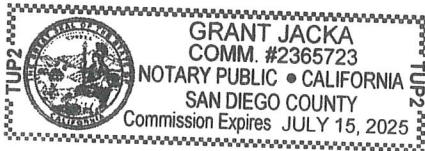
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached, and not the truthfulness, accuracy or validity of that document.

STATE OF CALIFORNIA

County of San Diego

On 01/10/2025 before me, Grant Jacka, Notary Public,
Date Insert Name of Notary exactly as it appears on the official seal

personally appeared Alex Karaniwan
Name(s) of Signer(s)



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

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

Witness my hand and official seal.

Signature [Signature]
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of the form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

- ☐ Individual
☐ Corporate Officer — Title(s): _____
☐ Partner ☐ Limited ☐ General
☐ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____

Signer is Representing: _____

**RIGHT THUMBPRINT
OF SIGNER**

Top of thumb here

Signer's Name: _____

- ☐ Individual
☐ Corporate Officer — Title(s): _____
☐ Partner ☐ Limited ☐ General
☐ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____

Signer is Representing: _____

**RIGHT THUMBPRINT
OF SIGNER**

Top of thumb here

CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against the Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

CHECK ONE BOX ONLY.



The undersigned certifies that within the past 10 years the Bidder has NOT been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers.



The undersigned certifies that within the past 10 years the Bidder has been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers. A description of the status or resolution of that complaint, including any remedial action taken and the applicable dates is as follows:

DATE OF CLAIM	LOCATION	DESCRIPTION OF CLAIM	LITIGATION (Y/N)	STATUS	RESOLUTION/REMEDIAL ACTION TAKEN

Contractor Name: De La Fuente Construction Inc.

Certified By Jorge E. Diaz De La Fuente Title President

Name

Date 1/10/2025

Signature

USE ADDITIONAL FORMS AS NECESSARY

SUBCONTRACTORS FOR ALTERNATES

***** FOR USE WHEN LISTING SUBCONTRACTORS FOR ALTERNATES ONLY *****
(Use Additional Sheets As Needed)

IDENTIFY ALTERNATE <small>(example: Deductive Alternate B) Only one Alternate and Sub per line</small>	SUBCONTRACTOR NAME, LOCATION, PHONE & EMAIL	SUBCONTRACTOR'S CA LICENSE NUMBER	SUBCONTRACTOR'S DIR REGISTRATION NUMBER	IS SUBCONTRACTOR CONSTRUCTOR, DESIGNER, OR SUPPLIER	TYPE OF WORK	DOLLAR VALUE OF THE ALTERNATE SUBCONTRACT <small>(Negative If Deductive)</small>
Additive alternate A	Name: <u>Quality Rebar Inc.</u> Address: <u>13275 Gregg Street</u> City: <u>Poway</u> State: <u>CA</u> Zip: <u>92064</u> Phone: <u>858-679-3934</u> Email: <u>estimating@qualityrebarinc.com</u>	818593	1000000745	Constructor	rebar	\$32,634
Additive alternate A	Name: <u>Ferandell Tennis Courts Inc.</u> Address: <u>3216 Grey Hawk</u> City: <u>Carlsbad</u> State: <u>CA</u> Zip: <u>92010</u> Phone: <u>858-350-3444</u> Email: <u>manager@ferandelltenniscourts.com</u>	603945	1000004786	Constructor	surface & striping	\$38,200
Additive alternate A	Name: <u>Buescher Electric Inc DBA Service Electrical Systems</u> Address: <u>157 Palm Avenue</u> City: <u>Imperial Beach</u> State: <u>CA</u> Zip: <u>91932</u> Phone: <u>858-748-8478</u> Email: <u>buescherelectric@gmail.com</u>	917219	1000006809	Constructor	electrical	\$120,972.13
	Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____					

**SUBCONTRACTORS FOR ALTERNATE ITEMS ARE NOT CONSIDERED IN THE CALCULATION TOWARD
 ACHIEVING SLBE/ELBE PARTICIPATION GOALS**

Mandatory Disclosure of Business Interests Form

BIDDER/PROPOSER INFORMATION

Legal Name		DBA	
De La Fuente Construction Inc.			
Street Address	City	State	Zip
3025 Beyer Blvd Suite E-101,	San Diego	CA	92154
Contact Person, Title		Phone	Fax
Jorge E. Diaz De La Fuente, President		619-512-5505	619-878-2980

Provide the name, identity, and precise nature of the interest* of all persons who are directly or indirectly involved** in this proposed transaction (SDMC § 21.0103).

* The precise nature of the interest includes:

- the percentage ownership interest in a party to the transaction,
- the percentage ownership interest in any firm, corporation, or partnership that will receive funds from the transaction, the value of any financial interest in the transaction,
- any contingent interest in the transaction and the value of such interest should the contingency be satisfied, and any philanthropic, scientific, artistic, or property interest in the transaction.

** Directly or indirectly involved means pursuing the transaction by:

- communicating or negotiating with City officers or employees,
- submitting or preparing applications, bids, proposals or other documents for purposes of contracting with the City,
- or directing or supervising the actions of persons engaged in the above activity.

Name	Title/Position
Jorge Diaz De La Fuente	President
City and State of Residence	Employer (if different than Bidder/Proposer)
San Diego, CA	
Interest in the transaction	
100% interest	

Name	Title/Position
Carolina Bernal / Hector Ojeda	Estimating / Bid Coordinator
City and State of Residence	Employer (if different than Bidder/Proposer)
San Diego, CA / San Diego, CA	
Interest in the transaction	
0% interest / 0% interest	

* Use Additional Pages if Necessary *

Under penalty of perjury under the laws of the State of California, I certify that I am responsible for the completeness and accuracy of the responses contained herein, and that all information provided is true, full and complete to the best of my knowledge and belief. I agree to provide written notice to the Mayor or Designee within five (5) business days if, at any time, I learn that any portion of this Mandatory Disclosure of Business Interests Form requires an updated response. Failure to timely provide the Mayor or Designee with written notice is grounds for Contract termination.

Jorge E. Diaz De La Fuente, President

1/13/2025

Print Name, Title

Signature

Date

Failure to sign and submit this form with the bid/proposal shall make the bid/proposal non-responsive. In the case of an informal solicitation, the contract will not be awarded unless a signed and completed Mandatory Disclosure of Business Interests Form is submitted.

DEBARMENT AND SUSPENSION CERTIFICATION
PRIME CONTRACTOR
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE

EFFECT OF DEBARMENT OR SUSPENSION
To promote integrity in the City's contracting processes and to protect the public interest, the City shall only enter into contracts with responsible- bidders and contractors. In accordance with San Diego Municipal Code §22.0814 (a): <i>Bidders and contractors</i> who have been <i>debarred</i> or <i>suspended</i> are excluded from submitting bids, submitting responses to requests for proposal or qualifications, receiving <i>contract</i> awards, executing <i>contracts</i> , participating as a <i>subcontractor</i> , employee, agent or representative of another <i>person</i> contracting with the City.

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of Names of the Principal Individual owner(s).

The names of all persons interested in the foregoing proposal as Principals are as follows:

NAME	TITLE
Jorge Diaz De La Fuente	President

IMPORTANT NOTICE: If Bidder or other interested person is a corporation, state secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if Bidder or other interested person is an individual, state first and last names in full.

The Bidder, under penalty of perjury, certifies that, except as noted below, he/she or any person associated therewith in the capacity of owner, partner, director, officer, manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal, State or local agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal, State or local agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Contractor Name: De La Fuente Construction Inc.

Certified By Jorge E. Diaz De La Fuente Title President

Name

Date 01/13/2025

Signature

NOTE: Providing false information may result in criminal prosecution or administrative sanctions.

**DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS**

TO BE COMPLETED BY BIDDER

FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE

Names of the Principal individual owner(s)

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
A Good Roofer, Inc / Mark Miller	Vice President

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: A Good Roofer, Inc.

Certified By Mark Miller Title Vice President

Name
Mark Miller Date 01/15/2025

Signature

USE ADDITIONAL FORMS AS NECESSARY*

DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
TO BE COMPLETED BY BIDDER
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE

Names of the Principal individual owner(s)

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
Rick Schaefer	President

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: ABC Resources, Inc.

Certified By Shawn Weber Title Project manager

Name


 Signature

Date 1/14/2025

USE ADDITIONAL FORMS AS NECESSARY*

DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
TO BE COMPLETED BY BIDDER
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE

Names of the Principal individual owner(s)

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
DLG Contractors Inc. Bryan Grant	President

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: DLG Contractors Inc.

Certified By Bryan Grant Title President

Name

 Date 1-14-2025

Signature

USE ADDITIONAL FORMS AS NECESSARY*

DEBARMENT AND SUSPENSION CERTIFICATION
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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
Paul Ferandell	VPres
E Elaine Ferandell	Pres

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

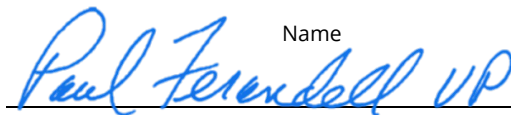
☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: Ferandell Tennis Courts, Inc.

Certified By Paul Ferandell

Title VPres

Name


Date 1/15/2025

Signature

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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
Jose Gomez	President/owner

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: General 2 Constructors, Inc.

Certified By Jose Gomez Title President

Name

Jose Gomez

Date 01/14/2025

Signature

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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
Alicia Lowery	Owner, President

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: QSB Construction

Certified By Robert Keyser Title Sr. Estimator

Name

Robert Keyser

Signature

Date 1/15/2025

USE ADDITIONAL FORMS AS NECESSARY*

**DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS**

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Please indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer:**

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
Alyssa Jordan	Estimating coordinator
Chris Long	Estimator

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: Quality Rebar Inc

Certified By Alyssa Jordan Title Estimating coordinator

Name

Signature

Date 1/15/25

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☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
Robert Perez	President

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: RAP Engineering LLC

Certified By Steven Whitlock Title Vice President

Name

steve whitlock Date 01/15/2025

Signature

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Please indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
ANTHONY BUESCHER	PRESIDENT

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: BUESCHER ENGINEERING INC

Certified By ANTHONY BUESCHER Title PRESIDENT

Name _____ Date 1/15/2025

Signature

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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
Jordi Vives	CEO
Abner Dominguez	COO

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: Terra Group Landscape, LLC

Certified By Jordi Vives Title CEO

DocuSigned by: Name
Jordi Vives Date 1/15/2025 | 1:21 PM PST
ED67082B1D8B4BD...
Signature

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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
Julian Moen	V.P.
Jared Moen	President

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

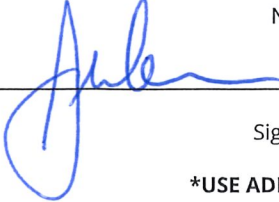
NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: Western State Builders Inc.

Certified By Julian Moen Title V.P.

Name

Signature

Date 1/15/2025

*USE ADDITIONAL FORMS AS NECESSARY**

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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

☒ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE
Santos Magallanes	President/Owner

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: All Time Fence Company Inc.

Certified By Santos Magallanes Title President/Owner

Name

Santos Magallanes

Signature

Date 1/15/2025

USE ADDITIONAL FORMS AS NECESSARY*

City of San Diego

CITY CONTACT: Antoinette Wynne, Contract Specialist, Email: ARWynne@sandiego.gov
Phone No. (619) 533-3638

ADDENDUM 1



FOR

SOUTH DE ANZA PARK IMPROVEMENTS

BID NO.:	<u>K-25-2349-DBB-3</u>
SAP NO. (WBS/IO/CC):	<u>B-19162, B-19172, B-19173</u>
CLIENT DEPARTMENT:	<u>1714</u>
COUNCIL DISTRICT:	<u>2</u>
PROJECT TYPE:	<u>GA</u>

BID DUE DATE:

JANUARY 15, 2025

CITY OF SAN DIEGO'S ELECTRONIC BIDDING SITE, PLANETBIDS

<http://www.sandiego.gov/cip/bidopps/>

ENGINEER OF WORK

The Engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Landscape Architect :

 Chris Langdon
1) Registered Landscape Architect

12/31/2024
Date

Seal:



 Jason Grani
2) For City Engineer

12/30/2024
Date

Seal:



A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

B. ATTACHMENTS

1. To Attachment E, APPENDICES, **ADD APPENDIX J, NOTICE OF INTENT TO ISSUE PERMIT**, pages 4 through 15 of this Addendum.

C. SUPPLEMENTARY SPECIAL PROVISIONS

1. To Attachment E, SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK, Subsection 6-6.1.1, Environmental Document, **Item 2**, page 67, **DELETE** in its entirety and **SUBSTITUTE** with the following:
 2. Compliance with the City’s environmental document, and the nesting bird survey requirements listed in the Notice of Intent to issue a CDP shall be included in the Contract Price.

D. PLANS

1. To Drawing Numbers **0100358-01-D** and **0100358-99-D**, **DELETE** in their entirety and **REPLACE** with pages 16 through 17 of this Addendum.

Rania Amen, Director
Engineering & Capital Projects Department

Dated: *January 2, 2025*
San Diego, California

RA/CC/lir/na

APPENDIX J

NOTICE OF INTENT TO ISSUE PERMIT

NOTICE OF INTENT TO ISSUE PERMIT

(Upon satisfaction of special conditions)

THE SOLE PURPOSE OF THIS NOTICE IS TO INFORM THE APPLICANT OF THE STEPS NECESSARY TO OBTAIN A VALID AND EFFECTIVE COASTAL DEVELOPMENT PERMIT ("CDP"). A Coastal Development Permit for the development described below has been approved but is not yet effective. Development on the site cannot commence until the CDP is effective. In order for the CDP to be effective, Commission staff must issue the CDP to the applicant, and the applicant must sign and return the CDP. **Commission staff cannot issue the CDP until the applicant has fulfilled each of the "prior to issuance" Special Conditions.** A list of all the Special Conditions for this permit is attached.

The Commission's approval of the CDP is valid for two years from the date of approval. To prevent expiration of the CDP, you must fulfill the "prior to issuance" Special Conditions, obtain and sign the CDP, and commence development within two years of the approval date specified below. You may apply for an extension of the permit pursuant to the Commission's regulations at Cal. Code Regs. title 14, section 13169.

On December 12, 2024, the California Coastal Commission approved Coastal Development Permit No. **6-23-0627** requested by **City of San Diego** subject to the attached conditions, for development consisting of: **Renovate playground, basketball court, and comfort station, reconstruct upper boat launch ramp, install ADA compliant sidewalks and parking spaces, repair parking lot, install security lighting, and new stormwater system**, more specifically described in the application filed in the Commission offices. **Commission staff will not issue the CDP until the "prior to issuance" special conditions have been satisfied.**

The development is within the coastal zone at **1000 block of East Mission Bay Drive, Mission Bay Park, San Diego, San Diego County.**

If you have any questions regarding how to fulfill the "prior to issuance" Special Conditions for CDP No. 6-23-0627, please contact the Coastal Program Analyst identified below.

Sincerely,

Dr. Kate Huckelbridge
Executive Director




Lindsey Cain
Coastal Program Analyst

cc: Commissioners/File

ACKNOWLEDGMENT

The undersigned permittee acknowledges receipt of this Notice and fully understands its contents, including all conditions imposed.

12/23/2024

Signed by:

791ADA6AE7A7495...

Date

Permittee

Please sign and return one copy of this form to the Commission office at the above address.

STANDARD CONDITIONS

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, then permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission and affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

SPECIAL CONDITIONS

1. Revised Final Plans.

- a. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval one full size set of revised final project plans. Said plans shall first be stamped approved by the City of San Diego and be in substantial conformance with the plans submitted by City of San Diego dated 9/06/2024 and received on 9/26/2024, except that they shall comply with the following:
 - i. The playground surface shall be PlayMatta Original Tiles with foam shock pad. Use of shredded tires or synthetic rubber surfacing shall be prohibited.
 - ii. Any trees removed shall be replaced at a 1:1 ratio. Replacement trees shall be a minimum 24-inch box size and shall consist of native or non-invasive species.
- b. All revised plans shall be prepared and certified by a licensed professional or professionals as applicable (e.g., architect, surveyor, geotechnical engineer), based on current information and professional standards, and shall be certified to ensure that they are consistent with the Commission's approval and with the recommendations of any required technical reports
- c. The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit, or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

2. Lighting Plans.

- a. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval one full size set of lighting plans that demonstrate the following:
 - i. Maximum color temperature of lighting fixtures shall contain a

maximum color temperature of 2,700 degrees Kelvin (K), unless it can be demonstrated that such features would not meet required safety measures. In no case shall lighting exceed a correlated color temperature of 3,000 K.

- ii. All lighting fixtures shall be the minimum lumens required for safety and security. No non-security or non-safety lighting and no lighting for aesthetic purposes is allowed.
- iii. Security lighting attached to the structures shall use a control device or automatic switch system or equivalent functions to minimize lighting.
- iv. All lighting fixtures shall be shielded and directed downward to minimize light shining on adjacent properties or natural areas. Shielded shall mean that the light rays are directed onto the site, and the light source (e.g., bulb, tube, etc.) is not visible beyond the property boundary of the site of the light source.
- v. No permanently installed lighting shall blink, flash, or be of unusually high intensity or brightness.
- vi. Stand-alone light fixtures shall be limited to a maximum height of 20 feet
- vii. No lighting shall produce an illumination level greater than one-foot candle (10.76 lumens) beyond the property boundary of the site of the light source.

3. Public Access Management Program.

- a. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and written approval of the Executive Director, a Public Access Management Program that includes, at a minimum, the following:
 - i. The program shall include a construction phasing schedule and staging plan that substantially conforms to the plan titled "Playa Pacifica Park Construction Phasing Diagram, Timeline, and Work to be Performed" and provided to the San Diego Coast Coastal Commission office on August 1, 2023.
 - ii. The program shall include a plan for ensuring safe public access to and around construction areas and/or staging areas is maintained during all project operations. The plan shall include a description of the methods (such as signs, fencing, etc.) by which safe public access to and around construction areas and/or staging areas shall be maintained during all project operations. The applicant shall

- provide copies of all proposed signage.
- iii. The program shall include all necessary temporary access provisions, including an alternative to the public shoreline sidewalk during construction, to maintain public pedestrian access around the construction areas and/or staging areas and along the shoreline.
 - iv. Construction shall not occur between Memorial Day weekend and Labor Day unless, due to extenuating circumstances beyond the City's control (such as extensive delays due to severe weather, delivery of playground equipment/manufactured restrooms, or other environmental concerns) the Executive Director provides written authorization for such work.
 - v. Where public parking areas are used for construction staging or storage, the number of public parking spaces (on and off-street) utilized shall be the minimum necessary to implement the project.
 - vi. Lateral access along the shoreline shall be maintained at all times throughout construction.
 - vii. All recreational use areas impacted by construction activities shall be restored to their pre-construction condition or better within three days of completion of construction.
 - viii. Sand from the beach, cobbles, or shoreline rocks shall not be used for construction material.
 - ix. The permittee shall undertake development in conformance with the approved final program unless the Commission amends this permit, or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

4. Parking Lot Stormwater Plan.

- a. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and written approval of the Executive Director, a stormwater plan that identifies the stormwater pollution prevention measures to be used and describes the capture and treatment of the stormwater runoff generated from the De Anza Cove South parking lot. The final plan shall comply with the following Low Impact Development standards.
 - i. Minimize disturbance of coastal waters and natural drainage features such as stream corridors, rivers, wetlands, natural drainage patterns, drainage swales, groundwater recharge areas, floodplains, and topographical depressions.

- ii. Minimize removal of native vegetation, and plant additional non-invasive vegetation, particularly native plants that provide water quality benefits such as transpiration, interception of rainfall, pollutant uptake, shading of waterways to maintain water temperature, and erosion control.
- iii. Maintain or enhance appropriate on-site infiltration of runoff to the greatest extent feasible. Use strategies such as avoiding building impervious surfaces on highly permeable soils; amending soil if needed to enhance infiltration; and installing an infiltration Best Management Practice (BMP) (e.g., a vegetated swale, rain garden, or bio retention system).
- iv. Minimize the addition of impervious surfaces, and where feasible increase the area of pervious surfaces in re-development. Use strategies such as minimizing the footprint of buildings; minimizing the footprint of impervious pavement; and installing a permeable pavement system where pavement is required.
- v. Disconnect impervious surface areas from the storm drain system, by interposing permeable areas between impervious surfaces and the storm drain system. Design curbs, berms, and similar structures to avoid isolation of vegetative landscaping and other permeable areas and allow runoff to flow from impervious pavement to permeable areas for infiltration. Use strategies such as directing roof-top runoff into permeable landscaped areas; directing runoff from impervious pavement into distributed permeable areas (e.g., turf, medians, or parking islands); installing a vegetated swale or filter strip to intercept runoff sheet flow from impervious surfaces; and installing a rain barrel or cistern to capture and store roof-top runoff for later use in on-site irrigation.
- vi. Where on-site infiltration is not appropriate or feasible, use alternative BMPs to minimize post-development changes in runoff flows, such as installing an evapotranspiration BMP that does not infiltrate into the ground but uses evapotranspiration to reduce runoff (e.g., a vegetated “green roof,” flow-through planter, or retention pond); directing runoff to an off-site infiltration facility; or implementing BMPs to reduce runoff volume, velocity, and flow rate before directing runoff to the storm drain system.
- vii. The permittee shall undertake development in conformance with the approved final plan unless the Commission amends this permit,

or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

5. Construction and Pollution Prevention Plan.

- a. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and written approval of the Executive Director, a Construction and Pollution Prevention Plan. The final plan shall demonstrate that all construction, including, but not limited to, clearing, grading, staging, storage of equipment and materials, or other activities that involve ground disturbance; building, reconstructing, or demolishing a structure; and creation or replacement of impervious surfaces, complies with the following requirements:
 - i. General. Best Management Practices (BMPs) and Good Housekeeping Practices (GHP's) designed to prevent spillage and runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the onset of such activity. The description and location of all water quality BMPs to be implemented during construction and demolition shall be specified.
 - 1. BMPs designed to minimize adverse impacts resulting from construction and demolition activities shall be implemented prior to the onset of such activity, including BMPs to minimize erosion and sedimentation, minimize the discharge of pollutants and non-stormwater runoff, and minimize land disturbance, as applicable. The description and location of all water quality BMPs to be implemented during construction and demolition shall be specified.
 - 2. All BMPs shall be maintained in a functional condition throughout the duration of the construction and demolition activities and shall be promptly removed when no longer required.
 - 3. The use of temporary erosion and sediment control products (such as fiber rolls, erosion control blankets, mulch control netting, and silt fences) that incorporate plastic netting shall be prohibited, to minimize wildlife entanglement and plastic debris pollution. Only products with 100% biodegradable (not photodegradable) natural fiber netting shall be allowed.
 - 4. Temporary erosion control measures shall be implemented if

construction or site preparation ceases for a period of more than 30 days. These temporary erosion control measures shall be monitored and maintained until demolition or construction operations resume.

5. All construction methods and equipment to be used shall be specified.

ii. Staging and Storage of Equipment and Materials

1. Motorized equipment shall be staged and stored in the parking lot to reduce the potential for leaks or spills of fuel and other equipment fluids into coastal waters.
2. Staging and storage of construction equipment and materials (including debris) shall not take place on the shoreline pathway. Staging and storage of construction equipment and materials shall occur in inland areas at least 50 feet from coastal waters, drainage courses, and storm drain inlets, if feasible. Upon a showing of infeasibility, the applicant may submit a request for review and written approval to the Executive Director for staging and storage of construction equipment and materials closer than 50 feet from coastal water, drainage courses, and storm drain inlets. Construction is prohibited outside of the defined construction, staging, and storage areas.

iii. Construction Activities In and Adjacent to Coastal Waters

1. Construction work and equipment operations below the mean high-water line shall be minimized to the extent feasible, and, where possible, shall be limited to times when tidal waters have receded from the authorized work areas.
2. All work shall be performed during favorable tidal, ocean, wind, and weather conditions that will enhance the ability to contain and remove, to the maximum extent feasible, construction and demolition debris.
3. Equipment or construction materials not essential for construction work shall not be allowed at any time in the intertidal zone.
4. The footprint of areas within which demolition and construction activities are to take place (including staging and storage of equipment, materials, and debris; and equipment fueling and maintenance) shall be minimized to

the extent feasible, to minimize impacts on the marine environment. Construction activities shall be prohibited outside of designated construction, staging, storage, and maintenance areas.

5. Vegetable-oil-based hydraulic fluids shall be used in heavy equipment used in construction lasting one week or longer overwater or adjacent to coastal waters, if feasible.
6. Biodiesel fuel shall be used in heavy equipment used in construction lasting one week or longer overwater or adjacent to coastal waters, if feasible.
7. All work shall take place during daylight hours, and lighting of the shoreline and bay area is prohibited.

iv. Stockpile and Debris Management

1. All demolition and construction materials, equipment, debris, and waste shall be properly stored and contained, and shall not be placed or stored where it may be subject to wave, wind, rain, or tidal dispersion, to prevent pollutants from entering coastal waters, sensitive habitats, and the storm drain system.
2. All stockpiles, construction materials, and demolition debris shall be enclosed on all sides, covered during rain events, and not stored in contact with the soil, and shall be located a minimum of 50 feet from coastal waters, sensitive habitat, and storm drain inlets.
3. Sediment control BMPs shall be installed at the perimeter of staging and storage areas, to prevent sediment in runoff from construction-related activities from entering coastal waters.
4. Demolition or construction debris and sediment shall be removed from work areas each day that demolition or construction occurs, to prevent the accumulation of debris, sediment, and other pollutants that may potentially be discharged into coastal waters.
5. All trash and debris shall be disposed of in the proper trash and recycling receptacles at the end of every construction day.
6. The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, produced during

demolition or construction.

7. All debris resulting from demolition or construction activities, and any remaining construction materials, shall be removed from the project site within 24 hours of completion of the project.
 8. Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required.
- v. Spill Prevention and Equipment Maintenance
1. Spill prevention and control measures shall be implemented to ensure the proper handling and storage of construction products or materials that may have adverse environmental impacts. The discharge of any construction products or materials into coastal waters shall be prohibited.
 2. Leaks or spills of fuel, oil, grease, lubricants, hydraulic fluid, chemicals, preservatives, paints, or other construction products or materials shall be immediately contained on-site and disposed of in an environmentally safe manner as soon as feasible.
 3. Construction vehicles, machinery and equipment operating at the project site shall be inspected daily to ensure there are no leaking fluids and shall be serviced immediately if a leak is found. Reasonable and prudent measures shall be undertaken to prevent any discharge of fuel or oily waste from heavy machinery or construction equipment into coastal waters. The applicants shall have adequate equipment and materials available to contain any such spill immediately.
 4. Fueling and maintenance of construction equipment and vehicles shall be conducted off-site, if feasible. Any fueling and maintenance of mobile equipment conducted on site shall take place at a designated area located at least 50 feet from coastal waters, sensitive habitat, and storm drain inlets (unless these inlets are blocked to protect against fuel spills). The fueling and maintenance area shall be designed to fully contain any spills of fuel, oil, or other contaminants.

Equipment that cannot be feasibly relocated to a designated fueling and maintenance area (such as cranes) may be fueled and maintained in other areas of the site, if procedures are implemented to fully contain any potential spills.

5. Equipment, machinery, and vehicles shall be washed only in designated areas specifically designed to contain runoff and prevent discharges into coastal waters. Thinners, oils, and solvents shall not be discharged into the sanitary sewer or storm drain systems. The applicant shall submit evidence that the approved water quality plan has been incorporated into construction bid documents.

6. Nesting Bird Survey.

- a. Should tree removal occur during the bird nesting season, February 15 to September 15, a qualified biologist with experience in conducting bird surveys shall conduct a survey no more than 72 hours prior to removal of the tree in order to determine the presence or absence of nesting birds. If any active nests are detected, the tree will be flagged and mapped, and removal of the tree will be prohibited until the nesting cycle is complete.

SHEET INDEX		
SHEET NO.	DISCIPLINE CODE	TITLE
01-02	TS01-02	TITLE SHEET
03	TS03	KEY MAP AND ACCESSIBILITY PLAN
04-05	C101-02	DEMOLITION PLAN
06-11	C201-06	GRADING AND SURFACING PLAN
12-14	C207-09	ENLARGEMENT DETAIL PLAN
15-16	C210-11	DETAILS
17-20	C300-03	BMP PLAN FOR PRIORITY DEVELOPMENT PROJECTS
21-23	C401-03	STRIPING AND SIGNAGE PLAN
24-29	C501-06	HORIZONTAL CONTROL PLAN
30-34	L000-04	LANDSCAPE/IRRIGATION EX. CONDITIONS AND DEMO. PLANS
35	L005	LANDSCAPE/IRR. EX. CONDITIONS AND DEMO. PLANS, NOTES
36-40	L100-04	LANDSCAPE CONSTRUCTION PLAN
41	L105	LANDSCAPE CONST. PLAN, NOTES, INCLUSIVE PLAY TABLE
42-43	L106-07	LANDSCAPE CONST. MATERIAL AND FINISH SCHEDULE
44-52	L108-16	LANDSCAPE CONSTRUCTION DETAILS
53-57	L200-04	IRRIGATION PLAN
58	L205	IRRIGATION PLAN, NOTES
59	L206	IRRIGATION LEGEND
60	L207	IRRIGATION CALCULATIONS
61-65	L300-04	PLANTING PLAN
66	L305	PLANTING PLAN, NOTES
67	L306	PLANTING LEGEND, PLANTING MATERIALS AND FINISH SCHEDULE, PLANTING DETAILS
68	A001	DEMO PLANS AND SECTIONS
69	A101	FLOOR PLAN
70	A110	REFLECTED CEILING PLAN
71	A120	ROOF PLAN
72	A201	BUILDING ELEVATIONS
73	A301	BUILDING SECTIONS
74-75	A401-02	WALL SECTIONS
76	A601	DOOR, LOUVER, AND FINISH SCHEDULE
77-80	A901-04	ACCESSIBILITY DETAILS, EXTERIOR DETAILS, WALL DETAILS, DOOR AND LOUVER DETAILS
81	M101	MECHANICAL FLOOR PLAN
82	P001	PLUMBING FIXTURE SCHEDULE / LEGEND
83	P101	PLUMBING FLOOR PLAN AND DIAGRAM
84	P301	PLUMBING FIXTURE SCHEDULE / LEGEND
85	S100	GENERAL STRUCTURAL NOTES
86-87	S101-02	QUALITY ASSURANCE PLAN AND NOTES
88	S201	COMFORT STATION FOUNDATION AND FLOOR PLAN
89	S202	COMFORT STATION ROOF FRAMING PLAN & ELEVATION
90	S203	COMFORT STATION SECTIONS
91	S301	TRASH ENCLOSURE PLANS AND DETAILS
92	S401	CMU DETAILS
93-94	S402-03	STRUCTURAL DETAILS
95	S501	BASKETBALL COURT PT SLAB PLAN AND DETAILS
96	E001	ELECTRICAL LEGEND AND GENERAL NOTES
97	E002	SINGLE LINE DIAGRAM
98	E003	PANEL SCHEDULES
99	E004	LIGHT FIXTURE SCHEDULE, ELECTRICAL DETAILS
100-102	E101-03	PARTIAL ELECTRICAL SITE PLAN
103	E201	RESTROOM AND PUMP STATION ELECTRICAL DEMOLITION PLAN
104	E301	RESTROOM AND PUMP STATION LIGHTING PLAN - NEW WORK
105	E401	RESTROOM AND PUMP STATION POWER PLAN - NEW WORK
106	E402	RR. AND PUMP STATION ENLARGED POWER PLAN - NEW WORK
107-108	E501-02	B-BALL, WALKWAY, COMFORT STATION LIGHTING, PHOTOMET.
109-113	E601-05	TITLE 24 FORMS

DISCIPLINE CODE:
TS - TITLE, C - CIVIL, L - LANDSCAPE, A - ARCHITECTURAL, P - PLUMBING, S - STRUCTURAL, E - ELECTRICAL/LIGHTING

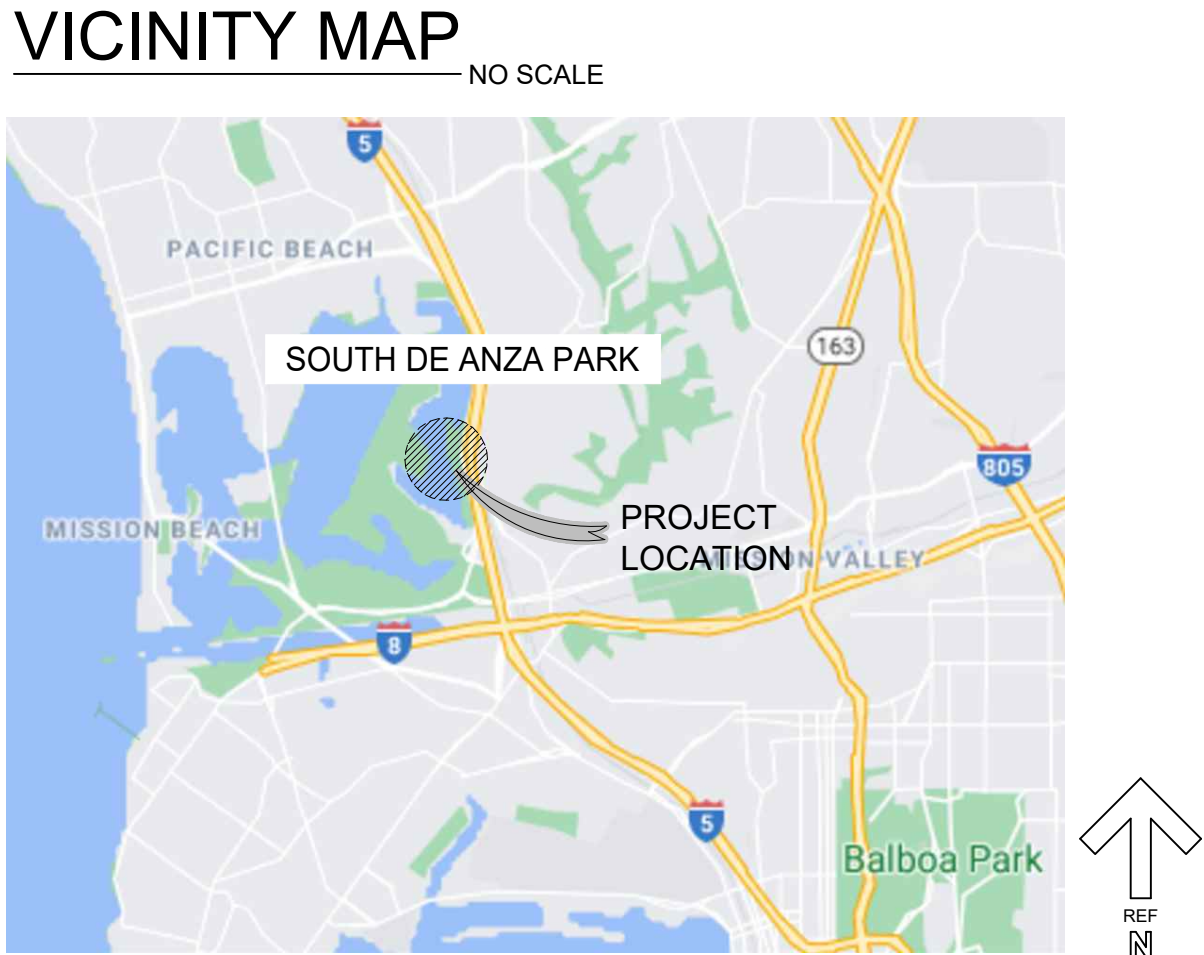
CONSTRUCTION CHANGE			
CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVED NO.
1	12/24/24	E004	



AS-BUILT INFORMATION	

IMPROVEMENT PLANS FOR SOUTH DE ANZA PARK IMPROVEMENTS

A PART OF MISSION BAY PARK
2688 E MISSION BAY DR, SAN DIEGO, CA



CONTRACTOR'S RESPONSIBILITIES

- CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING: SAFETY OF ALL PERSONS AND PROPERTY, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- CONTRACTOR SHALL INSTALL TEMPORARY FENCING AROUND AREAS OF DISTURBANCE DURING CONSTRUCTION. INSTALLATION OF TEMPORARY FENCING SHALL NOT DETER OR HINDER ACCESS TO EXISTING AND NEW FIRE HYDRANTS. FENCING SHALL BE MAINTAINED IN A GOOD CONDITION AND IF DAMAGED, THE CONTRACTOR SHALL REPAIR IMMEDIATELY. CONTRACTOR SHALL REMOVE FENCING UPON THE COMPLETION OF THE WORK AND REPAIR DAMAGE CAUSE BY THE INSTALLATION OF TEMPORARY FENCING.
- PURSUANT TO SECTION 4216 OF THE CALIFORNIA GOVERNMENT CODE, AT LEAST THREE (3) WORKING DAYS PRIOR TO EXCAVATION, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (E.G., UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA) AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER.
- NOTIFY SDG&E AT LEAST TEN (10) WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SDG&E UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES. (I.E., 69 KV & HIGHER)

MONUMENTATION/SURVEY NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEY MONUMENTS AND / OR VERTICAL CONTROL BENCHMARKS WHICH ARE DISTURBED OR DESTROYED BY CONSTRUCTION. A LICENSED LAND SURVEYOR OR LICENSED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA SHALL FIELD LOCATE, REFERENCE, AND / OR PRESERVE ALL HISTORICAL OR CONTROLLING MONUMENTS PRIOR TO ANY EARTHWORK, DEMOLITION, OR SURFACE IMPROVEMENTS. IF DESTROYED, A LICENSED LAND SURVEYOR SHALL REPLACE SUCH MONUMENT(S) WITH APPROPRIATE MONUMENTS, WHEN SETTING SURVEY MONUMENTS USED FOR RE-ESTABLISHMENT OF THE DISTURBED CONTROLLING SURVEY MONUMENTS AS REQUIRED BY SECTIONS 6730.2 AND 8771 OF THE BUSINESS AND PROFESSIONALS CODE OF THE STATE OF CALIFORNIA, A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILLED WITH THE COUNTY SURVEYOR. IF ANY VERTICAL CONTROL IS TO BE DISTURBED OR DESTROYED, THE CITY OF SAN DIEGO FIELD SURVEY SECTION SHALL BE NOTIFIED IN WRITING AT LEAST 7 DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REPLACING ANY VERTICAL CONTROL BENCHMARKS DESTROYED BY CONSTRUCTION.

DECLARATION OF RESPONSIBLE CHARGE

* I HEREBY DECLARE THAT I AM THE LANDSCAPE ARCHITECT OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH THE CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS LANDSCAPE ARCHITECT OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

P.L.A. NO. 4915  EXP. 02-28-25 DATE 09-06-24

FIELD DATA

BENCHMARK: THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTHWEST BRASS PLUG AT THE ENTRANCE TO COMFORT STATION AT THE INTERSECTION OF EAST MISSION BAY DRIVE AND CLAIREMONT DRIVE.

ELEVATION TAKEN AS: 13.478 FEET M.S.L.

BASIS OF BEARING: THE BASIS OF HORIZONTAL COORDINATES FOR THIS SURVEY IS THE NORTH AMERICAN DATUM OF 1983 (EPOCH 1991.35) BASED LOCALLY UPON THE FOLLOWING CONTROL MONUMENTS NO. 1905 AND 1907 PER RECORD OF SURVEY NO. 14492, BEARING TAKE AS: NORTH 02°29'12" WEST. QUOTED BEARINGS FROM REFERENCE MAPS/DEEDS MAY OR MAY NOT BE IN TERMS OF SAID SYSTEM.

TOPOGRAPHIC SOURCE: FIELD SURVEY BY RANCHO LAND CO., DATE: 06/30/2021

PROJECT DIRECTORY

OWNER/APPLICANT:
CITY OF SAN DIEGO
ENGINEERING & CAPITAL PROJECTS
525 B STREET, 750 MS908A, SAN DIEGO, CA 92101
P: (619) 533-4688
PROJECT MANAGER: FRANCIS MARQUEZ (FMARQUEZ@SANDIEGO.GOV)
PRIME CONSULTANT:
KTUA
3916 NORMAL STREET, SAN DIEGO, CA 92103
P: (619) 294-4477, EXT 129
CONTACT: JEROD HUWA (JEROD@KTUA.COM)
CIVIL ENGINEER:
NASLAND ENGINEERING
4740 RUFFNER STREET, SAN DIEGO, CA 92111
P: (858) 292-7770
CONTACT: JARRETT LINN (JARRETTL@NASLAND.COM)
ARCHITECT:
PLATT WHITELAW ARCHITECTS, INC.
2251 SAN DIEGO AVENUE, SUITE B-250, SAN DIEGO, CA 92210
P: (619) 546-4326
CONTACT: PETER SOUTOWOOD (PSOUTOWOOD@PLATTWHITELAW.COM)
STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
10650 TRENA ST., SUITE 208, SAN DIEGO, CA 92131
P: (858) 842-1674
CONTACT: JOE WENDT (JOE.WENDT@PSENGINEERS.COM)
ELECTRICAL ENGINEER:
ELECTRICAL DESIGN, INC.
9845 ERMA ROAD, SAN DIEGO, CA 92131
P: (858) 564-8985
CONTACT: EDDIE DAVID (EDAVID@EDI-ENGINEERS.COM)
GEOTECHNICAL ENGINEER:
NOVA SERVICES, INC.
4373 VIEWRIDGE AVE., SUITE B, SAN DIEGO, CA 92123
P: (858) 292-7575
CONTACT: DARIUS MITCHELL (DMITCHELL@USA-NOVA.COM)
SURVEYOR:
RANCHO LAND CO.
406 16TH STREET SUITE #102, RAMONA, CA 92065
P: (760) 788-1530
CONTACT: CASEY LYNCH (CLYNCH@RANCHOLANDCO.COM)

SPECIAL INSPECTIONS

- CONCRETE PER SHEET S101
- FABRICATORS PER SHEET S101
- DEFERRED SUBMITTALS PER SHEET S101
- SUBMITTALS TO THE BUILDING OFFICIAL PER SHEET S101
- SOILS/GEOTECHNICAL PER SHEET S101
- MASONRY PER SHEET S102
- STEEL PER SHEET S102
- POST TENSION SLAB/CLOSURE STRIP/COMFORT STATION INSPECTIONS, PER SHEETS S101 AND S102
- FOOTING INSTALLATION PROCESS
- PLAY SURFACING TESTING PER SPECS SECTION 219-1.3 (CONDUCTED BY A TECHNICIAN CERTIFIED BY THE MANUFACTURER OF THE TESTING EQUIPMENT USED)
- PLAY AREA AUDIT BY INDEPENDENT, 3RD PARTY PER SPECS SECTION 219-1.3

NOTE: PLAY EQUIPMENT AND STRUCTURES (INCLUDING FOOTINGS, POSTS, DECKING, SAILS, CABLES, FABRIC, FASTENERS, WELDS, ETC.) SHOWN ON SHEET L116, INCLUDING 2-5 AND 5-12 YEAR OLD PLAY STRUCTURES SHOWN IN DETAILS E AND F ON SHEET 113, SHALL NOT BE REVIEWED BY DSD AS PART OF THIS SUBMITTAL.

WORK TO BE DONE

PLANS, NOTES, DETAILS AND SPECIFICATIONS FOR THE DEVELOPMENT OF SOUTH DE ANZA PARK. IMPROVEMENTS SHALL INCLUDE ACCESSIBLE CAST-IN-PLACE CONCRETE PAVING, ACCESSIBLE PLAYGROUND AND PLAYGROUND SURFACING, ACCESSIBLE SHARED USE PATH, COMFORT STATION, LIGHTING, BASKETBALL COURTS, PLANTING, IRRIGATION, STORMWATER, TRASH ENCLOSURE, SITE FURNISHINGS, AND OTHER ITEMS AS SHOWN WITHIN SUPPORTING CONSTRUCTION BID DOCUMENTS.

ASSESSORS PARCEL NUMBER

PORTION OF APN 435-480-17, PORTION OF UNASSIGNED TIDELANDS

LEGAL DESCRIPTION

A PORTION OF MISSION BAY TIDELANDS PER ROS 16891, PORTION OF LOT 256 OF SUBDIVISION MAP MM0036

PROJECT DATA

CONDITION OF SOIL: UNDOCUMENTED FILL
LANDSCAPE AREA SQUARE FOOTAGE: 87,513 SQUARE FEET
TOTAL AREA OF DISTURBANCE: 4.15 ACRES

REFERENCE DRAWINGS

- AS-BUILT DRAWINGS FOR CITY WIDE PUMP STATION UPGRADES PROJECT: DRAWING NO. 33258-D
- REFERENCE DRAWING NO. 12999-D

CODES AND STANDARDS

- FEDERAL: AMERICAN WITH DISABILITIES ACT (ADA), TITLE II REGULATIONS CFR 28 PART 35 AND 35.151. INCLUDING THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN (APPENDIX A OF 28 CFR PART 36)
- STATE: 2022 CALIFORNIA BUILDING CODE (CBC), PART 2, CBSC (2019 IBC & CALIFORNIA AMENDMENTS) (TITLE 24)

STANDARD SPECIFICATIONS

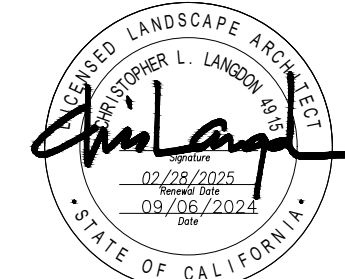
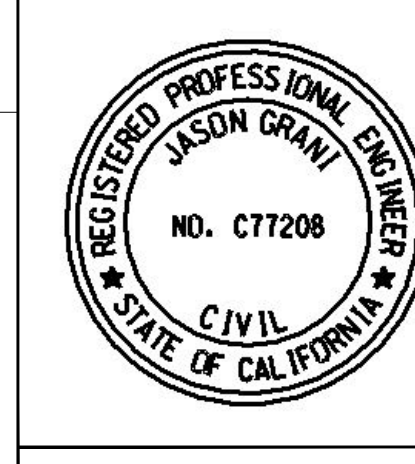
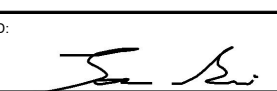
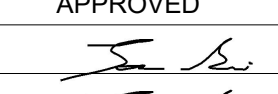
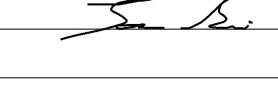
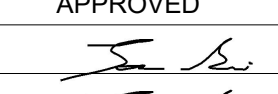
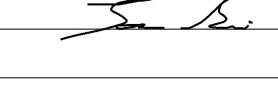
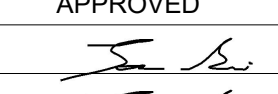
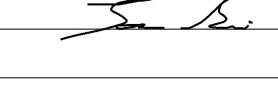
DOCUMENT NO.	DESCRIPTION
ECPI010122-01	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK), 2021 EDITION
ECPI010122-02	CITY OF SAN DIEGO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (WHITEBOOK), 2021 EDITION
PWPI010119-04	CITYWIDE COMPUTER AIDED DESIGN AND DRAFTING (CADD) STANDARDS, 2018 EDITION
ECPD032324-07	CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES REVISION 8(CA MUTCD REV8), 2014 EDITION
ECPD092023-05	CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS, 2018 EDITION

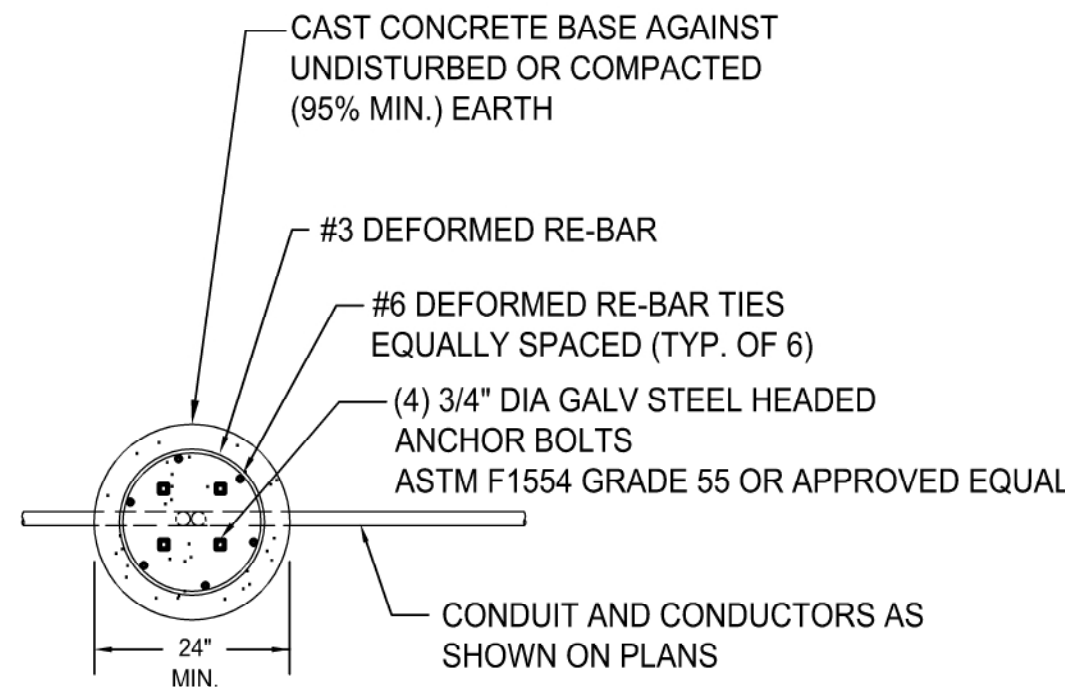
STANDARD DRAWINGS

DOCUMENT NO.	DESCRIPTION
ECPI010122-03	CITY OF SAN DIEGO STANDARD DRAWINGS, 2021 EDITION
ECPD092023-06	CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S CUSTOMARY STANDARD PLANS, 2023 EDITION

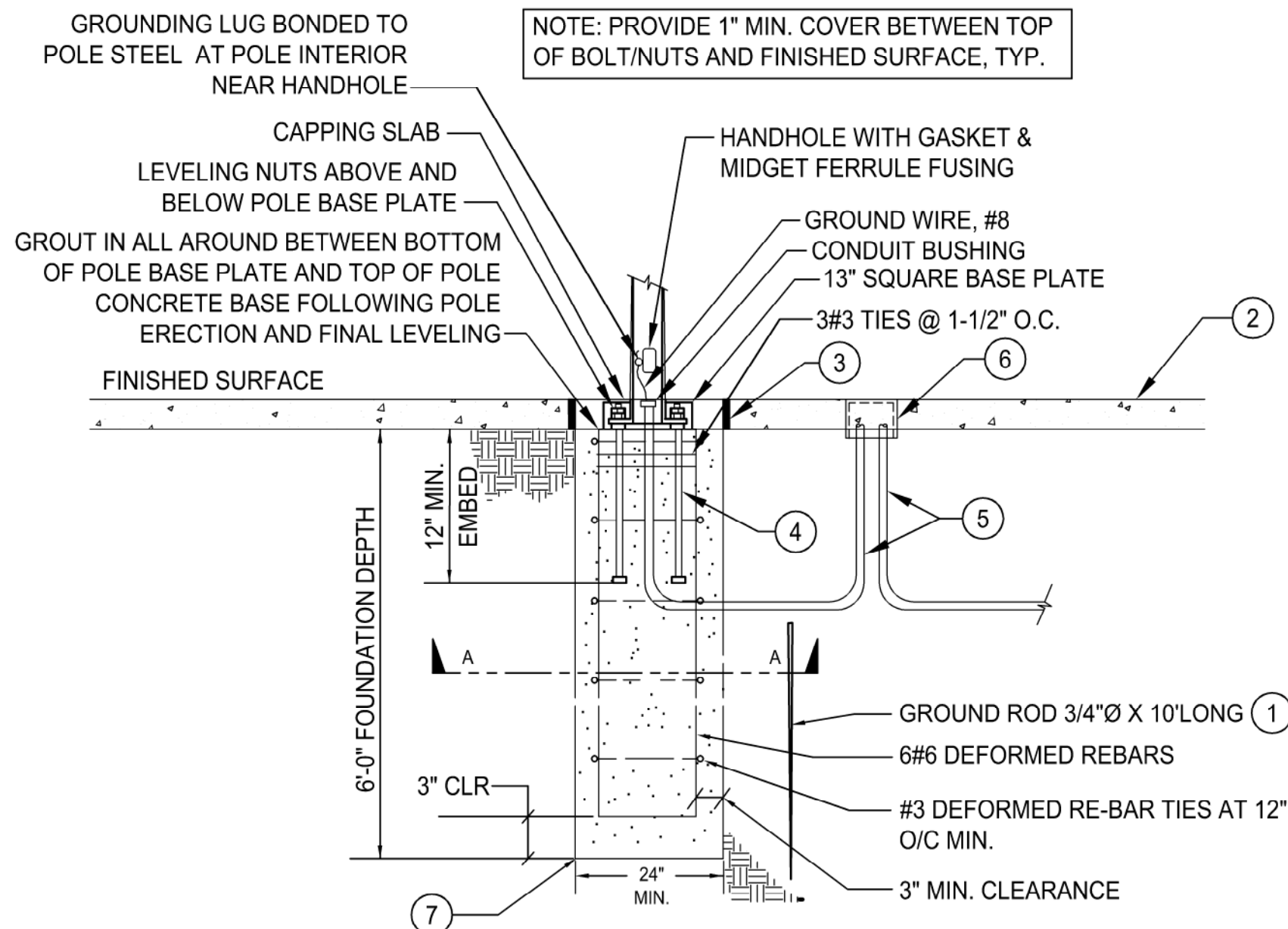
TEMPORARY PATH OF TRAVEL / PHASING / SAFETY PLAN

- CONTRACTOR IS RESPONSIBLE FOR PROVIDING A CONTINUOUS PATH OF TRAVEL FROM NORTH TO SOUTH ACROSS THE SITE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
- TEMPORARY PATH OF TRAVEL SHALL BE 4' WIDE MINIMUM AND MAY BE CREATED FROM STABILIZED DECOMPOSED GRANITE, ACCESS MATS, OR OTHER MATERIAL AS APPROVED BY RESIDENT ENGINEER. TEMPORARY PATH IS REQUIRED TO BE ACCESSIBLE. ACCESS MAT SHALL BE GRASS MAT (6' WIDE) BY ACCESS REC OR APPROVED EQUAL (WWW.ACCESSREC.COM/GRASSMAT)
- ALL PLANTING AND IRRIGATION DISTURBED BY THE TEMPORARY PATH OF TRAVEL SHALL BE REPLACED IN KIND. IF IRRIGATION IS INTERRUPTED / TURNED OFF DUE TO TEMPORARY PATH PLACEMENT, ENTIRE IRRIGATION ZONE SHALL BE HAND WATERED.
- CONTRACTOR SHALL PROVIDE DIRECTIONAL SIGNAGE INDICATING DIRECTION OF ACCESSIBLE PATH OF TRAVEL FOR BIDDING PURPOSES. ASSUME EIGHT (8) TEMPORARY DIRECTIONAL SIGNS WHICH SHALL BE REMOVED PRIOR TO SUBSTANTIAL COMPLETION.
- CONTRACTOR SHALL PROVIDE SHOP DRAWINGS ILLUSTRATING A CONSTRUCTION PHASING PLAN, A SAFETY PLAN, AND THE PROPOSED PATH OF ACCESSIBLE TRAVEL, DIRECTIONAL SIGNAGE, MATERIALS, PROPOSED AREAS OF PLANTING AND IRRIGATION DISTURBANCE/REPAIR, AND PATHWAY PHASING FOR REVIEW AND APPROVAL BY RESIDENT ENGINEER.

<div>WARNING</div> <div>0 1/2 1</div> <div>IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.</div>		<div>PLANS FOR THE CONSTRUCTION OF SOUTH DE ANZA PARK IMPROVEMENTS</div> <div>TITLE SHEET</div>																
CONSULTANT	SPEC. NO 2349	CITY OF SAN DIEGO, CALIFORNIA ENGINEERING & CAPITAL PROJECTS DEPARTMENT SHEET 01 OF 113 SHEETS																
<div>ktua</div> <div>3916 Normal Street San Diego, CA 92103 619.294.4477 www.ktua.com</div> <div>SIGNING:</div> <div></div>	<div></div>	APPROVED:  12/10/2024 ENGINEER OF WORK AND FOR CITY ENGINEER DATE																
		JASON GRANI PRINT EOW / DCE 77208 RCE#																
		<table><tr><th>DESCRIPTION</th><th>BY</th><th>APPROVED</th><th>DATE</th><th>FILMED</th></tr><tr><td>ORIGINAL</td><td>KTUA</td><td></td><td>12/10/24</td><td></td></tr><tr><td>ADDENDUM 1</td><td>KTUA</td><td></td><td>12/30/24</td><td></td></tr></table>		DESCRIPTION	BY	APPROVED	DATE	FILMED	ORIGINAL	KTUA		12/10/24		ADDENDUM 1	KTUA		12/30/24	
		DESCRIPTION	BY	APPROVED	DATE	FILMED												
		ORIGINAL	KTUA		12/10/24													
ADDENDUM 1	KTUA		12/30/24															
<table><tr><td>DRAWING NO.</td><td rowspan="2">TS01</td></tr><tr><td>0100358- 01 -D</td></tr></table>		DRAWING NO.	TS01	0100358- 01 -D														
DRAWING NO.	TS01																	
0100358- 01 -D																		
CONTRACTOR _____ NTP DATE _____ INSPECTOR _____ NOC DATE _____																		



SECTION A-A



SECTION VIEW

POLE BASE DETAIL - TYPES F1, F2, F3 & F7

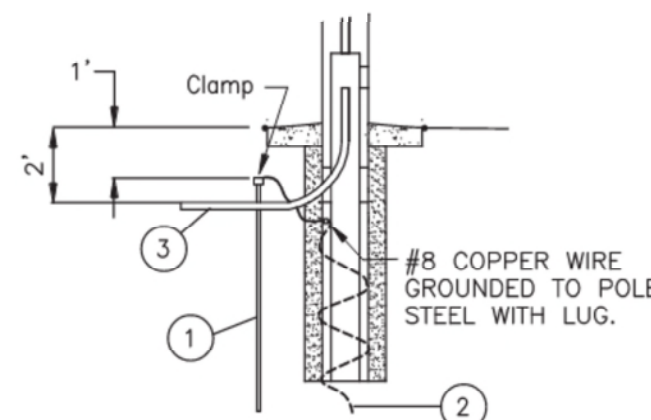
SCALE: NOT TO SCALE

KEY NOTES:

- 1 PROVIDE GROUND ROD OR CONCRETE-ENCASED ELECTRODE [CEC 250.52(A)(3)] TO SERVE AS AUXILIARY GROUNDING ELECTRODE [CEC 250.54]. THE AUXILIARY GROUNDING ELECTRODE IS NOT PERMITTED NOR INTENDED TO BE USED IN LIEU OF THE EQUIPMENT GROUNDING CONDUCTOR (EGC). PROVIDE EGC PER CEC 250 PART VI.
- 2 CONCRETE SURFACE. REFER TO CIVIL & STRUCTURAL DRAWINGS FOR THICKNESS, REBAR, ETC. REFER TO LANDSCAPE DRAWINGS FOR COURT SURFACING, CONCRETE COLORS AND FINISHES.
- 3 EXPANSION JOINT PER LANDSCAPE CONSTRUCTION PLANS, SHEET L112.
- 4 (4) 3/4\"/>
- 5 PVC SCHEDULE 40 CONDUITS AS INDICATED ON PLANS.
- 6 PROVIDE PULLBOX (HANDHOLE). COORDINATE EXACT LOCATION WITH CITY'S RESIDENT ENGINEER PRIOR TO INSTALLATION. REFER TO THE CITY OF SAN DIEGO STANDARD DRAWING SDL-105 FOR HANDHOLE LOCATION. FOR PULLBOX REQUIREMENTS, SEE DETAIL
- 7 CAST CONCRETE BASE AGAINST UNDISTURBED OR COMPACTED (95% MIN.) EARTH. REFER TO GEOTECH REPORT FOR SOILS CONDITION.

CONCRETE POLE NOTES:

1. MIXED (5731): BROWN CONROCK, EXPOSED AGGREGATE FINISH WITH AMERSHIELD ANTI-GRAFFITI COATING.
2. ASTM C-150 TYPE III GRAY CEMENT.
3. f_c @ 28 DAYS = 6,000 PSI, USING SPUN CYLINDER TEST.
4. f_c @ 28 DAYS = 5,000 PSI, USING ASTM C-31 CYLINDER TEST.
5. POLES MANUFACTURED PER ASTM C-1089-13 SPECIFICATIONS.
6. PROTECTIVE COAT EXPOSED P.C. WIRES AT POLE ENDS.
7. BASEPLATE (ASTM A36) IS FULLY PRESTRESSED WITH (4) 5/16\"/>
8. THE POLE (& IMPLIED TOP CAN ASSY) DEPICTED ON THIS DRAWING IS DESIGNED TO WITHSTAND THE LOADS IMPARTED BY A SINGLE LUMINAIRE ARM (NOT TO EXCEED 12\"/>
9. POLE SHOWN IS SUITABLE FOR CAPPED BASEPLATE (ENCASED IN CONCRETE). OTHERWISE, OTHER NON-CAPPED INSTALLATION REQUIRES A GALVANIZED BASEPLATE.

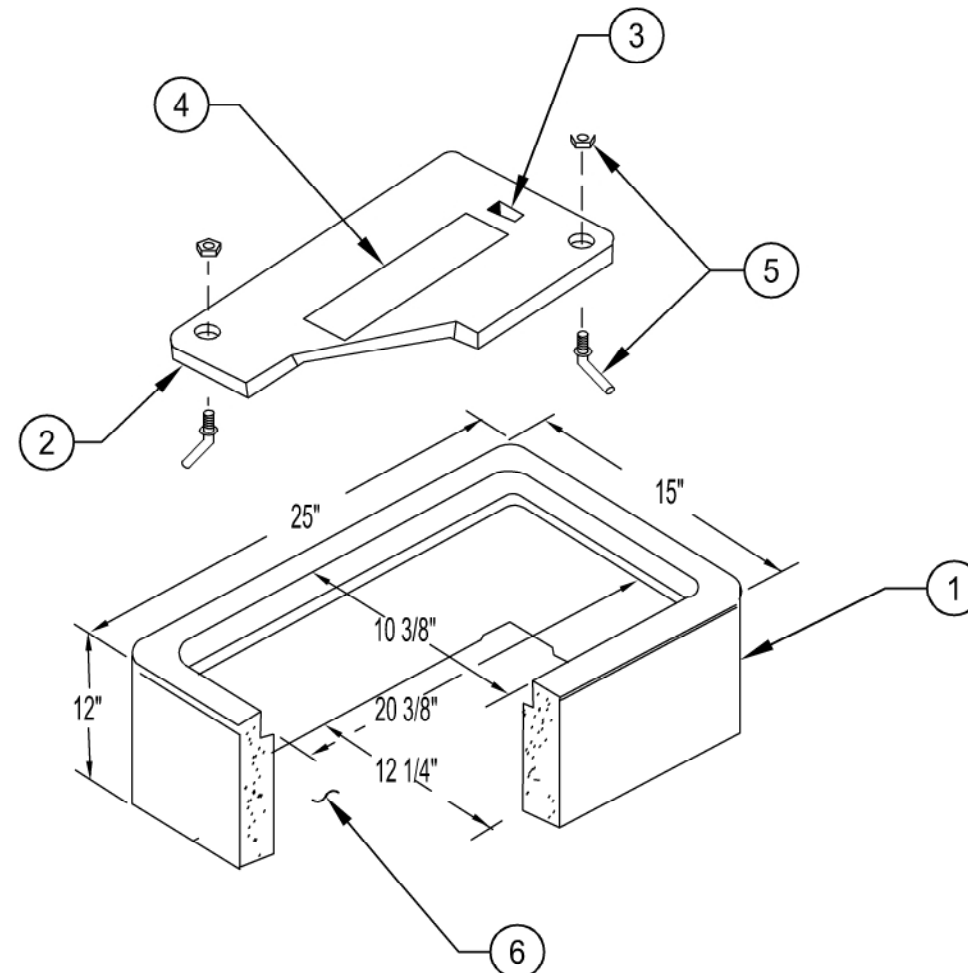


CONCRETE POLE GROUNDING DETAIL

SCALE: NOT TO SCALE

KEY NOTES:

- 1 3/4\"/>
- 2 ALTERNATE GROUND: 15\"/>
- 3 PVC SCHEDULE 40 CONDUIT.

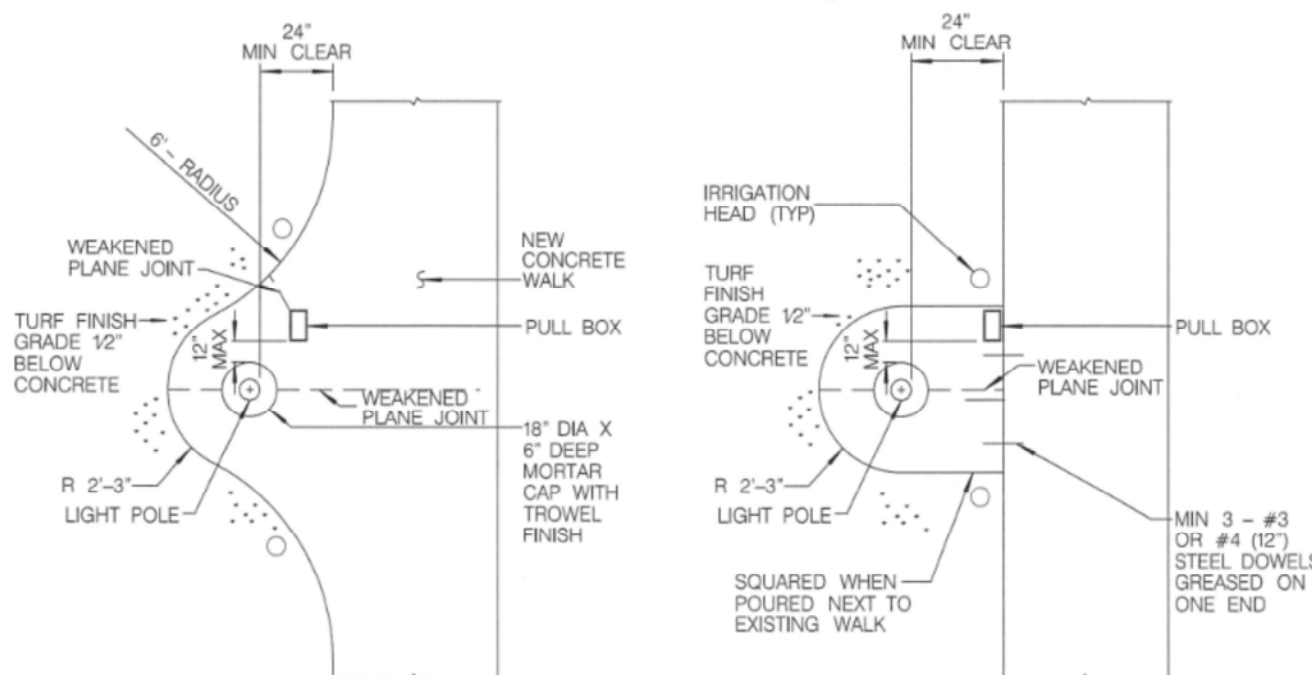


PULLBOX (HANDHOLE) DETAIL

SCALE: NOT TO SCALE

KEY NOTES:

- 1 PRECAST CONCRETE PULLBOX WITH SOLID BOTTOM, REINFORCED FOR H20 BRIDGE LOADING.
- 2 CONCRETE TRAFFIC-RATED COVER.
- 3 LIFTING HOLE.
- 4 PROVIDE IDENTIFICATION "ELECTRICAL", ON COVER IN 1\"/>
- 5 TAMPERPROOF STAINLESS STEEL HEAD NUT AND SWING BOLT (2 REQUIRED).
- 6 PROVIDE MINIMUM 8\"/>













NOTES:

1. USE MONOLITHIC PLACEMENT FOR NEW CONSTRUCTION.
2. POLE PADS SHALL DRAIN AT 1.5% MINIMUM IN SAME DIRECTION AS SIDEWALK.
3. CONCRETE PAD SHALL BE THE SAME AS SPECIFIED FOR SIDEWALK.
4. LOCATE LIGHT POLES OUTSIDE OF TURF AREAS AND AWAY FROM TREES AS APPROVED BY THE ENGINEER UNLESS SPECIFIED OTHERWISE.
5. PULL BOX WITH BOLT-DOWN LID MINIMUM 6\"/>
6. IRRIGATION HEAD SHALL BE CLEAR OF CONCRETE WALK OR PAD PER SECTION 601-5.2 OF THE WHITEBOOK.

LIGHT POLE PAD IN TURF AREA DETAIL

SCALE: NOT TO SCALE

LIGHTING FIXTURE SCHEDULE											
TYPE	SYMBOL	WATT	VOLT	LAMP	DESCRIPTION	BALLAST/DRIVER		MANUFACTURER AND CATALOG NUMBER	MOUNTING		
				#		TYPE					
F1		570	240	70,000 LUMEN LED 2700K	SINGLE POLE-MOUNTED LED BASKETBALL COURT FLOODLIGHT WITH MIDGET FERRULE FUSING AT THE POLE BASE	1	0-10V DIMMING DRIVER	G.E. EVOLVE EALP-03-3-QX-AW-7-30-N-A-D1-DKBZ-F POLE: AMERON 2B224 OR EQUAL	20'-0" CONCRETE POLE WITH FOOTING BELOW GRADE		
F2		1140	240	70,000 LUMEN LED 2700K	DUAL POLE-MOUNTED LED BASKETBALL COURT FLOODLIGHT WITH MIDGET FERRULE FUSING AT THE POLE BASE	1	0-10V DIMMING DRIVER	G.E. EVOLVE EALP-03-3-QX-AW-7-30-N-A-D1-DKBZ-F POLE: AMERON 2B224 OR EQUAL	20'-0" CONCRETE POLE WITH FOOTING BELOW GRADE		
F3		60	120	6035 LUMEN LED 2700K	SINGLE POLE-MOUNTED LED AREA LIGHT ON 12" ROUND CONCRETE POLE WITH INTEGRAL DIMMING AND OCCUPANCY SENSOR (OUTSIDE COMFORT STATION)	1	0-10V DIMMING DRIVER	STERNBERG LIGHTING 1A-1480LED-1L30-MDL10-A-PE-DBT POLE: AMERON 7B215 OR EQUAL	15'-6" CONCRETE POLE WITH FOOTING BELOW GRADE		
F4		15	120	15W LED 3000K	16"X16" SURFACE LED FIXTURE WITH POLYCARBONATE PRISMATIC LENS FOR HIGH ABUSE ENVIRONMENT APPLICATION (RESTROOMS)	1	CONSTANT CURRENT DIMMING DRIVER	KENALL LIGHTING MS15FD-PP-DB-15L30K-120 OR EQUAL	CEILING SURFACE		
F4E		15	120	15W LED 3000K	16"X16" SURFACE LED FIXTURE WITH POLYCARBONATE PRISMATIC LENS AND INTEGRAL BATTERY BACKUP FOR HIGH ABUSE ENVIRONMENT APPLICATION (RESTROOMS)	1	0-10V DIMMING DRIVER	KENALL LIGHTING MS15FD-PP-DB-15L30K-120-LEL OR EQUAL	CEILING SURFACE		
F5		45	120	45W LED 3000K	5"X48" PENDANT MOUNTED LED FIXTURE WITH ONE-PIECE SEAM WRAPAROUND POLYCARBONATE LENS (ELECT. MAINT, PLUMBING CHASE)	1	0-10V DIMMING DRIVER	KENALL LIGHTING SH548-45L30K-DCC-120-PM OR EQUAL	PENDANT WITH BOTTOM OF FIXTURE AT 8'-0" AFF		
F5E		45	120	45W LED 3000K	5"X48" PENDANT MOUNTED LED FIXTURE WITH ONE-PIECE SEAM WRAPAROUND POLYCARBONATE LENS AND INTEGRAL BATTERY BACKUP (ELECT ROOM)	1	0-10V DIMMING DRIVER	KENALL LIGHTING SH548-45L30K-DCC-120-LEL-PM OR EQUAL	PENDANT WITH BOTTOM OF FIXTURE AT 8'-0" AFF		
F6E		30	120	2800 LUMEN LED 5700K	735mm X 183mm X 130mm (LxWxH) CLASS 1 DIV 2 LED FIXTURE RATED FOR HAZARDOUS LOCATIONS WITH INTEGRAL BATTERY PACK (PUMP ROOM)			CROUSE-HINDS HLL-2-3L-D-EM1 OR EQUAL	WALL SURFACE		
F7		70	240	9900 LUMEN LED 2700K	SINGLE POLE-MOUNTED LED AREA LIGHT ON 15'-8" ROUND CONCRETE POLE WITH INTEGRAL DIMMING AND OCCUPANCY SENSOR, MIDGET FERRULE FUSING AT THE POLE BASE, G.E. WIRELESS NODE, TYPE III DISTRIBUTION, B2-U0-G2 (SIDEWALK EAST OF PLAYGROUND)	1	0-10V DIMMING DRIVER	G.E. EVOLVE EACL-01-3-D3-AW-7-30-N-A-D1-DKBZ-H4-F POLE: AMERON 7B215 OR EQUAL	15'-6" CONCRETE POLE WITH FOOTING BELOW GRADE		
F8		70	240	9900 LUMEN LED 2700K	SINGLE POLE-MOUNTED LED AREA LIGHT ON EXISTING 20'-0" CONCRETE POLE WITH INTEGRAL DIMMING AND OCCUPANCY SENSOR, MIDGET FERRULE FUSING AT THE POLE BASE, G.E. WIRELESS NODE, TYPE III DISTRIBUTION, B2-U0-G2 (EXISTING WALKWAY)	1	0-10V DIMMING DRIVER	G.E. EVOLVE EACL-01-3-D3-AW-7-30-N-A-D1-DKBZ-H4-F OR EQUAL	MOUNT ON EXIST. 20'-0" CONCRETE POLE		

THE AFFIXED SIGNED PE STAMP VALIDATES THE DRAWING HAS BEEN REVIEWED BY PSE AND IS IN CONFORMANCE WITH THE STRUCTURAL DESIGN INTENT OF PSE'S STAMPED STRUCTURAL CALCULATIONS DATED 4/25/2024 FOR THE PROJECT. ELEMENTS NOT SPECIFICALLY REFERENCED IN PSE'S CALCULATIONS ARE OUTSIDE THE PURVIEW OF PSE'S REVIEW.

CONSULTANT

ELECTRICAL DESIGN, INC.
REGISTERED PROFESSIONAL ENGINEERS
1212 PLACER DR. SUITE 100, SAN DIEGO, CA 92109
Tel: (619) 564-8985

SIGNING:



CONTRACTOR
INSPECTOR

PLANS FOR THE CONSTRUCTION OF SOUTH DE ANZA PARK IMPROVEMENTS LIGHT FIXTURE SCHEDULE, ELECTRICAL DETAILS

WARNING

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1\"/>

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING & CAPITAL PROJECTS DEPARTMENT
SHEET 99 OF 113 SHEETS

WBS NO. B-19162
B-19172
B-19173

APPROVED: 12/10/2024
DATE
ENGINEER OF WORK AND FOR CITY ENGINEER

SUBMITTED BY: FRANCIS MARQUEZ
PROJECT MANAGER

JASON GRANI
PRINT EOW / DCE

CHECKED BY: SHANG AHMAD
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	KTUA		12/10/24	
ADDENDUM 1	KTUA		12/30/24	

4444-8407
NAD83 COORDINATES
214-1645
LAMBERT COORDINATES

DRAWING NO.

0100358- 99 -D

E004

CHANGED FIXTURES TO 2700K,
CHANGED FIXTURES TO 20' HEIGHT

ADDENDUM 1

Page 17 of 17

City of San Diego

CITY CONTACT: Antoinette Wynne, Contract Specialist, Email: ARWynne@sandiego.gov
Phone No. (619) 533-3638

ADDENDUM 2



FOR

SOUTH DE ANZA PARK IMPROVEMENTS

BID NO.:	K-25-2349-DBB-3
SAP NO. (WBS/IO/CC):	B-19162, B-19172, B-19173
CLIENT DEPARTMENT:	1714
COUNCIL DISTRICT:	2
PROJECT TYPE:	GA

BID DUE DATE:

**2:00PM
JANUARY 15, 2025**

CITY OF SAN DIEGO'S ELECTRONIC BIDDING SITE, PLANETBIDS

<http://www.sandiego.gov/cip/bidopps/index.shtml>

A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders are reminded that all previous requirements to this solicitation remain in full force and effect.

B. BIDDER'S QUESTIONS

Q1. If a single sub has both SLBE and ELBE certifications, will the sub count towards both the SLBE and ELBE participation percentages?

A1. No, a firm can only be classified as either an SLBE or an ELBE, not both simultaneously. SLBE/ELBE credit will be earned as long as the subcontractor is a certified SLBE/ELBE firm. Please note the overall goal can be met utilizing any combination of certified SLBE and ELBE firms.

Q2. Please clarify details regarding the City's provided survey services as described in the specifications (3-10.2). What is the extent of site layout that will be covered by the city? For example, would the city or the contractor assume responsibility for curb staking?

A2. The survey services provided by the City are limited to those listed in Section 3-10.2. The Contractor shall provide all required site layout and general grade checking work not specified in Section 3-10.2.

Q3. Please provide ratio for Pre-plant fertilizer as specified in 800-1.2.3.1 and Post-plant fertilizer as specified in 800-1.2.3.2 when applied to tree and shrubs.

A3. Pre-plant 6-20-20: For Bidding Purposes Only: 5 pounds per 1,000 sf in sod areas, 10 pounds per 1,000 sf in planting areas (shrub beds). See Specs 800-1.2.4 for "for bidding purposes only" as soils testing recommendations supersede these Bidding Purposes Only guidelines.

Post Plant 5-3-1: For Bidding Purposes Only: 30 pounds per 1,000 sf in sod areas, 3 handfuls per 5 gal. plant, 4 handfuls per 36" box tree. See Specs 800-1.2.4 for "for bidding purposes only" as soils testing recommendations supersede these Bidding Purposes Only guidelines.

Q4. Please provide the details and rates for soil preparation and backfill amendment materials and application rate for bidding purposes?

- A4. See Spec Section 800-1.2.4 for soil amendments, fertilizers, and application rates guidelines for bidding purposes only. See 2021 GREENBOOK Section 801 - Installation for "details" of application.
- Q5. In sheet L306, the cobble depth is shown as 4 inches. However, in detail 1/ C303, the depth is shown as 3 inches. Please clarify.
- A5. Per Sheet L306, 4" min. is correct.
- Q6. In detail 1/ C303, the depth for biofiltration media is shown as 18 inches. Meanwhile, section 1002-9.5/ 3a states that the depth is at least 19 inches. Please clarify.
- A6. The biofiltration media depth should follow the depth listed on the Plans at 18".
- Q7. In legend/ sheet 206, the size for the hunter flex pipe is 1/2 inch. However, the size called-out at bio-filtration area in sheet L201 is 3/4 . Please clarify.
- A7. Project is designed with 3/4" flex pipe supply pipe, which is to be transitioned down to 1/2" at each bio basin bubbler per detail A, Sheet L207.
- Q8. Refer to Irrigation Legend on Sheet L206, the remote control valve detail SDI-151 is not available in the CITY OF SAN DIEGO STANDARD DRAWINGS, 2021 EDITION. Could you provide this detail?
- A8. Please see SDW-151, not SDI-151.
- Q9. SDI-103 states that the depth for 12" pop-up bodies is 18 inches, whereas, SDI-110 states 15 inches for all lateral line. Please clarify.
- A9. 18" minimum pipe cover for 12" pop-up heads. 15" minimum cover for all other subsurface, trenched lateral line with shorter pop-up height.
- Q10. Refer to Irrigation Legend on Sheet L206: The detail SID-110 only shows mainline trenching. Could you confirm if all lateral lines and lateral line sleeves require sand backfill and warning/identification tape?
- A10. Detail is for PVC or copper pipe, is not specific to mainline. Lateral line and lateral line sleeve trenching: Per Consultant's Guide to Park Design

& Development, all main line and lateral line pipe shall be encased with SE 50 plaster or mortar sand. Warning/identification tape is required for all mainline, direct burial irrigation control wire, and spare/unused sleeves under pavement. Lateral lines are not required to have warning/identification tape.

Q11. Controller System: Could you confirm whether the existing and new controllers will use a 2-wire system or a conventional system? If a 2-wire system is used, please confirm if the valve decoder for the new RCV will be provided by the owner or the contractor.

A11. Project is designed with conventional wire, thus the question response is there are no decoders.

Q12. The 4-inch size for T113-K is not available. Please provide an alternative model.

A12. Cast iron gate valve shall be used for 4" & larger mainline. Clow, Mueller #100-011, or I.O.W.A. (per City's Approved Materials List).

Q13. Please specify the boundaries of work for the Playground and Site Accessibility, Basketball Court, Comfort Station, and Parking Lot as outlined in items 6, 7, and 8 of the Bid Form?

A13. Refer to Section 7-3.1 for the description of work included for Bid items 6, 7, and 8.

Q14. Refer to Specs Page 68, Attachment E, Section 7: Please confirm that all planting and irrigation system improvements shown on Plan sheets L200 through L207 and L300 through L306 are to be included under the Bid item "Construction of South De Anza Improvements – Playground and Site Accessibility" only.

A14. Planting and irrigation in and around the bio basin (L201 & L301) and Modular Wetland System (L204 & L304) will be included under the Bid item "Construction of South De Anza Improvements – Parking Lot".

Q15. Please clarify which item in the Bid Form covers the 90-day establishment period as mentioned in Note 1 on Plan sheet L306.

A15. Bid items 6 and 8 covers the 90-day Plant Establishment Period.

Q16. Please confirm if the contractor is required to furnish extra equipment as specified in White Book 2021, section 800-2.5.

A16. The extra irrigation equipment per 2021 WHITEBOOK 800-2.5 is required for any project with irrigation work. The extra equipment is only required for the portion of the irrigation system that is provided as part of the contract. Since no pump is provided, no pump keys are required. Everything else shall be provided.

Q17. Is there a waiver for PLA agreement requirement for ELBE subcontractors? (We pay our workers their fringe benefit amounts in every check and by bidding this project, we agree to give that amount to the union hall per PLA requirement, earned money my workers will not have access to, thus preventing us from bidding this project.)

A17. No. Please review PLA Section 4.6 Core Employees for more information.

Q18. Refer to page 382 of the specifications. The comfort station is shown in both Phase 1 and Phase 2. Please clarify to which phase it belongs.

If valves 103-25 through 103-27 belong to Phase 1, please specify the Point of Connection for water supply.

A18. Regarding phasing, the Contractor shall coordinate with the Resident Engineer after issuance of Limited Notice To Proceed (LNTP) to finalize the construction phasing plan.

Provide ongoing existing irrigation system use (with existing system modifications as necessary) to maintain irrigation to the turf areas until such time new irrigation can be installed. Utilize hand or manual watering as required to maintain existing landscape to remain protected. The wiring method for the project is conventional wiring.

Q19. Refer to sheet L205, repair and replacement note 8. It states to hand irrigate all existing landscaped areas that cannot be irrigated by existing facilities affected by the improvements until irrigation systems are restored. However, sheet L004, key note 6, indicates that during all phases of construction, the contractor is responsible for providing regular irrigation water to all existing areas to remain. Please clarify the exact method for irrigating all existing planting areas to remain.

- A19. All existing to remain plants are to be maintained with sufficient and ongoing watering during all construction phase, and where existing irrigation systems are impacted by construction, shall be restored to full operational condition by end of construction. Ongoing hand (manual) irrigation can entail hose watering and temporary irrigation as needed to maintain watering and the continued livelihood of existing landscape plantings to remain. Is up to the contractor on method(s), propose method(s) and provide whatever means is approved by the City Resident Engineer.
- Q20. On sheet L203, keynote 2 indicates cutting the existing 4-inch ACP to connect two new 2 1/2-inch PVC pipes in both directions. However, the mainline size called out at the Point of Connection is 3 inches. Please clarify.
- A20. Assuming you mean Keynote A, clarification on the piping downstream the existing 4" mainline connection point: Is new 4" new pipe and new 3" pipe.
- Q21. Section 800-3.2.2.3 states that the marking tape should be 3 inches wide, whereas detail SDM 105, note 1, states the size to be 6 inches wide. Please clarify the actual size.
- A21. 6" wide per SDM 105 is correct.

Rania Amen, Director
Engineering & Capital Projects Department

Dated: *January 9, 2025*
San Diego, California

RA/CC/lir

Bid Results

Bidder Details

Vendor Name	De La Fuente Construction, Inc.
Address	3025 Beyer Blvd Suite E-101 San Diego, California 92154 United States
Respondee	Jorge E Diaz De La Fuente
Respondee Title	President
Phone	619-512-5505
Email	estimating@dlfci.com
Vendor Type	CADIR, MALE, LAT, SDB, HUBZ
License #	919666
CADIR	1000043346

Bid Detail

Bid Format	Electronic
Submitted	01/15/2025 1:58 PM (PST)
Delivery Method	
Bid Responsive	
Bid Status	Submitted
Confirmation #	405547

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Contractor_Certification_of_Pending_Actions.pdf	Contractor_Certification_of_Pending_Actions.pdf	Contractors Certification of Pending Actions
Mandatory_Disclosure_of_Business_Interest_Forms.pdf	Mandatory_Disclosure_of_Business_Interest_Forms.pdf	Mandatory Disclosure of Business Interests
D&S_Prime_Contractor.pdf	D&S_Prime_Contractor.pdf	Prime Contractors - Debarment and Suspension Certification
D&S_Subcontractors_Suppliers_&_Mfgrs.pdf	D&S_Subcontractors_Suppliers_&_Mfgrs.pdf	Subcontractors, Suppliers & Mfgrs - Debarment and Suspension Certification
C_Subcontractors_For_Alternates.pdf	C_Subcontractors_For_Alternates.pdf	Subcontractors Additive Deductive Form
Bid_Bond.pdf	Bid_Bond.pdf	Bid Bond

Subcontractors

Showing 12 Subcontractors

Name & Address	Desc	License Num	CADIR	Amount	Type
A Good Roofer, Inc. 11651 Riverside Drive Suite 145 Lakeside, California 92040	Constructor - Roofing	685015	1000000746	\$29,000.00	CADIR, SDB, Local
ABC Resources, Inc. 1527 W State St Ontario, California 91762	Constructor - Striping	538680	1000001608	\$66,836.00	
All Time Fence Co., Inc. 2301 Auto Park Way Escondido, California 92029	Constructor - Fencing	810637	1000016007	\$199,200.00	SDB, MALE, LAT, Local
DLG Contractors Inc. 10911 Wheatlands Ave. Suite J Santee, California 92071	Constructor - Toilet Accessories & Site Furnishings	988588	1000003891	\$134,000.00	SDB, ELBE, MALE, LAT, CADIR, Local
Ferandell Tennis Courts, Inc. 3216 Grey Hawk Court Carlsbad, California 92010	Constructor - Surface & striping for basketball court	603945	1000004786	\$38,200.00	CADIR, ELBE, Local
General 2 Constructors, Inc. 6393 Frank Ave Jurupa Valley, California 91752	Constructor - Installation of Playmatta System	1048694	1000364416	\$319,570.00	
QSB Construction 350 W 9th Avenue STE 101 Escondido, California 92025	Constructor - Concrete	956107	1000004298	\$1,193,283.00	MBE, WBE, CADIR, FEM, WOSB, LAT, SLBE, Local
Quality Rebar Inc. 13275 Gregg Street Poway, California 92064	Constructor - Rebar	818593	1000000745	\$57,615.00	Local
RAP Engineering, LLC 503 E Mission Road San Marcos, California 92069	Constructor - Asphalt Paving	1100708	1001014442	\$730,465.00	Local
Service Electrical Systems 157 Palm Avenue Imperial Beach, California 91932	Constructor - Electrical	917219	1000006809	\$441,226.21	DVBE, CADIR, ELBE, SDVSB, Local
Terra Group Landscape, LLC 1211 S 37th Street San Diego, California 92113	Constructor - Landscaping	904594	1000445308	\$388,500.00	ELBE, MALE, LAT, CADIR, SDB, MBE, DBE, Local
Western State Builders Inc 2141 Orange Ave Escondido, California 92029	Constructor - Playground equipment installation	1069677	1000706410	\$253,711.00	CADIR, MALE, CAU, PQUAL, Local

Line Items

Discount Terms No Discount

Item #	Item Code	Type	Item Description	UOM	QTY	Unit Price	Line Total	Response	Comment
Main Bid							\$9,183,048.00		
1	524126		Bonds (Payment and Performance)	LS	1	\$86,000.00	\$86,000.00	Yes	
2	236220		Building Permits (EOC Type I)	AL	1	\$25,820.00	\$25,820.00	Yes	
3	237110		Dewatering Permit and Discharge Fees (EOC Type I)	AL	1	\$5,500.00	\$5,500.00	Yes	
4	237110		Dewatering Non-Hazardous Contaminated Water	LS	1	\$25,820.00	\$25,820.00	Yes	
5	238990		Specialty Inspection Paid For By the Contractor (EOC Type I)	AL	1	\$15,000.00	\$15,000.00	Yes	
6	238990		Construction of South De Anza Improvements - Playground and Site Accessibility	LS	1	\$4,836,353.00	\$4,836,353.00	Yes	
7	238990		Construction of South De Anza Improvements - Comfort Station	LS	1	\$1,119,504.00	\$1,119,504.00	Yes	
8	238990		Construction of South De Anza Improvements - Parking Lot	LS	1	\$2,516,012.00	\$2,516,012.00	Yes	
9	238990		Mobilization	LS	1	\$262,881.00	\$262,881.00	Yes	
10			Field Orders (EOC Type II)	AL	1	\$250,000.00	\$250,000.00	Yes	
11	541330		SWPPP Development	LS	1	\$3,532.00	\$3,532.00	Yes	
12	237310		SWPPP Implementation	LS	1	\$31,626.00	\$31,626.00	Yes	
13	541330		SWPPP Permit Fee (EOC Type I)	AL	1	\$5,000.00	\$5,000.00	Yes	
Additive Alternate A							\$555,890.00		
14	238990		Construction of Basketball Court Including Lights and Benches	LS	1	\$555,890.00	\$555,890.00	Yes	

Line Item Subtotals

Section Title	Line Total
Main Bid	\$9,183,048.00
Additive Alternate A	\$555,890.00
Grand Total	\$9,738,938.00