City of San Diego

CONTRACTOR'S NAME: FEC Future Contractors and Engineers, Inc.
ADDRESS: 184 Technology Drive, Suite 205, Irvine, California 92618
TELEPHONE NO.: (949) 328-9758 **FAX NO:**
CITY CONTACT: Brittany Friedenreich, Senior Contract Specialist, Email: bfriedenreic@sandiego.gov
Phone No. (619) 533-3638
L. Chan / E. Dunn / R. Sigston

BIDDING DOCUMENTS

e - Bidding

FOR

HIDDEN TRAILS NEIGHBORHOOD PARK

BID NO.: **K-25-2389-DBB-3**
SAP NO. (WBS/IO/CC): **S-00995**
CLIENT DEPARTMENT: **1714**
COUNCIL DISTRICT: **8**
PROJECT TYPE: **GB**

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
MAY 22, 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:

Leigh Kyle — 3/26/2025

1) Registered Landscape Architect — Date

Seal:

03/25/2025

2) For City Engineer — Date

Seal:

TABLE OF CONTENTS

SECTION **PAGE**

1. REQUIRED DOCUMENTS SCHEDULE....4
2. NOTICE INVITING BIDS....6
3. INSTRUCTIONS TO BIDDERS....10
4. PERFORMANCE AND PAYMENT BONDS....20
5. ATTACHMENTS:
   - A. SCOPE OF WORK....23
   - B. RESERVED....25
   - C. EQUAL OPPORTUNITY CONTRACTING PROGRAM....26
   - D. PREVAILING WAGE....46
   - E. SUPPLEMENTARY SPECIAL PROVISIONS....51

     TECHNICALS 199

     1. Appendix A - Environmental Documents 274
     2. Appendix B - Fire Hydrant Meter Program 275
     3. Appendix C - Materials Typically Accepted by Certificate of Compliance 289
     4. Appendix D - Sample City Invoice 291
     5. Appendix E - Location Map 293
     6. Appendix F - Sample of Public Notice 295
     7. Appendix G - Advanced Metering Infrastructure (AMI) Device Protection 297
     8. Appendix H - Paleontological Construction Monitoring Requirements 304
     9. Appendix I - SWPPP Construction BMP Maintenance Log 313
     10. Appendix J - Hidden Trails Artwork.... 316
     11. Appendix K - Sample Contractor Performance Evaluation Form 321
   - F. IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION) COMPLIANCE (CARB) 331
   - G. CONTRACT AGREEMENT.... 335
   - H. PROJECT LABOR AGREEMENT 338
6. CERTIFICATIONS AND FORMS.... 400

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.	Contractor's Certification of Pending Actions	At Time of Bid	ALL BIDDERS
3.	Mandatory Disclosure of Business Interests	At Time of Bid	ALL BIDDERS
4.	Debarment and Suspension Certification for Prime Contractors	At Time of Bid	ALL BIDDERS
5.	Debarment and Suspension Certification for Subcontractors, Suppliers & Mfgrs	At Time of Bid	ALL BIDDERS
6.	Bid Bond (Original)	By 5PM 1 working day after bid opening	ALL BIDDERS
7.	SLBE Good Faith Effort Documentation	By 5PM 3 working days after bid opening	ALL BIDDERS
8.	Form AA60 – List of Work Made Available	By 5PM 3 working days after bid opening with Good Faith Effort (GFE) documentation	ALL BIDDERS
9.	If the Contractor is a Joint Venture: • Joint Venture Agreement • Joint Venture License	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER
10.	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
11.	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

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
12.	Listing of "Other Than First Tier" Subcontractors	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER
13.	PLA Forms • Letter of Assent • Job Coordinator 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 **Hidden Trails Neighborhood Park.** 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 **$8,290,000.00**.

4. **BID DUE DATE AND TIME ARE: May 22, 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 **9.9%**
2. ELBE participation **11.4%**
3. Total mandatory participation **21.3%**

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, May 07, 2025,** at **10:00 AM** (PST) at:

Microsoft Teams Need help?
Join the meeting now
Meeting ID: 286 706 013 393
Passcode: vm3st7pL
Dial in by phone
+1 945-468-5511,,331115575# United States, Dallas
Find a local number
Phone Conference ID: 331 115 575#

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**. 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.

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.

10.5. Once the low Bid has been determined, the City may, at its sole discretion, award the contract for the Base Bid alone.

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.

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. If the applicant is a subsidiary of a parent company, the applicant may provide the consolidated audited financial statement of the parent company; provided, however, that the applicant submits a statement signed by a duly authorized representative of the parent company confirming that the parent company will guarantee the performance of any contract awarded to the applicant. The City may also require the parent company to execute a separate agreement with the City to guarantee the subsidiary's performance prior to executing any contract with the subsidiary.

1.3. The completed application must be submitted online no later than 2 weeks prior to the bid opening.

1.4. **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.

1.4.1. Each of the entities of the Joint Venture must have been previously prequalified at a minimum of $15,000,000.

1.4.2. 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.

1.4.3. 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.

1.4.4. 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.

1.5. Complete information and links to the on-line prequalification application are available at:

http://www.sandiego.gov/cip/bidopps/prequalification

1.6. 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 and 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 on line. City staff may then begin reviewing the submissions for responsiveness, EOCP 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

Title	Edition	Document Number
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
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:

FEC Future Contractors and Engineers, Inc., a corporation, as principal, and Euler Hermes North America 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 **Eight Million Six Hundred Eighty Five Thousand Dollars and Zero Cents ($8,685,000.00)** for the faithful performance of the annexed contract, and in the sum of **Eight Million Six Hundred Eighty Five Thousand Dollars and Zero Cents ($8,685,000.00)** 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.

CONTRACTOR
FEC Future Contractors and Engineers, Inc.

By: _____

Print Name: Seyed Arabikhabi

Date: 6/23/25

THE CITY OF SAN DIEGO

By: _____

Print Name: Berric Dorgrino
Deputy Director
Purchasing & Contracting Department

Date: 8/27/2025

SURETY
Euler Hermes North America Insurance Company

By: _____

Print Name: My Hua
Attorney-In-Fact

Date: June 11, 2025

Allianz Trade North America
1679 E. Orangethorpe Ave., #86
Atwood, CA 92811
Local Address of Surety

(657) 258-6498
Local Phone Number of Surety

$82,295.00
Premium

US006090
Bond Number

APPROVED AS TO FORM
Heather Ferbert, City Attorney

By: _____

Print Name: Dana Fairchild
Deputy City Attorney

Date: 9/8/2025

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

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 Orange)

On JUN 11 2025 (DATE) before me, S. Evans, Notary Public (Name of Notary Public and Title "Notary Public"),

personally appeared My Hua (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.

S. EVANS
Notary Public - California
San Francisco County
Commission # 2457925
My Comm. Expires Aug 30, 2027

S. Evans
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended 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: My Hua

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

Signer Is Representing: _____

Signer's Name: _____

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

Signer is Representing: _____

Allianz

Allianz Trade

13639

EULER HERMES NORTH AMERICA INSURANCE COMPANY
800 Red Brook Boulevard * Owings Mills, Maryland 21117

The number of persons authorized by this Power of Attorney is not more than: 3

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That EULER HERMES NORTH AMERICA INSURANCE COMPANY (EULER HERMES), a corporation organized and existing under the laws of the state of Maryland, does hereby nominate, constitute, and appoint the person or persons named below, each individually if more than one is named, its true and lawful attorney-in-fact, for and in its name, place, and stead to execute on behalf of EULER HERMES, as surety, any and all bonds, undertakings, and contracts of suretyship, or other written obligations in the nature thereof; provided that the liability of EULER HERMES on any such bond, undertaking, or contract of suretyship executed under this authority shall not exceed the limit stated below.

NAME	ADDRESS	LIMIT OF POWER
My Hua Kathy R. Mair Mechelle Larkin	17901 Von Karman Avenue, Suite 1100 Irvine, CA 92614	Unlimited

This Power of Attorney revokes all previous powers issued on behalf of the attorney(s)-in-fact named above.

IN WITNESS WHEREOF, EULER HERMES has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunder affixed this 1st day of November, 20 22.

Euler Hermes North America Insurance Company CORPORATE SEAL 2003 MARYLAND

James Daly, President and CEO-The Americas

Nicholas P. Verna II, Senior Vice President and Regional Head of Surety and Guarantee, Americas

State of Maryland, County of Baltimore

On this 1st day of November, 20 22, before me personally appeared Nicholas P. Verna II, to me known, being duly sworn, deposes and says that he resides in Southeastern, PA; that he is Senior Vice President and Regional Head of Surety and Guarantee, Americas of Euler Hermes North America Insurance Company, the Company described herein and which executed the above instrument; that he know the seal of EULER HERMES; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of EULER HERMES; and that he signed his name thereto by like authority.

MORGAN A YANKOSKY NOTARY PUBLIC

Notary Public

Notarial Seal

This Commission Expires February 2, 2026

This Power of Attorney is granted by authority of the following resolutions adopted by the Board of Directors of EULER HERMES NORTH AMERICA INSURANCE COMPANY (Company) by unanimous consent on October 1, 2015.

RESOLVED: That the President, Executive Vice President, Senior Vice President, Vice President, Secretary, and Assistant Vice Secretary, be and hereby are authorized from time to time to appoint one or more Attorneys-in-Fact to execute on behalf of the company, as surety, and any and all bonds, undertakings and contracts of suretyship, or other written obligation in the nature thereof; to proscribe their respective duties and all respective limits of their authority; and to revoke any such appointment at any time.

RESOLVED FURTHER: That the Company seal and signature of the aforesaid officers and may be affixed by facsimile to any Power of Attorney given for the execution of any bond, undertaking, contract of suretyship, or other written obligations in the nature thereof, such signature and seal when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as thought manually affixed.

CERTIFICATION

I, Nicholas P. Verna II, Senior Vice President and Regional Head of Surety & Guarantee, Americas of EULER HERMES NORTH AMERICA INSURANCE COMPANY, do hereby certify that the foregoing Power of Attorney and the Resolutions of the Board of Directors of October 1, 2015, have not been revoked and are now in full force and effect.

Signed and sealed this _____ day of JUN 11 2025, 20_____.

Euler Hermes North America Insurance Company CORPORATE SEAL 2003 MARYLAND

Nicholas P. Verna II, Senior Vice President and Regional Head of Surety and Guarantee, Americas

Euler Hermes North America Insurance Company and its affiliated debt collection company are part of the Allianz group and market their products and services using the 'Allianz Trade' trademark.

CALIFORNIA CERTIFICATE OF ACKNOWLEDGMENT

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 Orange)

On 06-23-2025 before me, Haytham Sweidan Notary Public
(here insert name and title of the officer)

personally appeared Samer Arabikatbi

,

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 _____

HAYTHAM SWEIDAN
COMM. #2508902
Notary Public - California
Orange County
My Comm. Expires Jan. 7, 2029

(Seal)

Optional Information

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of _____

_____,

containing _____ pages, and dated _____.

The signer(s) capacity or authority is/are as:

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

representing: _____
Name(s) of Person(s) or Entity(ies) Signer is Representing

_____.

Additional Information

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:
○ form(s) of identification ○ credible witness(es)

Notarial event is detailed in notary journal on:
Page # _____ Entry # _____

Notary contact: _____

Other

☐ Additional Signer(s) ☐ Signer(s) Thumbprint(s)

☐ _____

© Copyright 2007-2021 Notary Rotary, PO Box 41400, Des Moines, IA 50311-0507. All Rights Reserved. Item Number 101772. Please contact your Authorized Reseller to purchase copies of this form.

ATTACHMENTS

ATTACHMENT A

SCOPE OF WORK

SCOPE OF WORK

1. **SCOPE OF WORK:** This project includes development of a new park. The Scope of Work includes:

- Construction of Hidden Trails Neighborhood Park shall include, and not limited to, a new playground with play equipment and surfacing, fitness equipment, sports courts, prefabricated comfort station, shade structures, seating areas, perimeter and site fencing, sidewalks, curb ramps, ADA ramps and stairs, planting and irrigation, signage, light poles and fixtures and electrical improvements, stormwater and sewer improvements, and coordination and the installation of artworks.

1.1. The Work shall be performed in accordance with:

1.1.1. The Notice Inviting Bids, Plans numbered **0101036-1-D** through **0101036-86-D**, and **Appendix J – Hidden Trails Artwork**, inclusive.

For Plans numbered **0101036-1-D** through **0101036-86-D**, refer to the below link:

https://drive.google.com/drive/folders/1Ih4P5DMWJOsTLtLiKPh6ELWFibL7GBQL

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

See **Appendix E – Location Map**.

3. **CONTRACT TIME:** The Contract Time for completion of the Work, including the Plant Establishment Period, shall be **273 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 it's 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 it's 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 it's 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 it's 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, SMBE, SWBE, or WBE by any of the following certifying agencies:

   a) Current certification by the State of California Department of Transportation (CALTRANS) as DBE, SMBE, 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 Angles 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/slbegfeinst.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

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 sections1810 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 PWDPrevailingWage@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 **7:30 AM to 4:00 PM, Monday through Friday**, inclusive. Saturdays, Sundays, and City Holidays are excluded. Unless otherwise specified on the Traffic Control Permits.

SECTION 2 - SCOPE OF THE WORK

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

2. The Contractor will obtain the following permits:
   a) Prefabricated Comfort Station
   b) Shade Structure

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.

3-4 AUTHORITY OF THE BOARD AND THE ENGINEER. To the "WHITEBOOK", ADD the following:

4. See **Appendix K – Sample Contractor Performance Evaluation Form**.

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 AutoCAD for the preparation of Plans and As-Built drawings in accordance with the City's CADD Standards.

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 Evaluation Hidden Trails Neighborhood Park dated August 12, 2022 by Ninyo & Moore.

6. The report listed above is available for review at the following link:

https://drive.google.com/drive/folders/1XRgqbKZgkrB47ld2HwggzNN8VuzoZPnO?usp=sharing

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.

3-15.2 Integration of the Work with Separate Contractors. To the "WHITEBOOK", ADD the following:

2. The list of Separate Contractors includes:

a) Hidden Trails Artwork by Trevor Amery. The Trevor Amery requirements are listed as follows:

1) The contractor shall provide materials and labor for installation of the public Artwork and provide coordination with the Artist, Trevor Amery, and the Artists' subcontractors. The Contractor's Work and Responsibilities related to the Artwork includes installation of Artwork and incidental items including, but not limited to rigging, moving artwork, and storage on site.

2) The Contractor will install the Artwork as shown in the Artwork construction plans and specifications and install the public Artwork lighting as indicated on the Drawings.

3) The Artists and the Artists' subcontractors will fabricate and transport the Artwork to the Site. The Contractor must account for time and materials necessary for coordinating with the Artist and the Artist's subcontractors on the integration of the public Artwork throughout the duration of the project.

4) The Contractor must provide manufacturer's data for all products and finishes to be furnished under this section for Artist and Artists' subcontractor's approval.

5) Artist and Artists' subcontractor shall provide shop drawings /submittals as specified on the Artwork structural drawings permitted under separate set (**Appendix J – Hidden Trails Artwork**).

6) The Contractor must include activities related to public Artwork installation on the construction schedule.

7) The Artists will deliver the Artwork to the site and the Contractor is responsible for all on site labor for installation of the Artwork, including but not limited to staging, storage, offloading of artwork elements on site. The Contractor is responsible for supplying crane and any other equipment needed for installation of Art pieces.

8) The Contractor responsible for supplying and installing electrical wiring, conduit, connection to electric sub-panels, installation/connection of light fixtures and miscellaneous hardware for a complete working and functional lighting system for the Artwork.

9) The Contractor will coordinate with the Artists and the Artists' subcontractors during the installation of the public Artwork to ensure accurate correspondence between public Artwork and surrounding elements.

10) The Contractor assumes responsibility for the public Artwork from the point of its delivery at the project site until filing of the Notice of Completion.

11) The Contractor shall take all precautions to ensure that the public Artwork is not damaged while finishing the site near the public Artwork, including but not limited to producing a temporary barrier of appropriate height to protect the public Artwork from adjacent construction activities. The Contractor will coordinate with the Artists and the Artists' subcontractors to ensure an appropriate interface between the public Artwork and the finished site. The Contractor assumes responsibility for any damages to the public Artwork that are a result of any construction activities during and after the installation of the public Artwork and prior to the transfer of the site to the City Art Commission.

12) The Contractor shall coordinate with City for inspections under permit identified on the plans (**Appendix J – Hidden Trails Artwork**).

13) Upon completion of the Artwork installation, the Contractor, Artists, and Artists' subcontractor shall jointly request a walkthrough for final acceptance to City. City staff will prepare

punchlist items for completion of the work and final acceptance. Upon completion of the punchlist and all inspections have been signed off by the City inspectors, the City Art Commission will prepare a letter formally accepting the artwork.

14) The Contractor will coordinate and attend construction coordination meetings with Artists and Artists' subcontractors, as directed by the Construction Manager. The Contractor shall cooperate with Artists and Artists' subcontractors in order to ensure smooth integration of the public project components and the Artwork.

15) The Contractor will cooperate with Artists and Artists' subcontractors so that delay or hindrance to their work will be avoided and will allow Artists and Artists' subcontractors' access to site as requested by the City Resident Engineer.

16) Contractor will ensure site is prepared to receive Artwork and will fulfill reasonable site requirements as requested by the City Resident Engineer for the Artists and Artists' subcontractors' work, including, but not limited to: delivery area for Contractor to offload Artwork.

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) CPSI (Certified Playgound Safety Inspector) Inspection

4-3.4.1 **Payment.** To the "WHITEBOOK", item 1, DELETE in its entirety and SUBSTITUTE with the following:

1. The payment for the CPSI specialty inspection service Work shall be included under the Bid item for "**Specialty Inspection Paid For By the Contractor**".

4-3.5.1 **Payment**. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. The Contractor shall provide all required special inspections. The payment for all required special inspection and testing Work shall be included in the Contract Price.

4-6 **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 Apprentice 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; 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:

General Annual Aggregate Limit	Limits of Liability
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.

5-4.2.6 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.

5-4.5.5 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.

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.

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 Day** 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".

6-1.5.2 **Excusable Non-Compensable and Concurrent Delays.** To the "WHITEBOOK", Item 1, ADD the following:

d) Bird Nesting Season Surveys per Whitebook Section 802-2.4

ADD:

6-6.1.1 **Environmental Document.**

1. The City of San Diego has prepared a **Final Environmental Impact Report,** Project No. **30330/304032**, SCH No. **2004651076** and a **California Environmental Quality Act (CEQA)**, as referenced in the Contract Appendix. You shall comply with all requirements of the **Final Environmental Impact Report** as set forth in **Appendix A.**

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

https://drive.google.com/drive/folders/1hQqonT7ctZWUPwYSR5-_2pJ6hbftgmP5?usp=sharing

2. Compliance with the City's environmental document shall be included in the Contract Price, unless separate bid items have been provided.

6-6.2.2 **Paleontological Monitoring Program.** To the "WHITEBOOK", ADD the following:

3. You shall retain a qualified paleontologist for this Contract. You shall coordinate your activities and Schedule with the activities and schedules of the paleontologist monitor. Notify the Engineer before noon of the Working Day before monitoring is required. See 3-5, "INSPECTION" for details.

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

Contract Value	Liquidated Damages Daily Amount
$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:

4. The Lump Sum Bid item for "**Construction of Hidden Trails Neighborhood Park Project as Shown on Plans and Specifications, and Coordination**" shall include, and not limited to, new playground with play equipment and surfacing, fitness equipment, sport courts, prefabricated comfort station, shade structures, seating areas, perimeter and site fencing, sidewalks, curb ramps, ADA ramps and stairs, planting and irrigation, signage, light poles and fixtures and electrical improvements, stormwater and sewer improvements.

5. The Lump Sum Bid item for "**Installation and Coordination of Artwork for Hidden Trails Neighborhood Park as Shown in Appendix**" shall include, and not limited to, providing coordination with the Artist, Trevor Amery, and Artists's subcontractors, rigging, moving artwork, storage on site, and actual installation. Refer to Section 3-15.2.

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

Contract Price	Maximum Each Field Order Work Amount
$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 200 – ROCK MATERIALS

200-2 UNTREATED BASE MATERIALS.

200-2.1 General. To the "WHITEBOOK", ADD the following:

3. Base material for permeable paving shall be Class 2 Aggregate base and shall conform to 3/4" Class 2 aggregate base, per Whitebook section 200-2.9 "Class 2 Aggregate Base." Installation per Section 301-2.

ADD:

200-3 PERMEABLE PAVING.

200-3.1 Summary.

1. Section Includes: Crushed aggregate blended with GraniteCrete admixture surfacing.

200-3.2 References.

1. ASTM C136-Sieve Analysis of Fine and Coarse Aggregates
2. ASTM D2419- Sand Equivalent Value of Soils and Fine Aggregates

200-3.3 Sequencing.

1. Do not install work specified in this section prior to acceptance of earth moving. Coordinate work specified in this section with work specified in other sections to minimize cutting of - and operation of - heavy equipment over newly-installed surfacing.
2. Submit in accordance with Submittal Procedures.
   a) Manufacturer's product data sheet and installation instructions indicating that product complies with specifications for Crushed aggregate blended with GraniteCrete admixture surfacing.

b) Submit a quart jar size samples of crushed aggregate with admixture in colors specified in Drawings.

200-3.4 Quality Assurance/Field Quality Control.

1. GraniteCrete Approved Installers can be found on www.granitecrete.com website.

   a) Installations 500 square feet and over up to 3,000 square feet – must be a recommended installer at a minimum. Installations 3,000 square feet and over – must be an Approved Installer.

   b) An installer not approved, but with sufficient experience for the project as determined by GraniteCrete, Inc., may fulfill this requirement by providing a current letter from GraniteCrete, Inc. verifying their ability to complete a successful installation for this specific project. For assistance, contact GraniteCrete, Inc. at (800) 670-0849.

   c) For installations 3,000 square feet and over - if the installer is not approved as noted above, GraniteCrete, Inc. requires a mandatory Pre-Construction Meeting on site with the company representative. The installers, foreman, and supervisor managing the installation are required to attend the meeting.

   d) A representative from GraniteCrete, Inc. will also observe the installation on-site until the company feels confident the installer will successfully install the product to their specifications and satisfaction.

   e) The installation instructions in this Specification are meant as a guide for bidding purposes and will be superseded by the approved Submittal of installation instructions from GraniteCrete, Inc., and any field direction provided by the company representative.

   f) GraniteCrete, Inc. does not offer a warranty on any installation - even if completed by an Approved Installer - only on the product, bag-to-bag.

2. Porous Base Rock Testing:

   a) Testing shall occur during installation at 25 ton increments of shipping for sieve conformance. Results shall be submitted prior to completion of the stone base installation.

   b) The stone field area shall have a permeable rate no less than 14” per hour. The testing shall be per Din 8035 Part 7, ASTM 2434 (constant head), or ASTM F2898 testing methods.

c) In addition to the lab testing, after installation of any aggregate base cross-section, designed to conduct rainfall to the sub-soils and/or

d) under-drain system, the finished aggregate base shall be tested, in situ for infiltration rate, using method ASTM F2898. The test shall be performed by a registered Geotechnical Engineer or certified agronomist.

e) The Contractor is responsible to meet this performance specification, before proceeding with installation, and shall bear the cost of the on-site testing and the cost of any additional work necessary to achieve compliance with the specification.

f) All test results shall be logged and documented by the Owner's Technical Representative or Geotechnical Engineer. If at any time the processed stone base does not meet specifications, it shall be the Contractor's responsibility to restore, at his expense, the processed stone base to the required grade, cross-section and density.

g) After the contractor has independently confirmed compliance with all the above tolerances (planarity and elevation verified by a licensed surveyor and compaction, gradation, & permeability verified by Geotechnical Engineer, he shall notify the appropriate party and schedule a final inspection for approval. The contractor shall make available an orbital laser system to the Inspection Team for the inspection process.

h) The compaction rate for porous base rock should be 88%. The compaction rate for non-porous base rock should be 95%.

200-3.5 Mock-Up.

1. Construct mockup of 16 square feet minimum of crushed aggregate blended with GraniteCrete admixture surfacing, including base course and edging, at location approved by Owner's Representative. Build mockup 14 days prior to installation. Intent of the mockup is to demonstrate surface finish, texture, color and standard of workmanship.

2. Notify Owner's Representative 7 days in advance of mockup construction.

3. Allow Owner's Representative to view and obtain approval of mock-up before proceeding with rest of crushed aggregate blended with GraniteCrete admixture surfacing.

4. Approved mock-up may remain as first in place construction.

200-3.6 Delivery, Storage, and Handling.

1. Deliver all GraniteCrete Admixture materials in original, unopened packaging. Protect materials and aggregate from contamination with foreign matter. Store under waterproof cover and protect from dampness.

200-3.7 Field Conditions.

1. Do not install crushed aggregate blended with GraniteCrete admixture surfacing when sub-base is wet at saturated field capacity.
2. Do not install GraniteCrete materials during rainy conditions or below 40 degrees Fahrenheit.

200-4 PRODUCTS.

200-4.1 Crushed Aggregate Blended with Granitecrete Admixture Surfacing Materials.

1. Acceptance Manufacturers:
   a) Specification is based on products by GraniteCrete, Inc. 419 Webster Street, Suite 202 Monterey, CA 93940, Phone: (800) 670-0849; Fax: (800) 670-0849, www.granitecrete.com.
   b) GraniteCrete admixture is an all-natural product and does not contain oils, polymers, resins, or enzymes.
   c) Substitutions: Products by other manufacturers that comply with specifications will be considered in accordance with specifications.
   d) Or Approved Equal.
2. Decomposed Granite (DG), crushed aggregate.
   a) DG shall have a 3/8" maximum gradation, produced from naturally friable rock/granite with enough fines to produce a smooth walking surface. Materials should be free from clay lumps, organic matter, and deleterious material. Blends of coarse sand and rock dust are not acceptable.
   b) Use a single supply source for the entire quantity required.
   c) Gradation, in accordance with ASTM C136:
   d) Color: Should have gold to yellow hues. To be selected by Asset Manager from Manufacturer's standard colors.
   e) Supplier: Vineyard Rock Products, Hollister, CA. - (831) 637-6443 [Or approved equal].
3. Aggregate binder: Provide GraniteCrete Admixture. Color: Per Drawings.

200-4.2 Base Course Material.

1. Class II Permeable Base Rock.

2. Soft stone materials (i.e. sandstone, limestone and shale materials) are not suitable. Stone supplier shall certify that all supplied stone will be clean of this type of stone. All types of stone shall meet the following stability requirements:

Test Method	**Criteria**
LA Abrasion (Calif. Test 211)	Not to exceed 40
Durability Index (Calif. Test 229)	Not less than 40

In addition, if stone stability to water and vehicles is in question, Owner has the right to perform additional testing to ensure material shall adhere to GB/WB requirements.

3. All testing fees shall be paid for by the Contractor.

4. Permeable Stone: Stone base materials shall be washed, 100% fractured, by mechanical means, with elongated characters on each individual particle larger than 1/4". Materials shall be devoid of mineral fines. All particles smaller than 1/4" shall be produced by manufactured means only. Rounded sands or aggregates are prohibited.

5. Delivery Moisture Content: Processed stone shall contain 90% to 110% of the optimum moisture content to ensure that fines do not migrate in transit or during placement and to facilitate proper compaction. The contractor shall ensure that aggregate leaving the source plant meets this requirement. The contractor is required to apply water to the processed stone on site to attain and maintain this minimum moisture content.

6. Aggregate or aggregate blends of permeable stone shall conform to the following gradation (please note this is for base rock, not for GraniteCrete):

Sieve Size	**Sieve Sizes Metric mm**	**Percent Passing by Weight AASHTO Test Method T-27**	**Range**
1"	25	100%	100%
¾"	19	100%	90-100%
3/8"	9.52	78%	40-100%
No. 4	4.75	36%	25-40%

Sieve Size	**Sieve Sizes Metric mm**	**Percent Passing by Weight AASHTO Test Method T-27**	**Range**
No. 8	2.36	26%	18-33%
No.30	0.600	11%	5-15%
No. 50	0.300	6%	2-10%
No. 200	0.075	2%	0-5%

Durability Index (CTM# 229) 40 min

Sand Equivalent (CTM# 217) 70

LA Rattler (CTM# 211)

500 Revs, less than or = 40%

7. Specs for ⅜" minus and ¾" minus Crushed Aggregate Following ASTM D 1140-17:

100% fractured on all sides with no rounded particles Sieve

200 - Non-expansive Clay Fines - not to exceed 18%.

The below test is for ⅜" minus stone, at approximately 90% compaction when tested:

Sieve Size	**Percent Passing Sieve**	**Ranges**
½"	100	100
3/8"	95	98
No. 4	85	90
No. 8	75	85
No. 16	55	70
No.30	38	57
No. 50	24	33
No.100	15	24

Sieve Size	Percent Passing Sieve	Ranges
No. 200	9	18
No.400	0	9

200-4.3 Accessories.

1. Water: Free from contaminants that would discolor or be deleterious to crushed aggregate blended with GraniteCrete admixture surfacing.

2. Installation: Do not use a vibratory plate to compact the GraniteCrete. Use a lawn roller filled with water to compact the GraniteCrete. Use a 36" drum roller or walk-behind roller in static position for driveways and larger installations. It is highly recommended to use a volumetric truck for driveways and larger installations; if possible, the use of a paver is highly recommended as well.

200-5 EXECUTION.

200-5.1 Examination.

1. Examine grading and subsoil conditions. Do not proceed until conditions are acceptable.

200-5.2 Preparation.

1. Excavation: Excavate to depth required so edges of crushed aggregate blended with GraniteCrete admixture surfacing will match adjacent grades and have a maximum cross slope of 1 percent.

2. Sub-grade Preparation: Comply with Caltrans Standard Specifications Section 301-1 – "Sub-grade Preparation."

3. Base Course Installation: Class II permeable base rock at 90% compaction.

200-5.3 Installation.

1. There are two installation methods for GraniteCrete: "Dry" and "Wet."

    a) The dry method is for installations up to 500 square feet (most home applications).

    b) The wet method is for installations over 500 square feet (most large, commercial installations) and may require the use of a volumetric truck.

2. Mixing method:

    a) Installations less than 500 square feet may be mixed on-site.

    b) Installations 500 square feet and over up to 3,000 square feet, must be delivered pre-mixed to the site from a GraniteCrete Inc. approved

pre-mix facility. Approved retailers and pre-mix facilities can be found on the company website www.granitecrete.com.

c) Installations 3,000 square feet and over up to 5,000 square feet must be supplied by an approved pre-mix facility; GraniteCrete Inc. recommends the use of a volumetric truck.

d) Installations over 5,000 square feet require the use of a volumetric truck.

e) The volumetric truck must be calibrated for the GraniteCrete mixture. Contact GraniteCrete, Inc. at (800) 670-0849 for a list of approved volumetric truck operators.

f) The following installation instructions have been developed to help ensure a blemish-free, high-quality installation. While GraniteCrete looks similar to concrete, the installation of GraniteCrete follows a different procedure. For best results, follow the instructions below carefully. For assistance, contact GraniteCrete, Inc. at 800-670-0849.

3. Installation Depth (also known as "lift")

a) For commercial/light vehicular applications such as driveways, bicycle paths and cart paths, GraniteCrete is installed as a 4-inch thick layer (lift) over a 6-inch subgrade of compacted Class II base rock. Compaction rates for all applications are 88%–92%. Please note: GraniteCrete compacts approximately ¼" per 1" of lift.

4. Measurement

a) An online calculator to assist you with estimating the amount of material needed to complete your project can be found on the GraniteCrete website here: https://www.granitecrete.com/paving-materials-estimator/. Please note this is only an estimator and GraniteCrete, Inc is not responsible for the quantity of materials at the job-site.

b) For GraniteCrete:

i. Commercial /Light Vehicular Application - (3 bag mixture) One cubic yard of aggregate/decomposed granite and three (85 lbs.) sacks of GraniteCrete admixture combined covers 82 square feet at a 4-inch thickness. Note: Aggregate/decomposed granite should be 3/8" minus material and follow our sieve percentages in this Specification Guide within a +/- 5% range.

ii. Commercial/Light Vehicular Application - After final compaction, baserock should have a 6-inch depth.

c) For Class II Base Rock:

i. Commercial/Light Vehicular Application - After final compaction, baserock should have a 6-inch depth.

5. Mixing Ratios:

a) Commercial/Light Vehicular Application - (3 bag mixture) The ratio for commercial applications is 12.5:1 (12.5 units of decomposed granite to 1 unit of GraniteCrete, measured in volume).

6. Installation Instructions - “Dry” Method

a) Class II Base Rock: Moisten and compact base rock on the entire installation area to an even depth of 4-inch or 6-inch, depending on residential or commercial application. A vibratory plate can be used to compact the base rock; it should not be used to compact the GraniteCrete for residential installations.

b) GraniteCrete: Wheelbarrow the prepared GraniteCrete/DG mixture to the installation site and place a layer of the mixture to one-half of the desired final lift. Be sure to spread the mixture out before proceeding to step 3; this will ensure the mixture is moistened and mixed thoroughly.

c) Moisten the material with a hose end trigger sprayer attachment, avoiding puddling - oversaturation is detrimental and will negatively affect the integrity of the finished product. Rake area lightly to evenly distribute water throughout the mix or "lift". Walking on the area is perfectly acceptable; initial compaction can be performed by walking on the edges and corners.

d) Install a second lift as above; when doing this, make sure to pay particular attention to the edges to ensure even material height, and moisten to dampen mixture.

e) Moisten until both lifts are damp. Proper moisture content can be checked by clenching your fist around the GraniteCrete, when the mixture just stays together and the color just starts to transfer to your hand, GraniteCrete is ready to compact.

f) Compaction: After proper moisture is achieved for compaction, hand tamp (with a 10” hand tamp) around benches, sign posts, corners, boulders, et cetera. Pay particular attention to corners and edges to ensure tight compaction.

g) Make several passes with a 36” lawn roller (filled with water), or for larger installations, a 36” walk-behind or drum roller in static position. Hand tamp out any imperfections with a 6” wooden masonry float.

h) Make sure to keep your 10” hand tamp, lawn roller, and wooden floats clean at all times. Fill in any divots with fresh, loose material (removing any larger stone) and hand tamp with the wooden floats to match existing finish.

i) When laying GraniteCrete in batches, be sure to use the cold joint method below to ensure a blemish-free installation.

j) Finishing: If desired, lightly sweep the finished surface in a perpendicular pattern with a medium-bristled push broom. Then make several more passes with the lawn roller until the desired surface texture is achieved. With larger installations, a roller in a static position can be used, making sure to keep the drum clean at all times. Remove spoils off the surface.

k) Do not allow GraniteCrete to dry during installation. Mist lightly with a hose end spray head as necessary or cover with a plastic tarp.

l) The final step for a GraniteCrete installation is a dampening with water of all newly-installed and compacted GraniteCrete materials. Using a shower head/spray hose attachment, moisten the entire newly-installed GraniteCrete area - avoid puddling. For best results, moisten all newly-installed GraniteCrete paving a second time the following 1 to 5 days, as practical. Slow curing of GraniteCrete is important to avoid cracking.

m) Make sure there is no direct application of uncontrolled water (e.g. irrigation or sprinkler water) prior to final curing.

7. Installation Instructions - “Wet” Method

a) After DG and GraniteCrete have been mixed together but BEFORE installation has begun: Mix thoroughly and moisten with water until the GraniteCrete mixture begins to marble or clump together. Squeeze the mixture in your fist and open your hand. When the color has just started to transfer onto your hand and the mixture just begins to stay together in a clump, it’s ready for installation.

b) Class II Base Rock: Moisten and compact base rock on entire installation area to an even depth of 4-inch or 6-inch, depending on residential or commercial application. A vibratory plate can be used to compact the base rock; it should not be used to compact the GraniteCrete for residential installations.

c) GraniteCrete: Wheelbarrow the prepared GraniteCrete/DG to the installation site and spread the mixture over the compacted base rock.

d) Compaction: Walking on the area is perfectly acceptable; initial compaction can be performed by walking on the edges and corners.

Rake or grade area with the flat side of a landscape or asphalt rake (Do not use tang side), until the GraniteCrete is one inch above finish grade.

e) Once initial compaction has been completed, hand tamp (with a 10" hand tamp) around benches, sign posts, corners, boulders, et cetera. Pay particular attention to corners and edges to ensure tight compaction.

f) Make several passes with a 36" lawn roller (filled with water), or for larger installations, a 36" walk-behind or riding-roller in static position. Hand tamp out any imperfections with a 6" wooden masonry float.

g) Make sure to keep your 10" hand tamp, lawn roller, and wooden floats clean at all times. Fill in any divots with fresh, loose material (removing any larger stone) and hand tamp with the wooden floats to match existing finish.

h) When laying GraniteCrete in batches, be sure to use the cold joint method below to ensure a blemish-free installation.

i) Finishing: If desired, lightly sweep the finished surface in a perpendicular pattern with a medium-bristled push broom. Then make several more passes with the lawn roller until the desired surface texture is achieved. With larger installations, a roller in a static position can be used, making sure to keep drum clean at all times. Remove spoils off the surface.

j) Do not allow granitecrete to dry. Mist lightly with a hose end spray head as necessary or cover with a plastic tarp.

k) The final step for a GraniteCrete installation is a dampening with water of all newly-installed and compacted GraniteCrete materials. Using a shower head/spray hose attachment, moisten the entire newly-installed GraniteCrete area - avoid puddling. For best results, moisten all newly-installed GraniteCrete paving a second time the following 1 to 5 days, as practical. Slow curing of GraniteCrete is important to avoid cracking.

l) Make sure there is no direct application of uncontrolled water (e.g. irrigation or sprinkler water) prior to final curing.

8. The following information is applicable to both installation methods.

a) You may walk on GraniteCrete immediately after installation. However, like concrete, GraniteCrete gets stronger with time. Ideally, stay off the newly-installed GraniteCrete areas for at least one day; after that, foot traffic is allowed. Vehicular traffic should avoid newly installed areas for 5 – 7 days.

b) Newly installed GraniteCrete paving surfaces are fully cured in 28 days. At that time, the entire surface should be blown or swept off to eliminate loose surface materials. Minor cracking may take place. However, over time, the aggregate fines will fill in the minor cracks and they should disappear. Occasional blowing off of the surface will help to minimize loose surface materials.

9. Cold Joint Methods.

Cold joints can be used at the end of the work day.

a) Method One:

i. "Between pours," stop at an area that makes the joint location look intentional. Take a chalk snap line just back from loose GraniteCrete into the compacted area and create a chalk line. Use either a masonry blade - or a square-nose shovel - and cut a straight line across the installation.

ii. Continue with installation: Dampen the prior installation area. Place newly mixed GraniteCrete into the area, being careful not to overlap existing compacted material. Place a three foot length of 2"x4" carefully along the edge of the new pour and compact by hitting/tapping the board with a single jack. Then, take a medium-bristled push broom and very lightly "feather" the two pours together.

b) Method Two:

i. Place a 2"X4" or 2"X6" piece of wood across the installation, loosely stake it, and finish compacting the material. Leave the board in place overnight.

ii. The next day, carefully lift the wood up and away from the installed GraniteCrete. Continue the installation process as per step 2 under Method One, making sure to dampen the prior installation area.

c) Method Three: (Suggested for large open edges at the end of the work day)

i. Install steel edging at a location that looks "intentional" and aesthetically "makes sense." Permanently install using the stakes provided. Completely finish the first day's work.

ii. The next day, simply continue with the installation. Make sure to dampen the prior installation area first. Leave the edging in place. Again, being careful not to leave any new material on the previously installed GraniteCrete.

10. Installing for Vehicular Traffic.

    a) Installing for vehicular traffic is nearly identical to the method above, except you will use a vibratory plate or static riding roller to compact the GraniteCrete, after final compaction by a lawn roller. Please be aware the vibratory plate should be used carefully, as it can have negative effects on the GraniteCrete. Make sure to keep the plate clean. If any ridges or ruts occur, fill in with a hand tamp, compact, and broom over it as the finishing instructions above.

200-5.4 Important Notes.

1. Do not allow GraniteCrete to dry during installation. Mist lightly with a hose end spray head as necessary - avoid puddling - or cover with plastic tarp.
2. Non-compacted - or poorly-compacted - GraniteCrete top layer will result in loose and pebbled materials. Edge and corner compaction may require special attention with a hand tamp during installation.
3. Non-compacted - or poorly-compacted - base rock may result in failure of the top layer of GraniteCrete.
4. Squeeze the mixture in your fist and open your hand. When the color has just started to transfer onto your hand and the mixture just begins to stay together in a clump, it's ready for installation. Excessive moisture level may result in "sticky" materials complicating the quality of the finish surface or proper compaction - if you squeeze the mixture and water oozes out, it is too damp. If the material is too wet, it may be placed on the bottom of the installation, with material that has a better moisture content on top.
5. Aggregate/decomposed granite materials should meet the sieve specifications in this Specification Guide
6. Surface shall follow overall contours of landscape. Flat areas shall be sloped for drainage. Slope at 1-1.5 % to drain away from structures unless overwise noted in the drawings.
7. Compaction rates for all applications are 88% – 92%.
8. Please Note: 3/8" minus aggregate comes in different colors. GraniteCrete™ samples reflect the use of a Golden Granite decomposed aggregates. Mock-ups using your local aggregate source is strongly suggested.
9. Saw cut expansion joints every 5' in narrower paths, every 12' in wider paths, and at every engineered stress areas. Wait 48 hours before saw cutting.
10. Cover finished surface, when practical, to achieve maximum curing period. See Section 3.5.
11. Minimum Compacted Thickness: Commercial/Light Vehicular Drives: 4 inches.

12. Completed, finished surface shall be of consistent quality and free of deleterious materials such as organic materials, nails, stones, and loose material. Surface shall not have depressions or humps greater than 1/4 inch in ten feet. Cold joints, if any, should be inconspicuous.

200-5.5 Curing Period/Protection.

1. For Vehicular Use Areas Installations: Do not allow traffic on crushed aggregate blended with GraniteCrete admixture surfacing for 5 days after placement or until compacted crushed aggregate blended with GraniteCrete admixture surfacing has fully cured.
2. Protect crushed aggregate blended with GraniteCrete admixture surfacing from damage until project completion.

200-5.6 Maintenance & Repairs.

1. Follow manufacturer's recommendations.
2. Maintenance: Depending on the end users desired finish surface, maintenance may require occasional blowing off or brooming of paved surface - DO NOT use a pressure washer to clean GraniteCrete. Depending on quality of compaction at time of installation, a thin veneer of loose aggregate material is typical after the full 28 days cure period. If cracking appears in a GraniteCrete surface, broom loose aggregate "fines" into cracks and compact with a rubber mallet.
3. Repair: When repairing GraniteCrete it is important to use the original aggregate/decomposed granite and the original GraniteCrete Admixture color to match previously installed materials. If the paved surface has large areas of raveled material (loose aggregate/decomposed granite) the initial installation may not have been properly compacted, or blended materials did not have optimum moisture content during installation. GraniteCrete must not be allowed to dry prior to final compaction. The following are suggestions for repair of raveled materials:
    a) For the large loose areas, a minimum of a 3-inch of GraniteCrete can be installed. The repair areas need to be saw-cut at agreed length, removed, and re-installed. A portable concrete mixer or wheelbarrow can be used.
    b) In areas that collapse/fail due to equipment weight, re-form and re-install with original materials as per specifications.
    c) Cracks: Repair by brooming existing surface fines into the cracks of filling with dry, pre-mixed materials, or both. The onsite aggregate/decomposed granite should be sieved to 1/8" minus material for better application and in-fill of cracks. Materials should be

mixed as per ratio described above. Broom or fill the crack, moisten, compact (with rubber mallet or hand compaction plate) and "feather" material into the final finish. This process might have to be done two or three times.

ADD:

200-6 LANDSCAPE BOULDERS.

200-6.1 Submittals.

1. Product Date For the following: Natural Landscape Boulders.
2. Samples for Initial Selection
3. Photographs of each rock type, as indicated on Drawings, label with ID number, color and size range. The Contractor shall submit three (3) photographs of each stone taken from different angles with name, size (height, width and length), color range and source. Tag each boulder and include boulder ID number in each photograph for identification purposes.

200-6.2 Quality Assurance.

1. Source Limitations: Obtain each type of rock from one source with resources to provide materials and products of consistent quality in appearance and physical properties.

200-6.3 Delivery, Storage, and Handling.

1. Protect rock during storage and construction from mixing with earth or other materials.
2. Identify adequate location for sorting and storage of each rock type on site.

200-6.4 Materials.

1. Landscape Boulders:
   a) Type: Per drawings
   b) Acceptable Manufacturers:
      1) Southwest Boulder and Stone (760) 685-5224
      2) KRC (760) 744-1035
      3) Decorative Stone Solutions (800) 699-1878
      4) Or Approved Equal
2. Quality Requirements: Visual evaluation of the quarry, including examination of samples, suitable tests and service records may be used to determine acceptability of the stone. The Contractor shall notify the Agency in writing of the intended source of stone at least 60 days prior to use.

200-6.5 Cleaning.

1. All boulders and slab rocks shall be free of graffiti. Graffiti is defined as paint or indelible markers which mar the appearance of the boulders. If graffiti removal is required, contractor shall prepare a schedule of materials and methods for graffiti removal and proposed methods of protecting the site from chemical contamination. The schedule shall be submitted to the Resident Engineer prior to proceeding with any graffiti removal. The Contractor shall be responsible for the complete removal of all graffiti during the contract and maintenance period under this item.

200-7 EXECUTION.

200-7.1 Examination.

1. Examine areas indicated to receive landscape natural boulders with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

200-7.2 Subgrade Preparation.

1. Prior to the placement of the landscape natural boulders, the subgrade surfaces shall be cut, filled, compacted, and graded to the lines and grades as shown on the project drawings. All subgrade surfaces shall be prepared so as to be reasonably smooth, and free of mounds, dips or windows.
2. The placement of fill to meet design grades and elevations shall be of an approved material and placement shall include adequate compaction of the materials.
3. No natural boulders shall be placed until the subgrade is inspected and approved by the Owner's Authorized Representative.
4. The Contractor shall provide for an adequate foundation under the natural boulders per the Drawings.
5. Boulder to be placed so a flat surface faces up with no protrusions facing vertically or rough edges exposed.

200-7.3 Stone Placement.

1. The locations of stones are designated in the Drawings; however the exact position of each stone shall be as directed by the Landscape Architect. No setting of boulders shall take place unless the Landscape Architect is present on the site.
2. The stone shall be placed by equipment on the surfaces and to the depths specified. The Stone shall be as to avoid displacement of the underlying subgrade or bedding aggregate.

200-7.4 Equipment Placement.

1. All rock shall have a maximum contact between the individual rock, without bridging or otherwise creating a void under the stone. The rock shall be firmly bedded and may be placed by hand or by machinery.

2. Contractor to take appropriate measures to avoid damage to the stone and pavement.

SECTION 201 - CONCRETE, MORTAR AND RELATED MATERIALS

201-1 PORTLAND CEMENT CONCRETE.

201-1.1.2 Concrete Specified by Class and Alternate Class. To the "WHITEBOOK", ADD the following:

3. The Type of Construction, Concrete Class, and Maximum Slump for the various sub-items of concrete work shall be as specified in Table 201-1.1.2 of the Standard Specifications with the following additions or modifications:

Type of Construction	Concrete Class	Max Slump (With Certified Truck Ticket)
Concrete Paving (not integral w/ curb)	560-C-3250	4-inch
Concrete Sidewalk and Curb	560-C-3250	4-inch
Concrete Street Section	560-C-3250	3-inch
Concrete Mow Curb	560-C-3250	4-inch
CIP Concrete Block Seating	560-C-3250	4-inch
Concrete Footings	560-C-3250	4-inch
Concrete Base	520-C-2500	4-inch

ADD:

201-1.1.7 Quality Assurance.

1. Paving Mockups: Cast mockups of sections approximately 48-inches by 48-inches of each decorative cement concrete pavement type to demonstrate typical pattern, texture, surface finish, color, joints, caulking, sealer and standard of workmanship.

   a) Build mockups in the location and of the size indicated or, if not indicated, as directed by the City Representative. Include joints and

joint materials, caulking, sealer and scoring treatments specified on the plans.

b) If multiple colors and finishes are specified, samples are required for each paving type and all mock ups shall be prepared for review at the same time.

c) In presence of City Representative, damage part of the exposed surface of decorative cement concrete pavement for each finish, color, and texture required, and demonstrate materials and techniques proposed for repair to match adjacent undamaged surfaces.

d) The Mock-ups shall be reviewed and approved by the City Representative before proceeding with the work. Mock-ups that do not demonstrate all specified joints and joint materials, caulking, and scoring treatments will be rejected. Remove and reconstruct the mock-ups until approved. The Contractor shall be back charged for the costs of the City Representative to review more than two (2) mock-up attempts. Approved mock-ups shall serve as standard of acceptance for paving work and remain available for the duration of the project.

e) Demolish and remove mock-ups at the completion of the project.

2. Wall Mockups: Before casting Landscape Architectural concrete, build mockups to verify selections made under sample submittals and to demonstrate typical joints, surface finish, texture, tolerances, skate deterrent and standard of workmanship. Build mockups to comply with the following requirements, using materials indicated for the completed Work:

a) Build mockups at the job site, 36” min length or 48 min. length if curved in the location indicated on the drawings or if not indicated, as directed by the City Representative.

b) Build mockups of each cast-in-place Landscape Architectural concrete Type as indicated on Drawings.

c) Build mockups using identical materials, design mix and methods to be used in the work.

d) Mix Design: The concrete mix design used to prepare the sample panels shall be identical to that used for the project's landscape architectural concrete

e) Demonstrate curing, cleaning, and protecting of cast-in-place Landscape Architectural concrete, finishes, and contraction joints, as applicable.

f) Mockups shall be cured a minimum of 10 days prior to review by the City Representative.

g) In presence of the City Representative, damage part of the exposed-face surface for each finish, color, and texture, and demonstrate materials and techniques proposed for repair of tie holes and surface blemishes to match adjacent undamaged surfaces.

h) Obtain City Representative's approval of mockups before casting Landscape Architectural concrete.

i) The contractor shall be back charged for the costs of the City Representative to review more than two (2) mock up attempts.

j) Remove mock ups from the job site when directed and dispose legally.

201-3 EXPANSION JOINT FILLER AND JOINT SEALANTS.

201-3.1 General. To the "GREENBOOK", ADD the following:

1. All paving surfaces shall have a one-quarter inch (1/4") width with one-eighth inch (1/8") bevel expansion joint perpendicular to the curb line and spaced at a maximum of twenty feet (20') on center, unless otherwise indicated on the plans. Expansion joints shall also be located where sidewalk work abuts restraining surfaces such as buildings, curbs, or perimeter appurtenances (such as light standards or drain or manhole structures), dissimilar floor surfaces, and columns where changes occur in backing materials. All expansion control, construction and seismic joints in the existing substrate shall continue through sidewalk work.

ADD:

201-11 PRECAST CONCRETE SITE FURNISHINGS.

201-11.1 General.

201-11.1.1 Submittals.

1. Product Data: For each type of product indicated.

   a) Manufacturer's standard product literature

   b) Shop drawings

   c) Installation instructions

   d) Maintenance instructions

2. Samples for Verification: For each type of exposed finish indicated.

201-11.1.2 Quality Assurance.

1. Source Limitations: Obtain each type of site furnishings through one source from a single manufacturer.

201-11.1.3 Delivery, Storage and Handling.

1. Handle products in accordance with manufacturer's instructions.
2. Store products in manufacturer's original packaging until ready for installation.
3. Protect products from impacts and abrasion during storage.

201-11.1.4 Warranty.

1. Provide manufacturer's standard warranty.
2. Warranty Terms: One year from date of invoice against defects in materials and workmanship.

201-11.2 PRODUCTS.

201-11.2.1 Picnic Tables, Café Table, Game Tables and Lounge Chair.

1. Manufacturer: per Drawings
2. Size and Configuration: per Drawings
3. Materials: Precast Concrete, with minimum compressive strength of 5000psi
4. Finishes:
    a) Texture and Color per Drawings
    b) Sealer: Standard Sealer
    c) Anti-graffiti coating

201-11.2.2 Bench.

1. Manufacturer: per Drawings
2. Size and Configuration: per Drawings
3. Materials: Precast Concrete: Precast Concrete, with minimum compressive strength of 5000psi
4. Finishes:
    a) Texture and Color per Drawings
    b) Finish: Standard Sealer
    c) Anti-graffiti coating

201-11.2.3 Precast Concrete Monument Sign.

1. Manufacturer: per Drawings

2. Size and Configuration: per Drawings
3. Materials: Precast Concrete, with minimum compressive strength of 5000psi
4. Finishes:
    a) Texture and Color per Drawings
    b) Sealer: Standard Sealer
    c) Anti-graffiti coating

201-11.2.4 Precast Concrete Gate Pilaster.

1. Manufacturer: per Drawings
2. Size and Configuration: per Drawings
3. Materials: Precast Concrete, with minimum compressive strength of 5000psi
4. Finishes:
    a) Texture and Color per Drawings
    b) Sealer: Standard Sealer
    c) Anti-graffiti coating

201-11.2.5 Trash and Recycling Receptacles.

1. Manufacturer: per Drawings
2. Size and Configuration: per Drawings
3. Materials:
    a) Body: Precast Concrete, with minimum compressive strength of 5000psi
    b) Door: 3/16” powdercoated steel with white vinyl decal
4. Finishes:
    a) Texture and Color per Drawings
    b) Sealer: Nano Tech Barrier
    c) Anti-graffiti coating
5. Graphics:
    a) Per plans

201-11.2.6 Hot Coal Receptacles and BBQ Grill & Pedestal Service Table.

1. Manufacturer: Per Drawings
2. Size and Configuration: per Drawings
3. Material: Precast Concrete, with minimum compressive strength of 5000psi

4. Color and Finish: per Drawings
5. Graphics: Hot Coal Logo per Drawings
6. Sealer: Nano Tech Barrier
    a) Anti-graffiti coating

201-11.3 Execution.

201-11.3.1 Examination.

1. Verify substrates are stable and capable of supporting weight of items covered under this section.
2. Verify substrates have been adequately prepared to securely anchor items that will be surface mounted.

201-11.3.2 Installation.

1. Install according to the manufacturer's installation instructions.
2. Install in conformance to applicable ADA guidelines and End User's established accessibility policies.

ADD:

201-12 FLUID APPLIED DAMPPROOFING.

201-12.1 General.

201-12.1.1 Related Documents.

1. Section includes fluid-applied damproofing system for use at retaining walls, and raised planters where indicated on drawings.
2. Use coatings with VOC limits to comply with CALGreen requirements.

201-12.1.2 Submittals.

1. Product Data: Submit product data for materials and accessories.
2. Submit following Informational Submittals:
    a) Qualification Data: Manufacturer and applicator's qualification data.
    b) Manufacturer's instructions include surface preparation, application, application temperature ranges, and curing.

201-12.1.3 Quality Assurance.

1. Manufacturer's Qualifications:
    a) Experience in manufacturing of specified damproofing.
    b) Obtain primary damproofing materials from single manufacturer.

c) Manufacturer's name shall appear on containers.

d) Provide secondary materials as required by manufacturer of primary materials.

2. Applicator Qualifications:

a) Applicator: Use applicator experienced in the application of the specified fluid- applied damproofing on projects of similar size and complexity.

b) Applicator's Personnel: Employ persons trained for the application of fluid- applied damproofing.

3. Certifications:

a) Submit manufacturer's certification stating materials ordered and supplied are compatible with each other, suited for locale and purpose intended and shipped in sufficient quantity to ensure proper timely installation.

b) Certify materials shipped to Project site meet membrane manufacturer's published performance standards and requirements of this Specification.

4. Comply with environmental regulations.

201-12.1.4 Delivery, Storage and Handling.

1. Delivery:

a) Deliver materials to the site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.

b) Do not deliver material to site more than one month before use.

2. Storage:

a) Store the material in accordance with manufacturer's instructions.

b) Store materials indoor in an area well ventilated and protected from damage.

c) Do not store material near open flame, sparks, or hot surfaces.

d) Store materials on raised platforms and covered by damproofing covers.

e) Keep material containers closed.

3. Handling: Protect materials during handling and application to prevent damage.

201-12.1.5 Project Conditions.

1. Environmental Requirements:

    a) Do not apply in wet weather or when rain is imminent.

    b) Apply when the surface is a minimum 50 degrees F (10 degrees C) and a minimum of 5 degrees F (3 degrees C) above dew point. Consult manufacturer for application instructions if the ambient or surface temperature is below 50 degrees F (10 degrees F).

    c) Do not apply to porous substrates when substrate or ambient temperatures are rising.

    d) Do not apply to porous substrates when substrate is in direct sunlight.

    e) Do not apply over substrates that are frozen or contain frost.

201-12.1.6 Sequencing.

1. Coordinate and sequence work to ensure that construction materials placed against or over damproofing and protection system will occur within 14 days of membrane installation. Do not expose membrane to ultraviolet rays beyond period of time recommended by system manufacturer.

201-12.1.7 Guarantee.

1. Furnish to the City a written guarantee for fluid-applied dampproofing against all defects in materials and workmanship.

201-12.2.1 Products and Manufacturers.

1. Products and Manufacturers:

    a) 700-01 Damproofing from Henry

    b) SealMastic Emulsion from WR Meadows

    c) Or Approved equal

201-12.2.2 Materials.

1. Fluid-applied dampproofing: CIM 1000 or equal, a two-component, high solids, elastomeric asphalt-modified urethane designed for spray, squeegee or roller application.

    a) Elastomeric Dampproofing, ASTM C836 and C957: Exceeds all criteria.

    b) Solids by volume: 88 percent.

    c) ANSI 118.10: Pass

    d) Volatile Organic Compounds (VOC): 0.76 pounds per gallon (92 g/L).

    e) Mullen Burst Strength, ASTM D751, 50 mils in CIM Scrim: 150 pounds per square inch.

f) Tear Strength, ASTM D624, Die C: 150 pounds per inch.

g) Tensile Strength, ASTM D412, 100-mil sheet: 900 pounds per square inch.

h) Extension to Break, ASTM D412: 400 percent.

i) Recovery from 100 Percent Extension:

1) After 5-minutes: 98 percent.

2) After 24-hours: 100 percent.

j) Coating Performance, Crack Bridging:

1) 10 Cycles at minus 15 degrees F (minus 26 degrees C): Greater than 1/8- inch.

2) After Heat Aging: Greater than 1/4-inch.

k) Coating Performance, Weathering, ASTM D822: 5000 hours: no cracking.

l) Softening Point, ASTM D36: Greater than 325 degrees F (160 degrees C).

m) Deflection Temperature, ASTM D648: below minus 60 degrees (minus 50 degrees C).

n) Service Temperature: minus 60 degrees F to 220 degrees F

o) Hardness, ASTM D2240, Shore A, 77 degrees F (25 degrees C): 60.

p) Permeability to Water Vapor, ASTM E96, Method E, 100 degrees F

q) Abrasion Resistance, Weight Loss, ASTM D4060: 1.2 mg.

r) Adhesion to Concrete, Dry, Elcometer: 350 pounds per square inch.

s) Color: black.

2. Primer: Aquafin SG3, as approved for the application by Chase Construction Products, or approved equal. Two-component, moisture tolerant, low viscosity, solvent free, chemically enhanced epoxy based product. Use as a primer coat on dry, porous substrates such as concrete.

a) Solids by Volume: 100%

b) Volatile Organic Compounds (VOC): Zero (0 g/L).

3. Bonding Agent: CIM bonding agent or bonding agent for equal damproofing. The bonding agent is an organosilane compound dispersed in acetone. (Note: Acetone is a solvent that is exempt from CALGreen and SCAQMD air quality requirements.) Ensures a continuous and uniform bond between surfaces.

Use the bonding agent over non- porous surfaces such as existing fluid-applied damproofing. Do not use where solvent cleaners are prohibited.

a) Patching Material: CIM 1000 Trowel Grade or patching material for equal damproofing.

4. Liquid applied, chemical and corrosion resistant urethane elastomer chemically thickened to allow trowel application with minimum sag. Use as a crack filler and for application to vertical surfaces and cold joints.

201-12.3 Execution.

201-12.3.1 Examination.

1. Ensure surfaces are reasonably smooth and free of holes, cracks or projections which might be detrimental to successful installation.
2. Verify that curing methods used for concrete are compatible with membrane system.
3. Verify that items penetrating damproofing system are securely installed.
4. Verify that concrete surfaces have cured a period of time acceptable to membrane manufacturer.

201-12.3.2 Preparation.

1. Protect adjacent surfaces not designated to receive damproofing.
2. Clean and prepare surfaces in accordance with manufacturer's instructions. Provide clean, dry and structurally sound concrete surface.
3. New Concrete:

a) Ensure concrete has a minimum compressive strength of 3,000 psi, is dry, and is free of release agents and curing compounds before application of fluid-applied damproofing.

4. Remove surface laitance and expose the underlying aggregate consistent with ICRI CSP 4 to 6 in accordance with ICRI 03732.
5. Ensure substrate is clean and dry in accordance with manufacturer's instructions.
6. Repair cracks in concrete surface with material suitable for type and width of crack, compatible with substrate and fluid-applied damproofing, and approved by the Architect.
7. Moisture Tests required to be administered by Contractor: Do not apply primer or fluid- applied damproofing to concrete surface unless two or more of the flowing moisture tests confirm appropriate moisture levels for properly prepared substrates:

a) Plastic Sheet Method (ASTM D4263): Pass/Fail.

b) Relative Humidity Test: Less than 75 percent relative humidity at 70 degrees F.

c) Calcium Chloride Test: Less than 5 pounds per 1,000 square feet per 24 hours.

d) Radio Frequency Test: Less than 5 percent moisture.

201-12.3.3 Installation.

1. Install in accordance with manufacturer's instructions

2. Apply primer to concrete surface a minimum of 5-mils wet thickness. A uniform coating free of holidays or pinholes is necessary to minimize outgassing effects curing the application of the fluid-applied damproofing to porous surfaces such as concrete. Surfaces may require additional coats to obtain a pinhole free finish.

3. Allow primer to cure in accordance with manufacturer's instructions before top-coating with the fluid-applied damproofing.

4. Apply fluid-applied damproofing in accordance with manufacturer's instructions.

5. Keep material containers tightly closed until ready for use.

6. Keep equipment, air supplies, and application surfaces dry.

7. Mix and apply when fluid-applied damproofing is above 60 degrees F (15 degrees C).

8. Do not use adulterants, thinners, or cutback solutions.

9. Blend and mix 2-component materials in accordance with manufacturer's instructions.

10. Do not hand mix components.

11. Maintain air supply for material spray application free of oil and water in accordance with ASTM D4285.

12. Apply fluid-applied damproofing directly to a clean and dry surface

13. Apply a 6 to 12-inch wide strip of joint cover sheet over cracks over 1/8-inch wide, non- working joints, and edges. Adhere center joint cover sheet over all joints by applying a tack coat of the fluid-applied damproofing.

14. Apply sufficient fluid-applied damproofing to achieve 60 wet-mil film thickness.

15. Joint Lines:

    a) Prepare for joint lines should rain or other conditions require work stoppage or extended delay.

    b) Install joint lines clean and straight. Install overlap 6-inches minimum to ensure an impervious joint.

    c) Severely abrade with wire brush or sandpaper and apply bonding agent to all areas where the fluid-applied damproofing has cured beyond its recoat window.

16. Recoating:

    a) Consult with manufacturer for assistance in determining recoat window for specific temperature.

    b) Recoat the fluid-applied damproofing system within the recoat window to obtain maximum interlayer adhesion to build specific thickness.

    c) Immersion Service: Minimize areas to be recoated outside the recoat window, except at joint lines.

    d) Non-Immersion Service: Severely abrade with wire brush or surface grinder; apply bonding agent, and recoat, if fluid-applied damproofing has cured more than the recoat window. Acceptable adhesion can only be achieved through aggressive abrading.

17. Cure fluid-applied damproofing in accordance with manufacturer's instructions. Prior to water testing, allow minimum solvent release time of 24-hours to 48-hours at 60 degrees F (15 degrees C) for a 120-wet mil coating thickness.

201-12.3.4 Protection And Cleaning.

1. Protect adjacent surfaces from damages and stains.

2. Immediately remove and clean fluid-applied damproofing materials from surfaces not intended to receive the materials.

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)
Gyration 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

Sieve size	Target value limit	Allowable tolerance
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

ADD:

204-3 NATURE EXPLORATION AREA EQUIPMENT.

204-3.1 Section Includes.

1. Log Climbers
2. Kinetic Playground Equipment
3. Sculptural Playground Equipment

204-3.2 References.

1. Playground Safety Standards

    c) In United States, "Playground Safety Standards" refers to ASTM F1487-21 Standard Consumer Safety Performance Specifications for Playground for Public Use, latest version.

2. DIN EN 350 Durability of Timber Species

204-3.3 Design/Performance Requirements.

1. Design Considerations

    a) Decay and Insect Resistance. Below grade timber species to be EN-DIN-350 "Very Durable" to insect and decay resistance. Above grade timber species to be EN-DIN-350 "Durable" to insect and decay resistance.

    b) Compliance with Playground Safety Standards – Load Test or Structural Engineer Approval, for all climbable elements. At grade elements and landscape elements such as curbing, edging, boulders, logs at grade Clause 9 conformance not required.

    c) Use only untreated timber, without any form of chemical treatment, for climbing/walking/play surfaces or

    d) Acetylated wood is acceptable.

    e) Duraply structural plywood for body forming members is acceptable

2. Shop Drawings:

    a) Provide play equipment cut sheets for each piece, for approval

    b) Provide detailed installation instructions with equipment

204-3.4 Quality Assurance.

1. Manufacturer Qualifications

   a) Manufacturer shall provide Certificate of Insurance for minimum of two million dollars.

   b) Manufacturer shall have demonstrated experience in design, fabrication, and installation of timber playground equipment for public parks, with a value of over $500,000.

2. Installer Qualifications

   a) An experienced installer who has specialized in installing work similar in material, design, scale, and extent to that indicated for this Project and who is acceptable to the manufacturer of playground equipment.

   b) Submit copy of Installer's resume, signed by the play equipment manufacturer, certifying that Installer of the play equipment complies with experience requirements of the Specifications and of the play equipment manufacturer as part of the product submittal to the Resident Engineer for review and acceptance during construction phase.

204-3.5 Warranty.

1. Parts Replacement Warranty 5 Years

   Earthscape Play Inc. warrants that if any of our playground components fail due to defects in workmanship or materials, we will provide replacement for all parts found defective without cost provided that the initial installation and subsequent repair were completed by Earthscape Play Inc. or under their supervision/consultation. Labor and shipping to replace warrantied parts to be supplied by others. Warranty period begins from date of delivery.

2. Earthscape Play Inc. additionally warrants against Structural failure, due to corrosion and/or deterioration caused by defects in materials and manufacturing workmanship as follows:

Stainless Steel Hardware	30 years
Posts made of Robinia	15 years
Accoya® Wood Products	10 Years
AYC wood Products (excluding Glulam)	10 years
Galvanized structural Components	10 years
All Other Metal Components	5 years

Glulam wood products	5 years
All other Wood Elements	5 years
Plastic and Composite Components	3 years
Cables/Rope	2 years
Moving Parts	1 year
Moving water Components	1 year
Electronic Components	1 year
Wood stain – vertical	1 year
Wood stain - horizontal	no warranty

3. Exclusions

Warranty claims will be compromised should any claim be a result of

a) Vandalism, abuse, misuse or accident.

b) Normal cosmetic changes such as: scratches, dents, marring, fading, discoloration, and cable fraying.

c) Acts of God such as: hail, flooding, lightning, tornadoes, sandstorms, earthquakes, and windstorms.

d) Environmental factors such as: windblown or human dispersed aggregates, salt spray, salt water, and chlorinated water.

e) Timber elements contain knots, knot holes, checks, and splits. These cosmetic defects become more prominent over time. Replacement or repair of non-structural defects is excluded from warranty.

f) Normal Wear and Tear.

g) Failure to Maintain in accordance with Playground Safety Standards and manufacturer's requirements.

h) Improper Installation when installed by a 3rd party.

i) Unauthorized additions, alterations or repairs by other than Earthscape.

j) Unintentional Playground Safety Standards Non-Compliance oversight which was not reported within 12 months after the date of invoice.

k) Other regulatory requirements or inspector comments that exceed or are outside of the scope of Playground Safety Standards.

l) Termite or other insect damage due to installation in areas known to be infested with aggressive wood-damaging insects.

4. Playground Safety Standards Compliance

Earthscape Play Inc. warrants that all playground equipment products manufactured will be completed in accordance with Playground Safety Standards. Earthscape Play Inc. will supply replacement parts, without cost, to rectify any non-compliant issues caused by improper design or manufacturing processes. We reserve the right to have 3rd party Certified Playground Safety Inspector review the work. In the event of a disagreement regarding Playground Safety Standard Compliance, the less stringent interpretation shall apply.

204-4 PRODUCTS.

204-4.1 Manufacturers.

1. Acceptable Manufacturer: Earthscape Play Inc., which is located at 7215 Wellington Road 86, Wallenstein, ON. or approved equal.
   a) Email: info@earthscapeplay.com
   b) Phone: 519.669.2972.
   c) Web: www.earthscapeplay.com

204-4.2 Timber Playground Equipment.

1. Log Climbers
   a) Log Stepper
      i. White Oak (quercus alba) logs, debarked and sapwood removed. OD 250mm to 450mm (10-18")
      ii. DIN EN 350-2 Rating "Very Durable"
   b) Log Piles
      i. White Oak (quercus alba) logs, debarked and sapwood removed OD 250mm-450mm (10-18")
      ii. DIN EN 350-2 Rating "Very Durable"
      iii. Steel-core Rope and Nets, abrasion resistant coating
      iv. Galvanized or stainless connection, spacer to preclude entrapment/entanglement hazard
      v. Review by Structural Engineer or load testing applies, as required by Playground Safety Standard
   c) Wobble Boards:
      i. Body Forming members
      ii. Duraply plywood base
      iii. Cladding to be Accoya

iv. All wood members to be DIN EN 350-2 Rating “Durable” or “Very Durable”

v. Metal Fasteners to be stainless steel

vi. Review by Structural Engineer or load testing applies, as required by Playground Safety Standard

204-5 EXECUTION.

204-5.1 Examination.

1. Before beginning installation, verify site conditions are as indicated on the Drawings. Notify the Architect if site conditions are not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.

204-5.2 Preparation.

1. Subgrade Preparation:

   a) Excavate area allowing for safety surface and drainage layer (where required).

   b) Provide adequate drainage from excavated area if area has potential to collect water, when working with in-place soils that have poor permeability.

   c) Ensure in-place soil is relatively dry and free from standing water.

   d) Uniformly grade base.

   e) Level and clear base of large objects, such as rocks and pieces of wood.

204-5.3 Installation.

1. Install Playground Equipment as indicated on the Drawings in accordance with the manufacturer’s recommendations.

   a) Installation contractor shall provide all labor, tools and machinery required to perform the installation.

   b) Installation contractor is responsible for the installation of all concrete footings in accordance with the manufacturer’s installation drawings.

2. Review all equipment for conformance with ASTM F1487 (USA), current version, by 3rd party Certified Playground Safety Inspector

204-5.4 Clean Up.

1. The installation contractor shall remove all debris, rubbish and surplus materials resulting from work in this Section. Cleanup shall include removal of any dirt or debris on the playground equipment as a result from shipping in accordance with the manufacturer’s recommendations. Do not pressure wash any wood surfaces.

SECTION 206 - MISCELLANEOUS METAL ITEMS

ADD:

206-8 METAL SITE FURNISHINGS.

206-8.1 Submittals.

1. Product Data: For each type of product indicated.
    a) Manufacturer's standard product literature
    b) Shop drawings
    c) Installation instructions
    d) Maintenance instructions
2. Samples for Verification: For each type of exposed finish indicated.

206-8.2 Quality Assurance.

1. Source Limitations: Obtain each type of site furnishings through one source from a single manufacturer.

206-8.3 Delivery, Storage and Handling.

1. Handle products in accordance with manufacturer's instructions.
2. Store products in manufacturer's original packaging until ready for installation.
3. Protect products from impacts and abrasion during storage.

206-8.4 Warranty.

1. Provide manufacturer's standard warranty.
2. Warranty Terms: One year from date of invoice against defects in materials and workmanship.

206-9 PRODUCTS.

206-9.1 Bicycle Rack.

1. Manufacturer: Burke (800) 356-2070, or approved equal.
2. Size and Configuration: per Drawings
3. Material and Finish:
    a) Frame: 1.5" O.D. 11 Gauge Tube Steel
    b) TGIC polyester powder coat finish

206-9.2 Drinking Fountain.

1. Manufacturer: Haws (775) 353-8386, or approved equal.
2. Size and Configuration: per Drawings
3. Material: 12 gauge type 304 Stainless Steel
4. Bowl material: 3/8” thick cast stainless steel
5. Finish: Powder-coat

206-9.3 Basketball Hoop.

1. Manufacturer: Patterson Williams, (866) 462-7976, or approved equal.
2. Model: per Drawings.
3. Cap Casting, Support Casting: Hot-dipped galvanized, grade 32510, malleable iron.
4. 4’ Offset Backboard Post: One piece all welded construction consisting of 4 1/2" OD x sch. 40 galvanized steel pipe, 1/4" HR steel plate, and 1 1/2" x 1 1/2" x 1/4" HR steel angle.
5. Rectangle Backboard Steel: One piece all welded construction consisting of 4' x 6' x 12 GA steel sheet with a 1 1/2" reinforced perimeter and 12 GA channel braces. Primed and finished with baked on powder coat on front side. Coated with sound-deadening rust inhibitor on back side.
6. Hardware Package: Zinc plated steel carriage bolts, hex head cap screws, lock nuts and lock washers.
7. Double Rim Goal with Nylon Net: 18" diameter regulation size rim, 5/8" round steel, no-tie clips and nylon net. Rim is finished with an orange baked on powder coat.
8. Mounting: Provide mounting hardware and installation instructions.

206-10 EXECUTION.

206-10.1 Examination.

1. Verify substrates are stable and capable of supporting weight of items covered under this section.
2. Verify substrates have been adequately prepared to securely anchor items that will be surface mounted.

206-10.2 Installation.

1. Install according to the manufacturer’s installation instructions.
2. Install in conformance to applicable ADA guidelines and End User’s established accessibility policies.

ADD:

206-11 PLAY STRUCTURES.

206-11.1 General.

206-11.1.1 Manufacturer:

1. Landscape Structures, Inc., (888) 436-6574, or approved equal.

206-11.1.2 Material.

1. All materials shall be structurally sound and suitable for safe play. Durability shall be ensured on all steel parts by the use of time-tested coatings such as zinc plating, galvanizing, ProShield® finish, TenderTuff™ coating, etc. Colors shall be specified.

2. FASTENERS: Primary fasteners shall be socketed and pinned tamperproof in design, stainless-steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications). All primary fasteners shall include a locking patch-type material that will meet the minimum torque requirements of IFI-125. Manufacturer to provide special tools for pinned tamperproof fasteners.

3. TENDERTUFF COATING: Metal components to be TenderTuff coated shall be thoroughly cleaned in a hot phosphatizing wash system and then primed with a water-based thermosetting solution. Primed parts shall be preheated prior to dipping in UV-stabilized, liquid polyvinyl chloride (PVC), then salt-cured at approximately 400 degrees. The finished coating shall be approximately .080" thick at an 85 durometer with a minimum tensile strength of 1700 psi and a minimum tear strength of 250 lbs/inch. Standard colors are available, all with a matte finish.

4. PROSHIELD FINISH: All metal components with ProShield finish shall be thoroughly cleaned and pretreated through a multi-stage wash system. Parts are then thoroughly dried, preheated and processed through a set of powder spray guns where a minimum 0.002" of epoxy primer is applied. A minimum 0.004" of architectural-grade Super Durable polyester TGIC powder is applied. The average ProShield film thickness is 0.006". ProShield is formulated and tested per the following ASTM standards. Each color must meet or exceed the ratings listed below:

    a) Hardness (D3363) rating 2H

    b) Flexibility (D522) pass 1/8" mandrel

    c) Impact (D2794) rating minimum 80 inch-pounds

    d) Salt Fog Resistance (B117 and D1654) 4,000 hours and rating 6 or greater

e) UV Exposure (G154, 340 bulb) 3,000 hours, rating delta E of 2, and 90 percent gloss retention*

f) Adhesion (D3359, Method B) rating 5B

g) The Paint Line shall employ a “checkered” adhesion test daily.

h) Standard colors are available. * Certain colors may exceed delta E of 2. Contact Landscape Structures for exceptions.

5. DECKS: All decks shall be of modular design and have 5/16" diameter holes on the standing surface. There shall be a minimum of (4) slots in each face to accommodate face mounting of components. Decks shall be manufactured from a single piece of low carbon 12 GA (0.105") sheet steel conforming to ASTM specification A-1011. The sheet shall be perforated with a return flange on the perimeter to provide the reinforcement necessary to ensure structural integrity. There shall be no unsupported area larger than 3.5 square feet. The unit shall then be TenderTuff-coated brown or gray only. Decks shall be designed so that all sides are flush with the outside edge of the supporting posts. Not applicable for Evos or Weevos.

6. CONCRETE PRODUCTS: Two processes are used to produce concrete products. (See specific product installation/ specification documents.)

a) Glass Fiber Reinforced Concrete (GFRC) Products: Glass fiber is alkali-resistant (AR) with high tensile properties formulated for concrete. GFRC nominal product thickness is 1" with a unit weight of about 12 lbs per square foot and an average ultimate flexural strength of 2,100 psi per ASTM C947. Finish: Exterior latex paint suited for concrete applications.

b) Precast Concrete Products: Wet-cast solid, molded concrete with an average compressive strength of 5,000 psi per ASTM C39. Unit weight range of about 115-145 lbs per cubic foot. Finish: Exterior latex paint suited for concrete applications.

7. ROTATIONALLY MOLDED POLYETHYLENE PARTS: These parts shall be molded using prime natural linear low-density polyethylene having a tensile strength of 2400 psi per ASTM D638. Rotational molding resin is compounded with color and UV-stabilizing additives with a nominal wall thickness typically 1/4" with some variation depending upon product type. Standard colors are available.

8. RECYCLED PERMALENE PARTS: These parts shall be manufactured from 3/4" high-density polyethylene that has been specially formulated for optimum UV stability and color retention. Products shall meet or exceed density of 0.960” G/cc per ASTM D1505, tensile strength of 2400 PSI per ASTM D638. Available in a three-layer product with (2) 0.100" thick colored exterior layers over a 0.550" thick recycled Black interior core. Standard colors are available.

206-11.1.3 Footing.

1. Unless otherwise specified, the bury on all footings shall be 34" below Finished Grade (FG) on all in-ground play events/posts. Other types of anchoring are available upon request.

206-11.1.4 Hardware Packages.

1. All shipments shall include individual component-specific hardware packages. Each hardware package shall be labeled with the part number, description, a component diagram showing the appropriate component, package weight, a bar code linking the hardware package to the job number, assembler's name, date and time the package was assembled, work center number and work order number.

206-11.1.5 Installation Documentation.

1. All shipments shall include a notebook or packet of order-specific, step-by-step instructions for assembly of each component, including equipment assembly diagrams, estimated hours for assembly, footing dimensions, concrete quantity for direct bury components, fall height information, area required information and detailed material specifications.

206-11.1.6 Packing List.

1. All shipments shall include a packing list for each skid/container, specifying the part numbers and quantities on each skid or within each container.

206-11.1.7 Packaging.

1. All components shall be individually wrapped, or bulk wrapped and placed on skids (pallets), then shrink-wrapped to provide protection during shipment. Small parts and hardware packages will be placed in crates for shipment. Other components shall be individually wrapped or bulk-wrapped to provide protection during shipment.

206-11.1.8 Maintenance Kit.

1. An order-specific maintenance kit shall be provided for each structure order. The kit will include a notebook or packet with a second set of installation documents and order-specific maintenance documentation with recommendations on how often to inspect, what to look for and what to do to keep the equipment in like-new condition. The kit also includes touch-up primer, appropriate color touch-up paint, sandpaper, appropriate color touch-up PVC and additional installation tools for the tamperproof fasteners.

206-11.2 Products.

206-11.2.1 Posts.

1. Post length shall vary depending upon the intended use and shall be a minimum of 42" above the deck height. All posts shall be ProShield finished to specified color. All posts shall have a "finished grade marker" positioned on the post identifying the 34" bury line required for correct installation and the top of the loose fill protective surfacing. Top caps for posts shall be aluminum die cast from 369.1 alloys, and ProShield finished to match the post color. All caps shall be factory-installed and secured in place with (3) self-sealing rivets. A molded low-density polyethylene cap, with drain holes, shall be pressed onto the bottom end of the post to increase the footing area.

206-11.2.2 Steel Posts.

1. All steel PlayBooster posts are manufactured from 5" O.D. tubing with a wall thickness of 0.120" and shall be galvanized after rolling and shall have both the I.D. and the cut ends sprayed with a corrosion-resistant coating.
2. STEEL POST MECHANICAL PROPERTIES:

    a) Yield Strength (min): 50,000 PSI

    b) Tensile Strength (min): 55,000 PSI

    c) Elongation: 25% in 2 inches

    d) Modulus of Elasticity: 29.5 x 106 PSI

206-11.2.3 Aluminum Posts.

1. All aluminum PlayBooster posts are manufactured from 6005-T5 extruded tubing conforming to ASTM B-221. Posts shall have a 5" outside diameter with a 0.125" wall thickness.
2. Aluminum post mechanical properties:

    a) Yield Strength (min): 35,000 PSI

    b) Tensile Strength (min): 38,000 PSI

    c) Elongation: 10% in 2 inches

    d) Modulus of Elasticity: 10 x 106 PSI

206-11.2.4 Arch Posts.

1. Aluminum arch posts shall be manufactured from 6005-T5 alloy. The arch shall be formed to a 21" center line radius to complement the 42" center-to-center module. The arch shall be of one continuous piece construction. There shall be no welds or additional pieces mechanically fastened to manufacture the arch. Each arch shall be designed to provide a minimum of 90 1/2" clear span from the deck to the inside of the arch at the radius peak. Arches shall be ProShield finished to a specified color.

206-11.2.5 Clamps.

1. All clamps are ProShield finished and, unless otherwise noted, shall be die-cast using a 369.1 aluminum alloy and have the following mechanical properties:
    a) Ultimate Tensile: 47,000 PSI
    b) Yield Strength: 28,000 PSI
    c) Elongation: 7% in 2 inches
    d) Shear Strength: 29,000 PSI
    e) Endurance Limit: 20,000 PSI
2. Each functional clamp assembly shall have an appropriate number of half clamps and shall be fastened to mating parts with (2) 3/8" x 1 1/8" pinned button head cap screws (SST) and (2) stainless-steel (SST) recessed “T” nuts. A 1/4" aluminum drive rivet with stainless steel pin is used to ensure a secure fit to the post.
3. PlayBooster® clamps have three functional applications and shall be named as follows:
    a) Offset hanger clamp assembly
    b) Deck hanger clamp assembly
    c) Hanger clamp assembly

206-11.2.6 Netplex Clamps.

1. All clamps are ProShield finished and, unless otherwise noted, shall be die-cast using a 369.1 aluminum alloy and have the following mechanical properties:
    a) Ultimate Tensile: 47,000 PSI
    b) Yield Strength: 28,000 PSI
    c) Elongation: 7% in 2 inches
    d) Shear Strength: 29,000 PSI
    e) Endurance Limit: 20,000 PSI

2. Each functional clamp assembly shall have an appropriate number of rope clamps and back clamps and shall be fastened to each other with (2) 5/8" x 1 1/2" pinned button head cap screws (SST) and (2) stainless-steel (SST) recessed “T” nuts. Either a face clamp shall be fastened to rope clamp with (2) 3/8" by 1-3/8" pinned button head cap screws or a single tab casting plate shall be fastened to rope clamp with (4) 3/8" by 1-3/8" pinned button head cap screws with 3/8" SAE flat washers. A 1/4" x 5/8" aluminum drive rivet with stainless steel pin is used to ensure a secure fit to the post.

206-11.2.7 Geoplex Clamps.

1. All clamps are ProShield finished and, unless otherwise noted, shall be fabricated from 7GA using 0.179" (4.54 mm) T316 stainless steel.

   a) Ultimate Tensile: 84,000 PSI

   b) Yield Strength: 25,000 PSI

2. Each functional clamp assembly shall have an appropriate number of locking clamps and shall be fastened to mating parts with (2) 3/8" x 7/8" pinned button head cap screws (SST) with (2) 3/8" SAE flat washers. A 1/4" aluminum drive rivet with stainless steel pin is used to ensure a secure fit to the post.

206-11.2.8 Steel-Reinforced Cables.

1. Made of tightly woven, polyester-wrapped, six-stranded galvanized steel cable. These abrasion-resistant, color-stable cables are extremely durable and vandal-resistant. Available in Black or Red. Some products are available in Black only or Red only.

206-11.2.9 Playodyssey® Structural Frame.

1. Post length of the double ladder/central column shall vary depending upon the deck height and shall be flush with the bottom of a deck infill or a minimum of 46" above the deck height. All posts shall be ProShield finished to specified color. All posts shall have a “finished grade marker” positioned on the post identifying the 60" bury line required for correct installation and the top of the loose fill protective surfacing. Post caps shall be aluminum die cast from 369.1 alloys, and ProShield finished to match the post color. All caps shall be factory-installed and secured in place with (3) self-sealing rivets. A molded low-density polyethylene cap, with drain holes, shall be pressed onto the bottom end of the ladder posts to increase the footing area. Ladders are bolted together below grade to act as a single column for installation purposes. The deck support weldments/arms are comprised of 5/16" (0.313") steel conforming to 1010 steel per ASTM A635 and welded to a 52" steel post. Arms are secured to each ladder post with (4) 5/8" x 1 1/2" pinned button head cap screws through (2) 1/4" flanges.

206-11.2.10 Playodyssey Optional Aluminum Roof Posts.

1. All formed aluminum PlayOdyssey roof posts are manufactured from 6005-T5 extruded tubing conforming to ASTM B-221. Posts shall have a 5" outside diameter with a 0.125" wall thickness. Post sleeve shall have 4.675" outside diameter with a 0.150" wall thickness. Post cap shall be aluminum die cast from 369.1 alloys and ProShield finished to match the post color. All caps shall be factory-installed and secured in place with (3) self-sealing rivets.

206-11.2.11 Vibe® Handholds.

1. Rotomolded shell, with 7 GA (0.179") HRPO steel sheet insert that is zinc plated then ProShield finished. Standard colors are available.

206-11.2.12 Vibe Roof.

1. Rotomolded shell, with 12 GA (0.105") HRPO steel sheet insert that is zinc plated then ProShield finished. Standard colors are available.

206-11.2.13 Vibe Enclosures.

1. Rotomolded shell, with 7 GA (0.179") HRPO steel sheet insert that is zinc plated then ProShield finished. Standard colors are available. Option of 10 activity panels available in standard Permalene® colors. Also available bubble or window panel made of 1/4" clear polycarbonate.

206-11.2.14 1169473-01-04 Playbooster (2-5 Years).

1. **171569A - Mushroom Stepper 10"Height DB Only.**

   GFRC Mushroom Assembly: (Support) Comprised of 2 3/8" (60.33 mm) O.D. RS40 (0.130" - 0.140") (3.30 mm - 3.56 mm) wall galvanized steel tubing. Finish: ProShield. (Mushroom Climber) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors

2. **171570A- Mushroom Stepper 16"Height DB Only.**

   GFRC Mushroom Assembly: (Support) Comprised of 2 3/8" (60.33 mm) O.D. RS40 (0.130" - 0.140") (3.30 mm - 3.56 mm) wall galvanized steel tubing. Finish: ProShield. (Mushroom Climber) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

3. **173907A - Log Stepper 8"Height DB Only.**

   Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (0.120") (3.04 mm) wall galvanized steel tubing and 3/16" (4.75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

4. **173908A - Log Stepper 18"Height DB Only.**

Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (0.120") (3.04 mm) wall galvanized steel tubing and 3/16" (4.75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

5. **169318C - Wood Plank Wiggle Ladder 48"Deck w/Recycled Wood-Grain Handholds DB**

Poly Board: Recycled high-density polyethylene, cedar, mink or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handhold Frame: Weldment comprised of 1.125" (28.58 mm) O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Chain/ProGuard: Steel 3/16" (4.75 mm) straight link chain, 800 lb. (362.87 kilograms) working load limit. Finish: ProGuard.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Support (DB): Fabricated from 1.315" (33.40 mm) O.D. RS20 (0.080"-0.090") (2.03 mm – 2.28 mm) galvanized steel tubing.

6. **175572A - Log Stepper 16" Deck w/1 Recycled Wood-Grain Handhold**

Poly Board: Recycled high-density polyethylene, cedar, mink or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handhold Frame: Weldment comprised of 1.125" (28.58 mm) O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (0.120") (3.04 mm) wall galvanized steel tubing and 3/16" (4.75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

7. **152907C - Deck Link w/Barriers Steel end panels 3 Steps**

SteelX Panels: Zinc plated 7 GA (0.179") (4.55 mm) HRPO flat steel. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Barrier: Weldment comprised of 1.125" (28.58 mm) O.D. x 11 Ga. (0 .120") (3.04 mm) wall steel tubing, 5/8" (15.88 mm) O.D. steel bar with 203 or 303 stainless steel 3/8" (9.53 mm)threaded inserts. Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Step Section: Formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is 24 1/4" (615.95 mm) wide x 14" (356 mm) deep and is perforated with 5/16" (7.94 mm) diameter holes. Finish: TenderTuff, color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

8. **111228A Square Tenderdeck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Square Deck: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 47" x 47" (66.68 mm x 1194 mm x 1194 mm). Finish: TenderTuff, color specified.

9. **111229A - Square Deck Extension**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Square Deck Extension: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 42" x 47" (66.68 mm x 1067 mm x 1194 mm). Finish: TenderTuff, color specified.

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

10. **111230A - Square Deck Corner**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Square Deck Corner: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 42" x 42" (66.68 mm x 1067 mm x 1067 mm). Finish: TenderTuff, color specified.

11. **178710A - Hexagon Tenderdeck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Brace: Fabricated from 3/8" x 1 3/4" x 28 1/2" long zinc-plated steel strap. Finish: ProShield®, silver in color.

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Hex Deck: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 36 3/4" (66.68 mm x 933.45 mm) per each of the six sides for an overall dimension of 77 5/8" (1971.68 mm) face to face. Finish: TenderTuff, color specified.

12. **185852A - Transfer Step w/2 Handloops DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handloop: Weldment comprised of 1.125" (28.58 mm) O.D. x 11 GA (0.120") (3.05 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal thread. Finish: TenderTuff, color specified.

Step: Formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Finish: TenderTuff, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Step Support: Weldment comprised of 1.660" (42.16 mm) O.D. RS-20 (0.080" - 0.095") (2.03 mm - 2.41 mm) galvanized steel tubing and 1 3/4" x 1 3/4" x 1/8" (44.45 mm x 44.45 mm x 3.17 mm) HR angle. Finish: ProShield, color specified.

13. **114649A - Zoo Infill Panel**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Permalene Panel: One-color, color specified.

14. **115236A - Ball Maze Panel Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Permalene Panel: Two-color panel measures 35 5/8" (904.88 mm) wide x 41" (1041 mm) high, color specified.

Angled Panel Bracket: Weldment comprised of 0.190" (4.83 mm) thick 5052 aluminum formed angle with (2) 6005-T5 aluminum threaded tubes 1 1/8" (28.58 mm) O.D. x 1 1/2" (38.1 mm) long. Finish: ProShield, color specified.

Ball: 1/2" (12.7 mm) diameter, SST.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Cover: Made from 0.177" (4.50 mm) thick x 18 5/16" (465.12 mm) diameter clear polycarbonate.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

15. **115254A - Storefront Panel**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Store Panel: One-color Permalene. Panel measures 35 1/2" (901.7 mm) wide x 37" (940 mm) high, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Bracket: Formed 11 GA (0.120") (3.04 mm) 5052 aluminum angle. Finish: ProShield, color matched to panel.

16. **123319A - Hourglass Panel Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Angled Panel Bracket: Weldment comprised of 0.190" (4.83 mm) thick 5052 aluminum formed angle with (2) 6005-T5 aluminum threaded tubes 1 1/8" (28.58 mm) O.D. x 1 1/2" (38.1 mm) long. Finish: ProShield, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Permalene Panel: One-color panel measures 35 5/8" (904.88 mm) wide x 41" (1041 mm) high, color specified.

Hour Glass Beads: #40 stainless steel beads.

Hour Glass: Vacuum formed, clear polycarbonate.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

17. **130565A - Table Panel DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Access Clamp: Weldment comprised of 3/8" (9.53 mm) HRPO steel plate and 1/4" x 1 3/4" (6.35 mm x 44.45 mm) wide steel clamp. Finish: ProShield, color specified.

Frame: Weldment comprised of 3/16" x 2" x 1 1/4" (4.75 mm x 51 mm x 31.75 mm) HRS angle and 3/16" x 2" (4.75 mm x 51 mm) flat steel bar. Finish: ProShield, color matched to posts.

Table Panel: One-color Permalene panel measures 19 1/2" (495.3 mm) wide x 34 3/4" (882.65 mm) long, color specified.

Support Leg: Weldment comprised of 2.375" (60.33 mm) O.D. RS-20 (0.095" - 0.105") (2.41 mm - 2.66 mm) galvanized steel tubing and 1/4" x 2 1/2" x 9" (6.35 mm x 63.5 mm x (229 mm) flat plate. Finish: ProShield, color specified.

Table End Panel: One-color Permalene panel measures 34" (864 mm) wide x 13 3/8" (339.73 mm) high, color specified.

Table Top Bracket: Fabricated from 1/4" x 3 1/2" x 28 9/16" (6.35 mm x 88.9 mm x 725.47 mm) HRPO flat steel. Finish: ProShield, color matched to posts.

Half Clamp: Cast aluminum. Finish: ProShield, color specified.

18. **169319A - Recycled Wood-Grain Lumber Panel**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Bracket: Formed from 1/4" x 1 1/4" (6.35 mm x 31.75 mm) HRPO flat steel. Finish: ProShield, tan in color.

Poly Board: Recycled 1 1/2" x 3 1/2" (38.1 mm x 88.9 mm) and 1 1/2" x 5 1/2" (38.1 mm x 139.7 mm) high-density polyethylene, cedar or mink in color.

Barrier Rail: Weldment comprised of 1.125" (28.57 mm) O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.87 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

19. **173565A - Xylofun Panel Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Xylofun Panel Assy.: (Panels) Two color Permalene, color specified. 1/8" (3.17 mm) Thick steel, 0.125" (3.17 mm) O.D. aluminum tube and 1/2" (12.7 mm) threaded steel rod. Finish: ProShield, color specified.

Angled Panel Bracket: Weldment comprised of 0.190" (4.83 mm) thick 5052 aluminum formed angle with (2) 6005-T5 aluminum threaded tubes 1 1/8" (28.58 mm) O.D. x 1 1/2" (38.1 mm) long. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

20. **177712A - Color Splash Panel Above Deck**

Color Splash

Panel Assy.: Assembly comprised of (Permalene Panels), color specified. (Lexan Panel) 1/4" (6.35 mm) thick x 26 3/4" (679.45 mm) diameter. (Acrylic Panel) 1/8" (3.18 mm) thick x 26 3/4" (679.45 mm) diameter clear. (Color Wheel) 0.1875" (4.76 mm) thick x 23 7/16" (595.30 mm) diameter aluminum sheet. Finish: ProShield, image is transferred into paint by the process of infusion. (Shaft) 300 Series stainless steel. (Thrust Oilite Bearing) 0.125" (3.18 mm) thick x 2.875" (73.03 mm) diameter. (Sleeve Oilite Bearing) 1.25" (31.75 mm) diameter x 0.750" (19.05 mm) long.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Angled Panel Bracket: Weldment comprised of 0.190" (4.83 mm) thick 5052 aluminum formed angle with (2) 6005-T5 aluminum threaded tubes 1 1/8" (28.58 mm) O.D. x 1 1/2" (38.1 mm) long. Finish: ProShield, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Panel: Permalene panel measures 35 5/8" (904.87 mm) wide x 41" (1041 mm), color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

21. **177718A - Rain Sound Wheel Panel Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Rain Sound Wheel Panel Assy.: Assembly comprised of (Permalene Panels), color specified. (Shaft) 1" (25 mm) diameter x 4 3/4" (120.65 mm) long stainless steel. (Inner & Outer Rings) 16 GA. (0.059") (1.50 mm) HRPO sheet steel. Finish: ProShield, color specified. (Brackets) 16 GA. (0.059") (1.50 mm) HRPO sheet steel. Finish: Zinc plate with clear chromate finish. (Spacer) 3/4" (19.05 mm) diameter x 2 1/8" (53.98 mm) long stainless steel. (Flange Oilite Bearing) 1.625" (41.28 mm) diameter x 1.000" (25 mm) long.

Angled Panel Bracket: Weldment comprised of 0.190" (4.83 mm) thick 5052 aluminum formed angle with (2) 6005-T5 aluminum threaded tubes 1 1/8" (28.58 mm) O.D. x 1 1/2" (38.1 mm) long. Finish: ProShield, color specified.

Hub: Fabricated from 1/4" (6.35 mm) thick HRPO sheet steel. Finish: ProShield, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Panel: Permalene panel measures 35 5/8" (904.87 mm) wide x 41" (1041 mm), color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

22. **120818A - Playstructure Seat**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Seat: Flange formed from 11 GA (0.120") (3.04 mm) sheet steel. Seating surface is perforated with 1/4" (6.35 mm) diameter holes. Finish: TenderTuff, color specified.

23. **120901A - Grab Bar**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Half Clamp: Cast aluminum. Finish: ProShield, color specified.

Grab Bar: Weldment comprised of formed 7/8" (22.23 mm) O.D. x 11 GA (0.120") (3.04 mm) and 1/4" x 1 3/4" (6.35 mm x 44.45 mm) stainless steel half clamps. Finish: TenderTuff, color specified.

24. **152179A - Saddle Spinner DB 12"Height**

Shaft Assembly: (Spinner Seat Post) Weldment comprised of 2.875" (73.03 mm) O.D. RS40 (0.160" - 0.170") (4.06 mm - 4.32 mm) Wall galvanized steel tubing, 1.250" (31.75 mm) O.D. steel shaft, 12 Ga. (0.105") (2.66 mm) HR flat steel and 1144 steel collar. Finish: ProShield, color specified. (Sleeve/Plate) Weldment comprised of 1/4" (6.35 mm) sheet HRPO steel and 2.875" (73.03 mm) O.D. schedule 80 steel tubing. Finish: ProShield, color specified.

Spinner Seat: Rotationally molded from U.V. stabilized linear low-density polyethylene measuring 18 1/4" (463.55 mm) wide x 7" (178 mm) high, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Rubber Gasket: Made from 50-durometer neoprene.

25. **152179A - Saddle Spinner DB 16"Height**

Shaft Assembly: (Spinner Seat Post) Weldment comprised of 2.875" (73.03 mm) O.D. RS40 (0.160"-0.170") (4.06 mm-4.32 mm) Wall galvanized steel tubing, 1.250" (31.75 mm) O.D. steel shaft, 12 Ga. (0.105") (2.66 mm) HR flat steel and 1144 steel collar. Finish: ProShield, color specified. (Sleeve/Plate) Weldment comprised of 1/4" (6.35 mm) sheet HRPO steel and 2.875" (73.03 mm) O.D. schedule 80 steel tubing. Finish: ProShield, color specified.

Spinner Seat: Rotationally molded from U.V. stabilized linear low-density polyethylene measuring 18 1/4" (463.55 mm) wide x 7" (178 mm) high, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Rubber Gasket: Made from 50-durometer neoprene.

26. **173591A - OmniSpin Spinner Surface Mount**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

OmniSpin Spinner: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

OmniSpin Spinner Frame Assembly: (Frame) Weldment comprised of 2.375" (60.33 mm)O.D. RS20 (0.095"-0.105") (2.41 mm-2.66 mm) wall galvanized steel tubing, 2.875" (73.03 mm) O.D. RS40 (0.160"-0.170") (4.06 mm-4.32 mm) wall galvanized steel tubing, 1/4" (6.35 mm) HR flat steel and 3 1/2" (88.9 mm) O.D. CF steel bar. (Base) Weldment comprised of 3/8" (9.53 mm) HRPO sheet steel and 3/16" (4.75 mm) HRPO sheet steel. (Shock Covers) 16 GA (0.060") (1.52 mm) HRPO sheet steel. (Crank Arms & Pins) Fabricated from stainless steel. (Shocks) Gas shocks with fixed bearings. Finish: ProShield, black in color.

27. **186490A - We-saw DB Only**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Anchor Cage: Weldment comprised of 1.029" (26.13 mm) O.D. RS20 (0.070"-0.080") (1.77 mm – 2.03 mm) wall galvanized steel tubing with 203 or 303 stainless steel welded inserts with 5/8" internal threads and 7 GA. (0.179") (4.54 mm) HRPO steel sheet. Finish: Proshield®, black in color.

Bumper Footer: Weldment comprised of 1.315" (33.40 mm) O.D. RS20 (0.080"-0.090") (2.03 mm – 2.29 mm) wall galvanized steel tubing with 203 or 303 stainless steel welded inserts with 5/8" internal threads and 0.250" (6.35 mm) thick HRPO steel plate. Finish: Proshield®, color specified.

Seat: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Center Pad: Fabricated from 0.250" (6.35 mm) thick HRPO steel sheet plate. Finish: Proshield®, black in color.

We-saw Assembly: (Arm Assembly) Weldment comprised of 3.500" (88.9 mm) O.D. x 8 GA. (0.162") (4.11 mm) wall galvanized steel tubing, 2.375" (60.33) O.D. RS40 (0.130"-0.140") (3.30 mm-3.56 mm) wall galvanized steel tubing, 1.900" (48.26 mm) O.D. RS40 (0.120"-0.130") (3.05 mm-3.30 mm) wall galvanized steel tubing, 0.375" (9.52 mm) thick HRPO steel plate and 0.250" (6.35 mm) HRPO steel plate. Finish: Proshield®, black in color. (Rocker Assembly) Weldment comprised 0.250" (6.35 mm) HRPO steel plate and 2" (50 mm) x 5/16" (7.93 mm) wall steel tubing. Finish: ProShield, black in color. (Base) Weldment comprised 0.375" (9.53 mm) HRPO steel plate and 2.500" (63.50 mm) O.D. x 1.150" (29.21 mm) I.D. stainless steel tubing. Finish: ProShield, black in color. (Base Plate) Fabricated from 0.250" (6.35 mm) HRPO steel plate. Finish: ProShield, black in color. (Spring) 5 5/8" (142.87 mm) diameter 13/16" (20.62 mm) tempered alloy steel coil. Finish: ProShield, black in color. (Spring Wedge) Cast from ductile iron alloy. Finish: ProShield, black in color. (Bearings) 1.145" (29.08 mm) I.D. oilite bronze. (Shaft) 1.14" (28.96 mm) O.D. stainless steel.

Filler Plate: Fabricated from 12 Ga. (105") (2.66 mm) HRPO steel sheet. Finish: ProShield, color specified.

Teeter Pad & Edges: Permalene®, color specified.

Platform Handhold: Weldment comprised of 1.315" (33.4 mm) O.D. RS20 (0.080"-0.090") (2.03 mm – 2.28 mm) wall galvanized steel tubing, 10 GA (0.135") (3.42 mm) HRPO steel sheet and 7 GA. (0.179") (4.54 mm) HRPO steel sheet. Finish: Proshield®, color specified.

GripX Insert: 3/4" (19.05 mm) Thick Permalene®, black in color.

Rung Cap: Molded from U.V. stabilized black EPDM rubber encapsulating 0.250" (6.35 mm) thick aluminum sheet and 0.125" (3.18 mm) thick aluminum plate.

28. **295696A - ReviRock Bouncer DB Only**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Hand Hold: Fabricated from A356 sand casted aluminum. Finish: ProShield®, Specify color.

Permalene: 3/4" Thick HDPE Permalene, Specify color.

Revi Roto: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Support: (Post) Weldment comprised of 5.00" (127 mm) O.D. 11ga (3.05 mm) wall galvanized steel tubing and ½" (12.7 mm) HRPO Steel plate (Base) Weldment comprised of 3 /8" (9.6 mm) HRPO sheet steel and 3 /16" (4.8mm)

HRPO sheet steel. (Covers) 16 GA (0.060") HRPO sheet steel (Spring) Fabricated from 12" (305 mm) diameter 1-5/16" (33.4 mm) tempered alloy steel coil, with cast steel wedges placed in each end of spring. Finish: ProShield®, specify color.

29. **182503A - Welcome Sign (LSI Provided) Ages 2-5 years Direct Bury**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Sign Panel: Panel is fabricated from 1/8" (0.125")(3.17 mm) aluminum plate. Finish: ProShield®, gray in color. (Sign) Digital image is transfered to a 1/8" (0.125")(3.17 mm) ProShield coated aluminum plate, then infused into the ProShield.

Border: Permalene, black in color.

Post: Weldment comprised 2.375" (60.33 mm) O.D. RS20 (0.095-0.105) (2.41 mm-2.67 mm) wall galvanized tube, 1/4" (6.35 mm) HRPO steel sheet and aluminum post cap. Finish: ProShield, color specified.

30. **123331B - Double Slide 48"Dk DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Rail: Extruded from 1.125" (28.58 mm) O.D. x .312" (7.92 mm) wall. 6005-T5 aluminum. Finish: ProShield, color specified.

Exit Support: Weldment comprised of 2.375" (60.33 mm) O.D. RS-20 (0.095" - 0.105") (2.41 mm x 2.66 mm) galvanized steel tubing and 1/4" x 3" (6.35 mm x 76 mm) mounting plate. Finish: ProShield, color specified.

Slide Hood: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Slide: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Rail Spacer: Fabricated from 1.312" (33.32 mm) O.D. x 16 GA (0.065") (1.65 mm) steel tubing. Finish: ProShield, color specified.

31. **123337A - Single Slide 48"Dk DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Exit Support: Weldment comprised of 2.375" (60.33 mm) O.D. RS-20 (0.095" - 0.105") (2.41 mm x 2.66 mm) galvanized steel tubing and 1/4" x 3" (6.35 mm x 76 mm) mounting plate. Finish: ProShield, color specified.

Slide Hood: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Slide: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Rail: Extruded from 1.125" (28.58 mm) O.D. x 0.312" (7.92 mm) wall. 6005-T5 aluminum. Finish: ProShield, color specified.

Rail Spacer: Fabricated from 1.312" (33.32 mm) O.D. x 16 Ga. (0.065") (1.65 mm) steel tubing. Finish: ProShield, color specified.

32. **173596A - Log Balance Beam DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Log Balance Beam Assembly: Weldment comprised of 1.900" (48.26 mm) O.D. RS20 (0.090"-0.100") (2.28 mm-2.54 mm) wall galvanized steel tubing and 2.375" (60.33 mm) O.D. RS20 (0.095"-0.105") (2.41 mm-2.66 mm) wall galvanized steel tubing. Finish: ProShield, brown in color. (Log-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

Leg: Fabricated from 2.375" (60.33 mm) O.D. RS20 (0.095"-0.105") (2.41 mm-2.66 mm) wall galvanized steel tubing. Finish: ProShield, brown in color.

33. **174018A - Belt Seat ProGuard Chains for 8' Beam Height**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Chain/ProGuard: Steel 3/16" (4.75 mm) straight link chain, 800 lb. (362.87 kilograms) working load limit. Finish: ProGuard.

Belt Seat: Molded from U.V. stabilized black EPDM rubber encapsulating a weldment comprised of a 22 GA (0.029") (0.74 mm) spring stainless steel sheet and (4) 0.105" (2.67 mm) thick stainless steel washers. The belt seat elliptical shape measures 7" (178 mm) wide x 26" (660 mm) long x 0.700" (17.78 mm) thick.

Bolt Link: Stainless Steel

34. **176038A - Full Bucket Seat ProGuard Chains for 8' Beam Height**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Chain/ProGuard: Steel 3/16" (4.75 mm) straight link chain, 800 lb. (362.87 kilograms) working load limit. Finish: ProGuard.

Full Bucket Seat: Made of U.V. stabilized high-quality black rubber encapsulating a 24 GA (0.024") (0.61 mm) stainless steel reinforcement plate. Handles cast from 356-T6 aluminum alloy with black polyarmor paint finish. Handles attach to seat with (3) 1/4" (6.35 mm) x 1 5/16" (33.32 mm) long stainless steel rivets. The full bucket measures 9" (229 mm) deep x 10 1/2" (266.7 mm) wide.

35. **218671C - Molded Bucket Seat (2-5 yrs) w/Harness ProGuard Chains for 8' Beam Height**

Dbl. Pivot Block: Fabricated from 6061-T6 Aluminum with bronze oil-impregnated bearing.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Bucket Seat Assy: (Bucket Seat & Yoke) Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified. (Pipebolt) Made from 1.125" (28.58 mm) O.D. 6005-T5 threaded anodized aluminum tube. (Bearings) UHMW PE lubricated. (Brackets) Made from 356-T6 aluminum.

Mounting Bracket: Cast from 535 aluminum magnesium.

Chain/ProGuard: Steel 3/16" (4.75 mm) straight link chain, 800 lb. (362.87 kilograms) working load limit. Finish: ProGuard.

Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (0.120") (3.04 mm) HRPO steel sheet.

36. **221292A - 5" Arch Swing Frame 8' Beam Height Only**

Arch Posts: See PlayBooster (PB) General Specifications.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Swing Beam: Weldment comprised of tee clamps and 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a 0.125" (3.17 mm) W. Finish: ProShield, color specified.

37. **221293A - 5" Arch Swing Frame Additional Bay 8' Beam Height Only**

Arch Posts: See PlayBooster (PB) General Specifications.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Swing Beam: Weldment comprised of tee clamps and 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a 0.125" (3.17 mm) W. Finish: ProShield, color specified.

206-11.2.15 1169473-01-04 Playbooster (5-12 Years).

1. **120325A Ramp Berm Exit Plate Concrete Wall**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Ramp Plate: Fabricated from 10 GA (0.135") (3.43 mm) HRPO steel plate with 3/8" x 1" (9.53 mm x 25 mm) stainless steel mounting stud. Finish: TenderTuff, brown in color.

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

2. **173907A Log Stepper 8"Height DB Only**

Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (0.120") (3.04 mm) wall galvanized steel tubing and 3/16" (4.75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

3. **173908A Log Stepper 18"Height DB Only**

Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (0.120") (3.04 mm) wall galvanized steel tubing and 3/16" (4.75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

4. **169318B Wood Plank Wiggle Ladder 40" Deck w/Recycled Wood-Grain Handholds DB**

Poly Board: Recycled high-density polyethylene, cedar, mink or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handhold Frame: Weldment comprised of 1.125" (28.58 mm) O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Chain/ProGuard: Steel 3/16" (4.75 mm) straight link chain, 800 lb. (362.87 kilograms) working load limit. Finish: ProGuard.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Support (DB): Fabricated from 1.315" (33.40 mm) O.D. RS20 (0.080"-0.090") (2.03 mm – 2.28 mm) galvanized steel tubing.

5. **172665B Loop Pole w/Recycled Wood-Grain Handholds 72"Dk DB**

Poly Board: Recycled high-density polyethylene, cedar, mink or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handhold Frame: Weldment comprised of 1.125" (28.58 mm)O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Loop Pole: Weldment comprised of 1.900" (48.26 mm) O.D. RS-20 (0.090"-0.100") (2.28 mm-2.54 mm) galvanized steel tubing, and 1.315" (33.40 mm) O.D. RS-20 (0.080"-0.090") (2.03mm-2.28 mm) galvanized steel tubing. Finish: ProShield, color specified.

6. **172666B Corkscrew Climber w/Recycled Wood-Grain Handholds 72"Dk DB**

Poly Board: Recycled high-density polyethylene, cedar, mink or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handhold Frame: Weldment comprised of 1.125" (28.58 mm) O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate.

Finish: ProShield, tan in color.

Corkscrew: Weldment comprised of 1.900" (48.26 mm) O.D. RS-20 (0.090"-0.100") (2.28 mm-2.54 mm) galvanized steel tubing, and 1.315" (33.40 mm) O.D. RS-20 (0.080"-0.090") (2.03 mm-2.28 mm) galvanized steel tubing. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

7. **175573B Log Stepper 24"Deck w/1 Recycled Wood-Grain Handhold 1 Handloop Right Handhold**

Poly Board: Recycled high-density polyethylene, cedar, mink or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handhold Frame: Weldment comprised of 1.125" (28.58 mm) O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Handloop: Weldment comprised of 1.125" (28.58 mm) O.D. x 11 GA (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 3/8" (9.53 mm) internal thread. Finish: TenderTuff, color specified.

Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (0.120") (3.04 mm) wall galvanized steel tubing and 3/16" (4.75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

8. **175573B Log Stepper 24"Deck w/1 Recycled Wood-Grain Handhold 1 Handloop Left Handhold**

Poly Board: Recycled high-density polyethylene, cedar, mink or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handhold Frame: Weldment comprised of 1.125" (28.58 mm) O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Handloop: Weldment comprised of 1.125" (28.58 mm) O.D. x 11 GA (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 3/8" (9.53 mm) internal thread. Finish: TenderTuff, color specified.

Log Stepper Assy.: (Footer Post) Weldment comprised of 5" (127 mm) O.D. x 11 GA. (0.120") (3.04 mm) wall galvanized steel tubing and 3/16" (4.75 mm) HRPO steel plate. Finish: ProShield, color specified. (Log Stepper-fully assembled) Glass reinforced wet cast solid pour concrete product. Finish: Latex paint made for concrete, natural colors.

9. **271906A Wood Plank Ladder w/Wood-Grain Handholds 72" Deck DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Lumber Climber: Weldment comprised of 2.375" (60.32 mm) O.D. x 0.130" - 0.140" (3.30 mm-3.55 mm) wall RS40 galvanized steel tube, and 1/4" (6.35 mm) thick HRPO steel plate. Finish: ProShield, color specified.

Poly Board: Recycled high-density polyethylene, cedar, mink or gray in color.

Belt: 0.315" (8.00 mm) Thick mini rough top rubber belting with polyester fabric plys, black in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

10. **128252A Loop Ladder 40"Dk DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Handhold Panel: Permalene, color specified.

Loop Ladder: Weldment comprised of 1.125" (28.58 mm) O.D. x 11 GA (0.120") (3.04 mm) black steel tubing. Finish: TenderTuff, color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

11. **152907B Deck Link w/Barriers Steel end panels 2 Steps**

SteelX Panels: Zinc plated 7 GA (0.179") (4.55 mm) HRPO flat steel. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Barrier: Weldment comprised of 1.125" (28.58 mm) O.D. x 11 Ga. (0.120") (3.04 mm) wall steel tubing, 5/8" (15.88 mm) O.D. steel bar with 203 or 303 stainless steel 3/8" (9.53 mm) threaded inserts. Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Step Section: Formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is 24 1/4" (615.95 mm) wide x 14" (356 mm) deep and is perforated with 5/16" (7.94 mm) diameter holes. Finish: TenderTuff, color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

12. **152907C Deck Link w/Barriers Steel end panels 3 Steps**

SteelX Panels: Zinc plated 7 GA (0.179") (4.55 mm) HRPO flat steel. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Barrier: Weldment comprised of 1.125" (28.58 mm) O.D. x 11 Ga. (0.120") (3.04 mm) wall steel tubing, 5/8" (15.88 mm) O.D. steel bar with 203 or 303 stainless steel 3/8" (9.53 mm) threaded inserts. Finish: TenderTuff, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Step Section: Formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is 24 1/4" (615.95 mm) wide x 14" (356 mm) deep and is perforated with 5/16" (7.94 mm) diameter holes. Finish: TenderTuff, color specified.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

13. **111228A Square Tenderdeck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Square Deck: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 47" x 47" (66.68 mm x 1194 mm x 1194 mm). Finish: TenderTuff, color specified.

14. **111229A Square Deck Extension**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Square Deck Extension: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 42" x 47" (66.68 mm x 1067 mm x 1194 mm). Finish: TenderTuff, color specified.

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

15. **111231A Triangular Tenderdeck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Triangular Deck: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 37 3/4" (66.68 mm x 958.85 mm). Finish: TenderTuff, color specified.

16. **119646A Tri-Deck Extension**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Triangular Deck Extension: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size of two of the three sides measures 2 5/8" x 37 7/8" (66.68 mm x 962.03 mm) on the face of the deck and the other side measures 2 5/8" x 43 3/4" (66.68 mm x 1111.25 mm). Finish: TenderTuff, color specified.

17. **121948A Kick Plate 8" Rise**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Kick Plate: Fabricated from 11 GA (0.120") (3.04 mm) HR flat steel. Finish: TenderTuff, brown or gray in color.

18. **154752A Hex Deck w/One Extension**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Deck Brace: Fabricated from 3/8" x 1 3/4" x 28 1/2" long zinc-plated steel strap. Finish: ProShieldÂ®, silver in color.

Hex Deck Extension: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 42" x 78" (66.68 mm x 1067 mm x 1981 mm). Finish: TenderTuff, color specified.

Hex Deck: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting components. The finished size measures 2 5/8" x 36 3/4" (66.68 mm x 933.45 mm) per each of the six sides for an overall dimension of 77 5/8" (1971.68 mm) face to face. Finish: TenderTuff, color specified.

19. **178710A Hexagon Tenderdeck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Deck Brace: Fabricated from 3/8" x 1 3/4" x 28 1/2" long zinc-plated steel strap. Finish: ProShieldÂ®, silver in color.

Deck Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Hex Deck: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes. Deck face has (4) slotted holes for face mounting

components. The finished size measures 2 5/8" x 36 3/4" (66.68 mm x 933.45 mm) per each of the six sides for an overall dimension of 77 5/8" (1971.68 mm) face to face. Finish: TenderTuff, color specified.

20. **185852A Transfer Step w/2 Handloops DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handloop: Weldment comprised of 1.125" (28.58 mm) O.D. x 11 GA (0.120") (3.05 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal thread. Finish: TenderTuff, color specified.

Step: Formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Finish: TenderTuff, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Step Support: Weldment comprised of 1.660" (42.16 mm) O.D. RS-20 (0.080" - 0.095") (2.03 mm-2.41 mm) galvanized steel tubing and 1 3/4" x 1 3/4" x 1/8" (44.45 mm x 44.45 mm x 3.17 mm) HR angle. Finish: ProShield, color specified.

21. **115228A Driver Panel Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Permalene Panel: Two-color panel measures 35 5/8" (904.88 mm) wide x 41" (1041 mm) high, color specified.

Hub: One-color Permalene, color specified.

Angled Panel Bracket: Weldment comprised of 0.190" (4.83 mm) thick 5052 aluminum formed angle with (2) 6005-T5 aluminum threaded tubes 1 1/8" (28.58 mm) O.D. x 1 1/2" (38.1 mm) long. Finish: ProShield, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Wheel: 12" (305 mm) diameter cast A319.1 aluminum alloy. Shaft-303 stainless steel. Finish: TenderTuff, color specified.

Wheel Bracket: Weldment comprised of formed 3/16" (4.75 mm) plate and 5/8" (15.88 mm) O.D. stainless steel shaft. Finish: ProShield, Black in color.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

22. **115254A Storefront Panel**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Store Panel: One-color Permalene. Panel measures 35 1/2" (901.7 mm) wide x 37" (940 mm) high, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Bracket: Formed 11 GA (0.120") (3.04 mm) 5052 aluminum angle. Finish: ProShield, color matched to panel.

23. **119514A Pilot Panel Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Angled Panel Bracket: Weldment comprised of 0.190" (4.83 mm) thick 5052 aluminum formed angle with (2) 6005-T5 aluminum threaded tubes 1 1/8" (28.58 mm) O.D. x 1 1/2" (38.1 mm) long. Finish: ProShield, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Permalene Panel: Two color panel measures 35 5/8" (904.88 mm) wide x 41" (1041 mm) high, color specified.

Wheel: 12" (305 mm) diameter cast A319.1 aluminum alloy. Shaft-303 stainless steel. Finish: TenderTuff, color specified.

Wheel Bracket: Weldment comprised of formed 3/16" (4.75 mm) plate and 5/8" (15.88 mm) O.D. stainless steel shaft. Finish: ProShield, Black in color.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. x 1 11/16" (42.85 mm). Finish: ProShield, color specified.

24. **135729A Periscope Reach Panel Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Access Clamp: Weldment comprised of 3/8" (9.53 mm) HRPO steel plate and 1/4" x 1 3/4" (6.35 mm x 44.45 mm) wide steel clamp. Finish: ProShield, color specified.

Mounting Plate: Fabricated from formed 11 GA (0.120") (3.04 mm) HRS. Finish: ProShield, red in color.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Panel: Two color panel measures 35 5/8" (904.88 mm) wide x 18" (457 mm) high, color specified.

Angle: Fabricated from formed 11 GA (0.120") (3.04 mm) HRPO sheet steel. Finish: ProShield, color specified.

Periscope Assembly: Fabricated from an octagon 14 GA (0.075") (1.91 mm) steel tube ProShield red with (2) 18 GA (0.048") (1.22 mm) 304 stainless steel bright annealed (reflective finishes). Periscope rotates vertically and horizontally. Permalene: Hand-grip and lense covers are black in color.

25. **135731A Chimes Reach Panel Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Access Clamp: Weldment comprised of 3/8" (9.53 mm) HRPO steel plate and 1/4" x 1 3/4" (6.35 mm x 44.45 mm) wide steel clamp. Finish: ProShield, color specified.

Panel: One-color panel measures 34" (864 mm) wide x 18" (457 mm) high, color specified.

Front & Back Panels: Two color panels measure 23 1/4" (590.55 mm) wide x 16 1/4" (412.75 mm) high, color specified.

Half Clamp: Cast aluminum. Finish: ProShield, color specified.

Angle: Fabricated from formed 11 GA (0.120") (3.04 mm) HRPO sheet steel. Finish: ProShield, color specified.

26. **160694A Barrier With Infill Panel**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Barrier: Weldment comprised of 1.125" (28.58 mm) O.D. x 11 GA (0.120") (3.04 mm) steel tube per ASTM A513 with 203 or 303 stainless steel welded inserts with 5/8" (15.88 mm) internal threads and 1/4" (6.35 mm) tabs. Finish: TenderTuff, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Infill Panel: Recycled Permalene, color specified.

27. **164094A Bongo Reach Panel Above Deck**

Access Clamp: Weldment comprised of 3/8" (9.53 mm) HRPO steel plate and 1/4" x 1 3/4" (6.35 mm x 44.45 mm) wide steel clamp. Finish: ProShield, color specified.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Bongo: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Screen Plate: Fabricated from 12 GA. (0.105") (2.66 mm) HRPO flat steel. Finish: Black in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Angle: Fabricated from formed 11 GA (0.120") (3.04 mm) HRPO sheet steel. Finish: ProShield, color specified.

Panel: Two-color Permalene panel measures 34" (864 mm) wide x 18" (457 mm) high, color specified.

28. **169319A - Recycled Wood-Grain Panel**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Bracket: Formed from 1/4" x 1 1/4" (6.35 mm x 31.75 mm) HRPO flat steel. Finish: ProShield, tan in color.

Poly Board: Recycled 1 1/2" x 3 1/2" (38.1 mm x 88.9 mm) and 1 1/2" x 5 1/2" (38.1 mm x 139.7 mm) high-density polyethylene, cedar or mink in color.

Barrier Rail: Weldment comprised of 1.125" (28.57 mm) O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.87 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

29. **191031A - Accessible Panel Curb**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Curb Panel: Permalene, color specified.

30. **217909A - DigiFuse Barrier Panel Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

DigiFuse Panel: Made from 1/4" (6.35 mm) thick aluminum sheet. Dye sublimation printed digital artwork is fused onto the powder-coated substrate.

Clamps: Cast aluminum. Finish: ProShield, color specified.

31. **218172A DigiFuse Barrier Panel w/Medallions Above Deck**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Medallion Plate: Made from (1.60 mm) thick aluminum plate, (101 mm) in diameter. Finish: ProShield®, white in color with a clear coat finish.

DigiFuse Panel: Made from 1/4" (6.35 mm) thick aluminum sheet. Dye sublimation printed digital artwork is fused onto the powder-coated substrate.

Spacer Tube: Made from 6061-T6 aluminum 7/8" (22.23 mm) O.D. Finish: ProShield, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

32. **120901A - Grab Bar**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Half Clamp: Cast aluminum. Finish: ProShield, color specified.

Grab Bar: Weldment comprised of formed 7/8" (22.23 mm) O.D. x 11 GA (0.120") (3.04 mm) and 1/4" x 1 3/4" (6.35 mm x (44.45 mm) stainless steel half clamps. Finish: TenderTuff, color specified.

33. **194663C - ZipKrooz 66' w/Aluminum Posts DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Crossover: Weldment comprised of tee clamps and a 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a 0.125" (3.17 mm) wall. Finish: ProShield, color specified.

Chain w/Rubber Cover Assy.: (Chain) Steel 1/4" (6.35 mm) straight link chain, 3,150 lbs. (1428,82 kilograms) working load limit. Finish: ProGuard. (Cover) High pressure Buna-N Rubber hose, black in color. (Connector) Aluminum.

Deck: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011, 1/4" (6.35 mm) HRPO flat steel and 3/8" (9.53 mm) HRPO flat steel. Standing surface is perforated with 5/16" (7.94 mm) diameter holes. The finished size measures 2 1/8" x 38 1/2" x 38 1/2" (53.98 mm x 977 mm x 977 mm). Finish: TenderTuffTM, color specified.

Spacer: .190" (4.82 mm) Thick aluminum sheet.

Trolley Assy.: Steel body with urethane rollers. Completely assembled. Steel Body Finish: ProShield®, black in color.

ZipKrooz Crossover: Weldment comprised of 2.375" (60.33 mm) O.D. RS40 (0.130"-0.140") (3.30 mm-3.55 mm) wall galvanized steel tubing, 3/8" (9.52 mm) thick HRPO steel plate and 1/4" (6.35 mm) thick HRPO steel. Finish: ProShield®, color specified.

Deck Support: Weldment comprised of 5" (127 mm) O.D. x 7 GA. (0.179") (4.54 mm) wall galvanized steel tube, and 1/2" (12.7 mm) HRPO steel plate. Finish: ProShieldÂ®, color specified.

Bumper: Urethane, black in color.

E-Pod: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Track: Extruded from 6005-T4 aluminum alloy. Finish: ProShieldÂ®, color specified.

Post: See PlayBooster (PB) General Specifications.

34. **196213C - ZipKrooz Assisted Additional Bay 66' w/Aluminum Posts DB**

Crossover: Weldment comprised of tee clamps and a 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a 0.125" (3.17 mm) wall. Finish: ProShield, color specified.

Bucket Seat Assy: (Bucket Seat & Yoke) Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified. (Pipebolt) Made from 1.125" (28.58 mm) O.D. 6005-T5 threaded anodized aluminum tube. (Bearings) UHMW PE lubricated. (Brackets) Made from 356-T6 aluminum.

Spacer: 0.190" (4.82 mm) Thick aluminum sheet.

Trolley Assy.: Steel body with urethane rollers. Completely assembled. Steel Body Finish: ProShield®, black in color.

ZipKrooz Crossover: Weldment comprised of 2.375" (60.33 mm) O.D. RS40 (0.130"-0.140") (3.30 mm-3.55 mm) wall galvanized steel tubing, 3/8" (9.52 mm) thick HRPO steel plate and 1/4" (6.35 mm) thick HRPO steel. Finish: ProShield®, color specified.

Bucket Seat Mount: Weldment comprised of 1.42" (36.06 mm) diameter stainless steel, 1.660" (42.16 mm) O.D. RS20 (0.085"-0.095") (2.16 mm-2.41 mm) wall galvanized steel tubing, 3/8" (9.53 mm) thick HRPO steel plate and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield®, color specified.

Bumper: Urethane, black in color.

Cable Assy.: (Cable) Made of tightly woven polyester-wrapped, six-stranded galvanized steel cable with a polypropylene core. (Cable Connectors) 6063-T6 aluminum.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Track: Extruded from 6005-T4 aluminum alloy. Finish: ProShieldÂ®, color specified.

Post: See PlayBooster (PB) General Specifications.

Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (0.120") (3.04 mm) HRPO steel sheet.

35. **247179A - Curva Spinner DB Only**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Standing Post Assembly: Spinner Post - Weldment comprised of 3.5" O.D. 8GA (0.149"-0.187" wall) galvanized steel tubing, 2" O.D. steel shaft, 12 GA. (0.105") HR flat steel, and 1144 steel collar. Finish: ProShield®, color specified.

Sleeve/Plate - Weldment comprised of 3/8" sheet HRPO steel and 3.5" O.D. schedule 80 steel tubing. Finish; ProShield®, color specified.

Spinner Permalene: Recycled permalene, black in color.

Rubber Plug: Made from 0.315" thick mini rough top 3-ply rubber belting with polyester fabric plys, black in color

Rubber Gasket: Made from 50-durometer neoprene.

Spinner Post: Weldment comprised of 1.315" O.D. RS20 (0.075"-0.091") galvanized steel tubing, 6" O.D. Sphere (0.135" wall) and 4" O.D. STC Ball (0.135"wall). 3/8" HRPO flat steel. Finish" ProSshield®, color specified.

36. **247189A- Chill Spinner DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Belt Seat: Made from 0.315" (8.00 mm) thick mini rough top 3-ply rubber belting with polyester fabric plys, black in color.

Belt: Made from 0.315" (8.00 mm) thick mini rough top 3-ply rubber belting with polyester fabric plys, black in color.

Seat Frame: Weldment comprised of 1.66" (42.1 mm) O.D. RS40 (0.130"-0.140") (3.30 mm-3.56 mm) wall galvanized steel tubing, 1/4" (6.35 mm) thick HRPO steel sheet and 3.500" (88.9 mm) O.D. steel pipe. Finish: ProShield, color specified.

Seat Post: Weldment comprised of 3.500" (88.9 mm) O.D. (8 GA) (0.165") wall galvanized steel tubing. Finish: ProShieldÂ®, color specified.

Bearing: 2" (50 mm) Deep groove stainless steel.

Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (0.120") (3.04 mm) HRPO steel sheet.

37. **295694A - ReviWhirl Spinner DB Only**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Permalene: 3/4" Thick HDPE Permalene, Specify color.

Hand Hold: Fabricated from A356 sand-cast aluminum. Finish: ProShieldÂ®, Specify color.

Spinner Support: (Post) Weldment comprised of 3.500" (88.9 mm) O.D. RS20 (0.125") (3.17 mm) wall galvanized steel tubing, 1/8" (3.17 mm) thick HRPO steel plate and 1.967" (49.96 mm) O.D. steel shaft. (Base) Weldment comprised of 3 /8" (9.6 mm) HRPO sheet steel and 3 /16" (4.8 mm) HRPO sheet steel. (Shock Covers) 16 GA (0.060") HRPO sheet steel. (Crank Arms & Pins) Fabricated from stainless steel. (Shocks) Gas shocks with fixed bearings. Finish: ProShieldÂ®, specify color.

Bearing: 2" (50 mm) Deep groove stainless steel.

Revi Roto: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

38. **111405H - 50"Alum Flush Post w/Turtle Cap DB**

Flush Mount Cap: Weldment comprised of 4.675" (118.75 mm) O.D. x 4" (102 mm) long aluminum sleeve and 3/16" (4.75 mm) thick x 4.875" (123.83 mm) top cap. Finish: Tendertuff, color specified.

Post: See PlayBooster (PB) General Specifications.

39. **154883D - 221"Steel Post (60" Bury) For CoolTopper Single Post Pyramid Roof**

CoolTopper Post: Weldment comprised of 5" (127 mm) O.D. x 11 GA. (0.120") (3.04 mm) galvanized steel tubing and 1/4" (6.35 mm) steel plate. Finish: ProShield, color specified.

40. **154884A - CoolToppers Single Post Pyramid Roof DB Only**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

CoolTopper Shade Top: Heavy duty, 62.9 mils (1.6 mm) thick professional grade shade fabric for tensioned structures and other shade applications. Made from U.V. stabilized HDPE monofilament and tape yarns. Specialized lock stitch knit for more air movement and better channeling of cooling breezeways. Constructed to block up to 97.7% of harmful UV sun rays. Fade and tear-resistant, will not crack, rot or fray. Tensile strength warp 142.75 lbs. weft 560.67 lbs. Tear strength warp 42.03 lb. and weft 80.70 lbs. Burst pressure 507.63 PSI. Remove fabric when wind speed is expected to exceed 90 mph and snow load is expected to exceed 5 psf, per International Building Code (IBC) 2009.

Clamp: Weldment comprised of 1/4" x 3" (6.35 mm x 76 mm) HRPO flat steel and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, color specified.

Extension Arms: Weldment comprised of 2.375" (60.33 mm) O.D. RS-20 (0.095"-0.105") (2.41 mm-2.66 mm) galvanized steel tubing, 1/4" (6.35 mm) steel plate and 1/4" (6.35 mm) diameter carbon steel J-hooks. Finish: ProShield, color specified.

41. **182503C - Welcome Sign (LSI Provided) Ages 5-12 years Direct Bury**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Post: Weldment comprised 2.375" (60.33 mm) O.D. RS20 (0.095-0.105) (2.41 mm-2.67 mm) wall galvanized tube, 1/4" (6.35 mm) HRPO steel sheet and aluminum post cap. Finish: ProShield, color specified.

Sign Panel: Panel is fabricated from 1/8" (0.125")(3.17 mm) aluminum plate. Finish: ProShield®, gray in color. (Sign) Digital image is transferred to a 1/8" (0.125")(3.17 mm) ProShield coated aluminum plate, then infused into the ProShield.

42. **122033A - SpyroSlide 72"Dk DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Center Column: Fabricated from 3.500" (88.9 mm) O.D. RS-20 (0.120" - 0.130") (3.04 mm-3.30 mm) galvanized steel tubing. Finish: ProShield, color specified.

Exit Support: Weldment comprised of 2.375" (60.33 mm) O.D. RS-20 (0.095" - 0.105") (2.41 mm-2.66 mm) galvanized steel tubing and 1/4" (6.35 mm) thick zinc-plated HRPO flat steel. Finish: ProShield, color specified.

Rail: 1 1/8" (28.58 mm) O.D. 6061-T6 aluminum extrusion with 5/16" (7.92 mm) walls. Finish: ProShield, color specified.

Barrier Plates: Fabricated from 1/4" x 1 1/2" (6.35 mm x 38.1 mm) zinc-plated HRPO flat steel. Finish: ProShield, color specified.

Slide, Hood & Barriers: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Entrance Deck: Flange formed from 12 GA (0.105") (2.66 mm) sheet steel conforming to ASTM A1011. Standing surface is perforated with 5/16" (7.92 mm) diameter holes and measures 31 3/4" (806.45 mm) wide x 36 27/32" (935.81 mm) long. Finish: TenderTuff, color specified.

Handbar: Formed from 7/8" (22.23 mm) O.D. x 11 GA (0.120") (3.04 mm) black steel tubing. Finish: TenderTuff, brown in color.

43. **123333A - Rollerslide 40"Dk DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Rail: 1 1/8" (28.58 mm) O.D. 6061-T6 aluminum extrusion with 5/16" (7.92 mm) walls. Finish: ProShield, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Rollers: Fabricated from 1.900" (48.26 mm) O.D. x 16 GA (0.060") (1.52 mm) galvanized steel tubing. Finish: TenderTuff, color specified.

Roller Shafts: Fabricated from 1/2" (305 mm) diameter CRS zinc-plated with yellow chromate finish.

Rail Spacer: Fabricated from 1.312" (33.32 mm) O.D. x 16 GA (0.065") (1.65 mm) steel tubing. Finish: ProShield, color specified.

Tube: 1 1/8" O.D. x 1 5/8" long aluminum tube. Finish: ProShield, color specified.

Top Plate: Formed from 10 GA (0.135") (3.43 mm) 304-2B SST. Finish: TenderTuff, color specified.

Hood: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Rails: Extruded from 6005-T1 aluminum. Finish: ProShield, color specified.

Support Leg: Fabricated from 1.900" (48.26 mm) O.D. RS-20 (0.090" - 0.100") (2.28 mm-2.54 mm) galvanized steel tubing. Finish: ProShield, color specified.

44. **130390A - Double Swoosh Slide 72"Dk DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Slide Hood: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Slide: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Offset Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.

Rail Spacer: Fabricated from 1.312" (33.32 mm) O.D. x 16 GA (0.065") (1.65 mm) steel tubing. Finish: ProShield, color specified.

Rail: Extruded from 1.125" (28.58 mm) O.D. x 0.312" (7.92 mm) wall. 6005-T5 aluminum. Finish: ProShield, color specified.

Slide Support: Weldment comprised of 2.375" (60.33 mm) O.D. RS-20 (0.095" - 0.105") (2.41 mm-2.66 mm) galvanized steel tubing and 1/4" x 3" (6.35 mm x 76 mm) mounting plate. Finish: ProShield, color specified.

45. **169317A - Firepole w/Recycled Wood-Grain Handholds 40"Dk DB**

Poly Board: Recycled high-density polyethylene, cedar, mink or gray in color.

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Handhold Frame: Weldment comprised of 1.125" (28.58 mm) O.D. 11 GA. (0.120") (3.04 mm) steel tubing with 203 or 303 stainless steel inserts, with 5/8" (15.88 mm) internal threads and 1/4" (6.35 mm) HRPO steel plate. Finish: ProShield, tan in color.

Clamps: Cast aluminum. Finish: ProShield, color specified.

Firepole: Weldment comprised of 1.900" (48.26 mm) O.D. RS-20 (0.090"-0.100") (2.28 mm – 2.54 mm) galvanized steel tubing, and 1.315" (33.40 mm) O.D. RS-20 (.080" - 0.090") (2.03 mm – 2.28 mm) galvanized steel tubing. Finish: ProShield, color specified.

46. **173592A - Oodle Swing DB Only**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Swing Seat Brkt: Weldment comprised of 1.66" (42.16 mm) O.D. RS-40 (0.108" - 0.132") (2.74 mm – 3.35 mm) wall galvanized steel tube, 1.000" (25.4 mm) O.D. x 0.750" (19.05 mm) I.D. 1018 steel tube and 7GA (0.179") (4.55 mm) HRPO steel sheet. Finish: ProShieldÂ®, color specified.

Swing Seat: Rotationally molded from U.V. stabilized linear low-density polyethylene, color specified.

Rope Tab Swivel: Made from 6061-T6 aluminum.

Swing Beam Assy.: Weldment comprised of 3.500" (88.9 mm) O.D. RS20 (0.080" - 0.090") (2.03 mm – 2.28 mm) wall galvanized steel tube and 1/2" (12.7 mm) thick stainless steel tabs. Finish: ProShield, color specified.

Cable: Made of tightly woven polyester-wrapped, six-stranded galvanized steel cable with a polypropylene core. (Cable Connectors) 6061-T6 aluminum.

Swing Leg: 3.500" (88.9 mm) O.D. RS20 (0.080" - 0.090") (2.03 mm – 2.28 mm) wall galvanized steel tube. Finish: ProShield, color specified.

Swing Hanger Assembly: Assembly comprised of 300 series stainless steel knuckle and yoke, stainless steel swing pin, stainless steel spring pin and oilite bushings.

206-11.2.16 1169473-01-04 Rhapsody Music Equipment Freestanding Play (5-12 Years).

1. **214438A - Rhapsody Animato Metallophone DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Tube Base: Weldment comprised of 3.500" (88.9 mm) O.D. RS20 (0.125") (3.17 mm) wall galvanized steel tubing, and 1/4" (6.35 mm) thick HRPO steel sheet. Finish: ProShieldÂ®, color specified.

Mallet: Comprised of 2" (50.8 mm) diameter grey or black polyurethane, 1/2" (12.7 mm) diameter aluminum handle and 3/16" (4.74 mm) diameter stainless steel cable with nylon coating.

Cradle Bracket: Made from 1/4" (6.35 mm) thick HRPO steel sheet. Finish: ProShieldÂ®, color specified.

Bars: Made from 1/2" (12.7 mm) thick x 2" (50.8 mm) wide aluminum.

Top & Bottom Panels: Permalene®, color specified.

2. **214441A Rhapsody Vivo Metallophone DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Cradle Bracket: Made from 1/4" (6.35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified.

Tubes: Made from 1.250" (31.75 mm) diameter x 0.125" (3.17 mm) wall aluminum tube.

Mallet: Comprised of 2" (50.8 mm) diameter grey or black polyurethane, 1/2" (12.7 mm) diameter aluminum handle and 3/16" (4.74 mm) diameter stainless steel cable with nylon coating.

Top & Bottom Panels: Permalene®, color specified.

3. **214442A Rhapsody Grandioso Chimes DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Music Hook: Fabricated from 7 GA. (0.188") (4.77 mm) stainless steel.

Footer: Weldment comprised of 2.375" (60.32 mm) O.D. RS20 (0.095" - 0.105") (2.41 mm – 2.66 mm) wall galvanized steel tubing, and 1/4" (6.35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified.

Tube: Comprised of 3.000" (76.2 mm) O.D. x (0.125") (3.17 mm) wall aluminum tubing, and 1/2" (12.7 mm) diameter aluminum rod.

Cradle Top & Bottom: Permalene®, color specified.

Cables: Comprised of 3/16" (4.74 mm) diameter stainless steel cable with nylon coating.

Mallet: Comprised of 2" (50.8 mm) diameter grey or black polyurethane, 1/2" (12.7 mm) diameter aluminum handle and 3/16" (4.74 mm) diameter stainless steel cable with nylon coating.

Frame: Weldment comprised of 3.500" (88.9 mm) O.D. RS20 (0.125") (3.17 mm) wall galvanized steel tubing, 1/4" stainless steel sheet and 1/4" (6.35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified.

Mallet Bar: Weldment comprised of 2.375" (60.32 mm) O.D. RS40 (0.130"-0.140") (3.30 mm – 3.55 mm) wall galvanized steel tubing, and 1/4" (6.35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified.

Mallet Mount: Permalene®, color specified.

Base/Tab Plate: Weldment comprised of 3/8" (9.52 mm) thick HRPO steel sheet, and 1/4" (6.35 mm) thick stainless steel sheet. Finish: ProShield®, color specified.

4. **250340A Rhapsody Cascata Bells DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Footer: Weldment comprised of 2.375" (60.32 mm) O.D. RS20 (0.095" - 0.105") (2.41 mm – 2.66 mm) wall galvanized steel tubing, and 1/4" (6.35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified

Cables: Comprised of 3/16" (4.74 mm) diameter stainless steel cable with nylon coating.

Mallet: Comprised of 2" (50.8 mm) diameter light grey polyurethane, 1/2" (12.7 mm) diameter aluminum handle and 3/16" (4.74 mm) diameter stainless steel cable with nylon coating.

Frame: Weldment comprised of 3.500" (88.9 mm) O.D. RS20 (0.125") (3.17 mm) wall galvanized steel tubing, 1/4" stainless steel sheet and 3/8" (9.50 mm) thick HRPO steel sheet. Finish: ProShieldÂ®, color specified.

5. **251575A Rhapsody Vibra Chimes Major Chord DB**

Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

Tube: Comprised of 3.000" (76.2 mm) O.D. x (0.125") (3.17 mm) wall aluminum tubing, and 1/2" (12.7 mm) diameter aluminum rod.

Cables: Comprised of 3/16" (4.74 mm) diameter stainless steel cable with nylon coating.

Mallet: Comprised of 2" (50.8 mm) diameter light grey polyurethane, 1/2" (12.7 mm) diameter aluminum handle and 3/16" (4.74 mm) diameter stainless steel cable with nylon coating.

Mallet Mount: Permalene®, color specified.

Music Hook: Fabricated from 7 GA. (0.188") (4.77 mm) stainless steel. Finish: Tendertuff coated. Gray in color.

Frame: Weldment comprised of 3.500" (88.9 mm) O.D. RS20 (0.125") (3.17 mm) wall galvanized steel tubing, 1/4" stainless steel sheet and 3/8" (9.50 mm) thick HRPO steel sheet. Finish: ProShield®, color specified.

206-11.2.17 Warranty.

1. Landscape Structures Inc. (“Manufacturer”) warrants that all play structures and/ or equipment sold will conform in kind and in quality to the specifications manual for the products identified in the Acknowledgment of Order and will be free of defects in manufacturing and material. Manufacturer further warrants:

2. 100-YEAR LIMITED WARRANTY

   On all PlayBooster® and PlayShaper® aluminum posts, stainless steel fasteners, clamps, beams and caps against structural failure due to corrosion/natural deterioration or manufacturing defects, and on PlayBooster steel posts against structural failure due to material or manufacturing defects.

3. 15-YEAR LIMITED WARRANTY

   On all Evos® and Weevos® steel arches, all plastic components (including TuffTimbers™ edging), all aluminum and steel components not covered above, Mobius® climbers, Rhapsody® Outdoor Musical Instruments, decks and TenderTuff™ coatings (except Wiggle Ladders, Chain Ladders and Swing Chain) against structural failure due to material or manufacturing defects.

4. 10-YEAR LIMITED WARRANTY

   On concrete products against structural failure due to natural deterioration or manufacturing defects. Does not cover minor chips, hairline cracks or efflorescence.

5. 8-YEAR LIMITED WARRANTY

   On Aeronet® climbers and climbing cables against defects in materials or manufacturing defects.

6. 5-YEAR LIMITED WARRANTY

   On Rhapsody® cables and mallets against defects in materials or manufacturing defects, on polycarbonate panels against defects in materials or manufacturing defects, and on bamboo panels against delamination due to defects in materials or manufacturing defects. Does not cover damage which may be associated with the natural characteristics of bamboo aging, including but not limited to discoloration, splitting, cracking, warping or twisting, nor the formation of algae, mold and other forms of fungal-type bodies on bamboo.

7. 3-YEAR LIMITED WARRANTY

   On all other parts, i.e.: Pulse® products, all swing seats and hangers, Mobius climber handholds, Wiggle Ladders, Chain Ladders and ProGuard™ Swing Chain, Track Ride trolleys and bumpers, all rocking equipment including Sway

Fun® gliders, belting material, HealthBeat® resistance mechanism, Seesaws, etc., against failure due to corrosion/ natural deterioration or manufacturing defects.

8. The environment near a saltwater coast can be extremely corrosive. Some corrosion and/or deterioration is considered "normal wear" in this environment. Product installed within 500 yards (457 meters) of a saltwater shoreline will only be covered for half the period of the standard product warranty, up to a maximum of five years, for defects caused by corrosion. Products installed in direct contact with saltwater or that are subjected to salt spray are not covered by the standard warranty for any defects caused by corrosion.

9. This warranty does not include any cosmetic issues or wear and tear from normal use of the product, or misuse or abuse of the product. It is valid only if the play structures and/or equipment are erected to conform with Landscape Structures' installation instructions and maintained according to the maintenance procedures furnished by Landscape Structures Inc.

ADD:

206-10 OUTDOOR FITNESS.

206-10.1 General.

206-10.1.1 Summary.

1. Section includes composite structure, stand-alone fitness stations, fitness courses and accessories.

2. Basis of design is GTFit fitness stations, Thrive composite structures, Challenge Couse fitness courses and accessories as manufactured by GameTime, a PlayCore Company, P.O. Box 680121, Fort Payne, Alabama 35968-0121, Phone: 1-800-235-2440, www.GameTime.com.

206-10.1.2 Submittals.

1. Product Data: Include physical characteristics such as shape, dimensions, gauge and material for each component. Provide finish information and available colors.

2. Shop Drawings: Include plans, elevations, details, and installation instructions for each component.

3. Warranty: Include sample of manufacturer's standard warranty.

206-10.1.3 Quality Assurance.

1. Installer: Must be certified by the manufacturer.

2. Safety Standards: Comply with requirements of ASTM F 3101-15.

206-10.1.4 Warranty.

1. Warranty shall meet or exceed the warranty provisions of GameTime as follows:

   Lifetime limited warranty on all hardware.

   10 Year GTfit, THRIVE and Challenge Course stationary posts, welds, and bars.

   10 Year limited warranty on integrated GTShade® products

   10 Year limited warranty on fiberglass and DHPL signage.

   5 Year limited warranty on GTfit motion posts, welds, and bars against structural failure.

   5 Year limited warranty on stainless damper modules, aluminum cycle covers, covered cable nets and components.

   3 Year limited warranty on polyurea coated foam & rubber items

   2 Year limited warranty on Challenge Course timing components.

   2 Year limited warranty bearings, steel pins, dampers, plastics, rubber parts, cycle pedals and shafts, molded seats, and backrests.

   1 Year limited warranty on cycle rib belts and powder coating.

   1 Year limited warranty Challenge Course timing components, and all other GameTime products.

206-10.2 Products.

206-10.2.1 Materials.

1. Main Structural Uprights

   a) Shall be 5” outside diameter tubing, 0.120”” wall thickness, manufactured to ASTM A-500 Grade B tolerances from cold-formed steel conforming to ASTM A-569 Sheet Spec for steel coil. Minimum yield strength shall be 50,000 psi and minimum tensile strength shall be 55,000 psi. The exterior surface shall be hot dip galvanized; chromate conversions coated, and have a clear high performance organic polymer applied. All upright posts shall be coated with a custom formula TGIC polyester powder coating in conformance with the specifications outlined herein.

   b) Shall be all weld assemblies fabricated from 3"x 5" steel tubing, 1.20” wall thickness purchased 3/16" hot rolled steel plate, and purchased 1/4"hot rolled steel plate. Minimum yield strength shall be 45,000 psi and minimum tensile strength shall be 48,000 psi. The exterior surface is In line Zinc Flo Coating with a zinc coating of .03 thickness minimum, chromate conversion coated, and a clear high performance organic polymer is applied. Galvanizing coverage shall demonstrate the ability

to exceed 1000 hours salt spray corrosion exposure in accordance with ASTM B-117. Internal surface zinc rich 91% minimum zinc dust content in organic resin, as per ASTM F-1043. All upright posts shall be coated with a custom formula TGIC.

c) Shall be 5" outside diameter tubing. 0.180" wall thickness, manufactured to ASTM A-500 Grade B tolerances from cold-formed steel conforming to ASTM A-569 Sheet Spec for steel coil. Minimum yield strength shall be 50,000 psi and minimum tensile strength shall be 55,000 psi. The exterior surface shall be hot dip galvanized; chromate conversions coated, and have a clear high performance organic polymer applied. All upright posts shall be coated with a custom formula TGIC polyester powder coating in conformance with the specifications outlined herein.

2. Component Attachment – Must be factory preset to the uprights to ensure full field compliance with current safety standards. Hinges, or any clamps, that require field locating or field drilling or installation are not acceptable, due to the susceptibility of installation out of compliance with safety standards.

3. Plastisol Coated Steel – Products including platforms and steps shall be fabricated from 12 gauge perforated steel with a 0.08" minimum thickness, textured slip-resistant polyvinyl chloride plastisol dipped coating. Square deck size must be at least 36" x 36" (2,401 square inches), and triangular decks must be equally 36" on all sides (1,250 square inches) and bolt through the uprights. Platforms must attach directly to threaded inserts factory installed to uprights, using (1) 3/8" bolts at each upright connection point to eliminate the possibility of deck slipping. Plastisol coating must be free of latex and tested to meet California standards for Phthalate levels and safe for children.

4. Molded Polyethylene – Products are to be rotationally molded plastic with a ¼" nominal wall thickness. All plastic is to be U.V. stabilized with optional graphics molded into the component during the molding process. Molded products shall have an anti-static additive, and be available in any of the manufacturer's standard colors.

5. Metal Climbers and Enclosures

a) Shall be fabricated from 1 5/16" OD x 0.083" (14 gauge) wall galvanized steel tubing with vertical members fabricated of 1 1/16" OD x 0.075 (15 gauge) wall galvanized steel tubing. All tubing used shall be an electrical resistance welded, cold rolled, high strength steel tubing. The exterior coating will consist of an in line Zinc Flo Coating with a zinc coating of .03 thickness minimum, chromate conversion, and acrylic over-coating. The interior coating will consist of a special organic acrylic modified polyester.

b) Shall be fabricated from 3-1/2" O.D. x 0.095" (13 gauge) galvanized pipes and 2-3/8" O.D. x 0.095" (13 gauge) galvanized pipes, and 3/16" Thick H.R. Steel Mounting Plates. All tubing used shall be an electrical resistance welded, cold rolled, high strength steel tubing. The exterior coating will consist of an in line Zinc Flo Coating with a zinc coating of 0.03 thickness minimum, chromate conversion, and acrylic over-coating. The interior coating will consist of a special organic acrylic modified polyester.

c) Shall be fabricated from 1.66´ O.D.x 0.109´ steel tubing. All tubing used shall be an electrical resistance welded, cold rolled, high strength steel tubing. The exterior coating will consist of an in line Zinc Flo Coating with a zinc coating of 0.03 thickness minimum, chromate conversion, and acrylic over-coating. The interior coating will consist of a special organic acrylic modified polyester.

d) Shall be fabricated from 2" x 2" x 0.120" (11 Gauge) wall galvanized steel tubing, 1- 5/16" O.D. x 0.083" (14 Gauge) wall galvanized steel tubing, and 3/16" Thick H.R. Steel.. All tubing used shall be an electrical resistance welded, cold rolled, high strength steel tubing. The exterior coating will consist of an in line Zinc Flo Coating with a zinc coating of 0.03 thickness minimum, chromate conversion, and acrylic over-coating. The interior coating will consist of a special organic acrylic modified polyester.

e) Shall be fabricated from 2" x 2" x 0.120" (11 Gauge) wall galvanized steel tubing, 1- 5/16" O.D. x 0.083" (14 Gauge) wall galvanized steel tubing,. All tubing used shall be an electrical resistance welded, cold rolled, high strength steel tubing. The exterior coating will consist of an in line Zinc Flo Coating with a zinc coating of .03 thickness minimum, chromate conversion, and acrylic over-coating. The interior coating will consist of a special organic acrylic modified polyester.

6. Hardware – All nuts, bolts, screws, inserts, and lock washers used in the assembly of all play equipment shall be stainless steel, yellow dichromate plated steel, blue-coat plated steel, mechanically galvanized or powder coated/yellow dichromate plated steel. All primary fasteners shall be 304 alloy stainless steel. Fasteners with yellow dichromate treatment have an electro-deposited, 99.9% pure zinc substrate applied from a specially formulated solution sealed with a yellow dichromate topcoat designed to work in conjunction with the zinc plating. Yellow dichromate has a 320% longer life to white corrosion and 275% longer to red corrosion than does hot-dip galvanizing.

7. Thermoformed Products: All polyethylene shall be an ultra-high molecular weight material. All thermoformed molded products shall meet or exceed the following specifications: ASTM D-1248, Type III, Class A, Category 5 and ASTM

D-4976 PE235; Density (ASTM D-1505); Melt Flow (ASTM D-1238); Tensile Values (ASTM D-638); Flexural Modulus (ASTM D-790); ESCR Value (ASTM D-1693); Vicat Temperature (ASTM D-1525); Brittleness Temperature (ASTM D-746). Complies with FDA Regulation 21 CFR 177.1520. Complies with FMVSS #302 @ >0.060".

206-10.2.2 Required Components.

1. In addition to the requirements contained in this section, refer to layout drawings and schedules of components and accessories on drawings.
2. All components, accessories, hardware, and other items required for a complete and usable system shall be provided.

206-10.2.3 Finishes.

1. Coated Parts
   a) Shall be coated with polyester coating uniformly applied by the electrostatic method to a minimum thickness of four mils. Promptly after application of the powder, the coating shall be oven-cured at 400 degrees Fahrenheit. The color(s) of the polyester coating shall be as selected by the Architect from the manufacturer's standard and/or custom color selection charts.
   b) Shall be coated with a 1 lb Polyurea Spray (BC648B-Black), 1lb Polyurea Spray (Playspray 274 A).
2. GameTime uses an epoxy primer specifically engineered for encapsulating and penetrating cracks, crevices and voids in materials. We cover 100% of exposed metal components with a minimum of 3 mils of epoxy primer. Primed metal components are semi-cured before applying a three to five mil top coat of Super Durable powder paint - the industry's highest grade of powder available without custom formulation. Our Super Durable paint and epoxy primer is tested to 4000+ hours with minimum creep, gloss loss, color change. This far exceeds the industry standard of 1000 hours of corrosion testing.
3. Galvanized Finish – All components shall have a galvanized finish prior to powder coating, and all welds shall be protectively coated with ZRP, a zinc primer that forms a rust-resistant barrier layer over each weld. All galvanized surfaces shall be free of burs, splinters, and sharp edges.

206-10.3 Execution.

206-10.3.1 Installation.

1. General – Comply with manufacturer's written installation instructions.
2. Uprights – Set posts in concrete footings. Protect finish during installation. Comply with locations, height, and plumb requirements.

206-10.3.2 Field Quality Control.

1. Installation shall be performed by factory certified technicians with experience installing playground equipment

206-10.3.3 Completion.

1. Protect installed products until completion of project.
2. Touch up, repair, or replace damaged products before substantial completion.
3. Installer shall turn over all installation instructions, parts lists, maintenance instructions, tool kits, and spare materials to the owner upon completion.

ADD:

206-11.1 Decorative Metal Fences And Gates.

206-11.1.1 General.

206-11.1.2 Work Included.

1. The contractor shall provide all labor, materials and appurtenances necessary for installation of the welded ornamental steel fence system defined herein.

206-11.1.3 System Description.

1. The manufacturer shall supply a total fence system of Montage II® Welded and Rackable (ATF – All Terrain Flexibility) Ornamental Steel (specify Invincible™, Classic™, Majestic™, or Genesis™) design. The system shall include all components (i.e., panels, posts, gates and hardware) required.

206-11.1.4 Quality Assurance.

1. The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

206-11.1.5 References.

1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
2. ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.
3. ASTM D523 - Test Method for Specular Gloss.
4. ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint.
5. ASTM D822 - Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.
6. ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.

7. ASTM D2244 - Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.

8. ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).

9. ASTM D3359 - Test Method for Measuring Adhesion by Tape Test.

10. ASTM F2408 – Ornamental Fences Employing Galvanized Steel Tubular Pickets.

206-11.1.6 Submittal.

1. The manufacturer's literature shall be submitted prior to installation.

2. Shop Drawings

3. Installation Instructions

4. Maintenance Instructions

5. Samples for Verification: For each type of exposed finish indicated.

206-11.1.7 Product Handling and Storage.

1. Upon receipt at the job site, all materials shall be checked to ensure that no damage 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.

206-11.1.8 Product Warranty.

1. All structural fence components (i.e. rails, pickets, and posts) shall be warranted within specified limitations, by the manufacturer for a period of 20 years from date of original purchase. Warranty shall cover any defects in material finish, including cracking, peeling, chipping, blistering or corroding.

2. Reimbursement for labor necessary to restore or replace components that have been found to be defective under the terms of manufacturer warranty shall be guaranteed for five (5) years from date of original purchase.

206-11.2 Materials.

206-11.2.1 Manufacturer.

1. The fence system shall conform to Montage II® Welded and Rackable (ATF – All Terrain Flexibility) Ornamental Steel, Majestic™ design, flush bottom rail treatment, 3-Rail style manufactured by Ameristar Fence Products, Inc., in Tulsa, Oklahoma.

2. Or Approved Equal

206-11.2.2 Material.

1. Steel material for fence panels and posts shall conform to the requirements of ASTM A653/A653M, with a minimum yield strength of 45,000 psi (310 MPa)

and a minimum zinc (hot-dip galvanized) 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 rails shall be steel channel, 1.75" x 1. 75" x 0.105". Picket holes in the rail shall be spaced 4.715" o.c. Fence posts and gate posts shall meet the minimum size requirements of Table 1.

206-11.2.3 Fabrication.

1. Pickets, rails and posts shall be pre-cut to specified lengths. Rails shall be pre-punched to accept pickets.

2. Pickets shall be inserted into the pre-punched holes in the rails and shall be aligned to standard spacing using a specially calibrated alignment fixture. The aligned pickets and rails shall be joined at each picket-to-rail intersection by Ameristar's proprietary fusion welding process, thus completing the rigid panel assembly (Note: The process produces a virtually seamless, spatter-free good-neighbor appearance, equally attractive from either side of the panel).

3. The manufactured panels and posts shall be subjected to an inline electrodeposition coating (E-Coat) process consisting of a multi-stage pretreatment/wash, followed by a duplex application of an epoxy primer and an acrylic topcoat. The minimum cumulative coating thickness of epoxy and acrylic shall be 2 mils (0.058 mm). The color shall be (specify Black or Bronze). The coated panels and posts shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2 (Note: The requirements in Table 2 meet or exceed the coating performance criteria of ASTM F2408).

4. The manufactured fence system shall be capable of meeting the vertical load, horizontal load, and infill performance requirements for Industrial weight fences under ASTM F2408.

5. 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'.

6. 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 (0.5" - 1.375") and vertical (0 - 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.

206-11.3 Execution.

206-11.3.1 Preparation.

1. All new installation shall be laid out by the contractor in accordance with the construction plans.

206-11.3.2 Fence Installation.

1. Fence post shall be spaced according to Table 3, 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 depth of 36" (Note: In some cases, local restrictions of freezing weather conditions may require a greater depth). Posts setting by other methods such as plated posts or grouted core-drilled footers are permissible only if shown by engineering analysis to be sufficient in strength for the intended application.

206-11.3.3 Fence Installation Maintenance.

1. 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.

206-11.3.4 Gate Installation.

1. 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 manufacturer of the gate and shall be installed per manufacturer's recommendations.

206-11.3.5 Cleaning.

1. The contractor shall clean the jobsite of excess materials; post-hole excavations shall be scattered uniformly away from posts.

Table 2 – Coating Performance Requirements		
Quality Characteristics	ASTM Test Method	Performance Requirements
Adhesion	D3359 – Method B	Adhesion (Retention of Coating) over 90% of test area (Tape and knife test).
Corrosion Resistance	B117, D714 & D1654	Corrosion Resistance over 1,500 hours (Scribed per D1654; failure mode is accumulation of 1/8" coating loss from scribe or medium #8 blisters).
Impact Resistance	D2794	Impact Resistance over 60 inch lb. (Forward impact using 0.625" ball).
Weathering Resistance	D822 D2244, D523 (60˚ Method)	Weathering Resistance over 1,000 hours (Failure mode is 60% loss of gloss or color variance of more than 3 delta-E color units).

	Table 3 – Montage II – Post Spacing By Bracket Type									
Span	For INVINCIBLE® 8' Nominal (91-1/2" Rail)				For CLASSIC, GENESIS, & MAJESTIC 8' Nominal (92-5/8" Rail)					
Post Size	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"
Bracket Type	Industrial Flat Mount		Industrial Line		Industrial Universal		Industrial Flat Mount (BB301)		Industrial Swivel (BB304)*	

	Table 3 – Montage II – Post Spacing By Bracket Type									
	(BB301)*		2-1/2″ (BB319) 3″ (BB320)		2.5″ (BB302) 3″ (BB303)					
Post Settings ± ½″ O.C.	94-1/2″	95″	94-1/2″	95″	96″	96-1/2″	96″	96-1/2″	*96″	*96-1/2″
*Note: When using BB304 swivel brackets on either or both ends of a panel installation, care must be taken to ensure the spacing between post and adjoining pickets meets applicable codes. This will require trimming one or both ends of the panel. When using the BB301 flat mount bracket for Invincible style, rail may need to be drilled to accommodate rail to bracket attachment.										

ADD:

206-13 PROTECTIVE COVERS.

206-13.1 General.

206-13.1.1 Description Of Product.

1. Shade Structure Type 1:
   a) 36′ x 103′ Filtered Light Arbor style shelter with Laser Cut Steel roof panels.
   b) Roof Slope: 0:12
   c) Clear height under Tie Beam (UTB): 15′-6″. This is the clearance under the tie beam which spans between the columns.
2. Shade Structure Type 2:
   a) 16′ x 34′ Filtered Light Arbor style shelter with Laser Cut Steel roof panels.
   b) Roof Slope: 0:12
   c) Clear height under Tie Beam (UTB): 9′. This is the clearance under the tie beam which spans between the columns.

206-13.1.2 References.

REFERENCED STANDARDS

1. AISC – American Institute of Steel Construction
    a) AISC Steel Construction Manual – 14th edition
    b) AISC 360-10 Specification for Structural Steel Buildings
2. ASTM – American Society for Testing and Materials
    a) ASTM A36/A36M – Standard Specification for Carbon Structural Steel; 2008
    b) ASTM A325 – Standard Specification for Structural Steel Bolts, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2010
    c) ASTM A563 – Standard Specification for Carbon and Alloy Steel Nuts; 2007a
    d) ASTM A500 – Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2010a
    e) ASTM A653/A653M – Standard Specification for Sheet Steel, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvanealed) by the Hot Dip Process; 2010
    f) ASTM A792/A792M – Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy Coated by the Hot-Dip Process; 2010
    g) ASTM F1554 – Standard Specification for Anchor Bolts, Steel, 36, 50 and 105 ksi Yield Strength; 2007a
3. AWS – American Welding Society
    a) D1.1 Structural Welding Code - Steel
    b) D1.3 Structural Welding Code – Sheet Steel
    c) D1.8 Structural Welding Code – Seismic Supplement
4. OSHA – Occupational Safety and Health Administration
    a) Steel Erection Standard 29 CFR 1926.750 Part R
5. SSPC – Steel Structures Painting Council
    a) SSPC-SP 2 – Hand Tool Cleaning; 2004
    b) SSPC-SP 10/NACE No. 2 – Near White Blast Cleaning; 2007
6. LEED – Leadership in Energy and Environmental Design
7. ISO – International Organization for Standardization

206-13.1.3 System Description.

1. The structure shall be a pre-engineered package and shall be shipped as a pre-cut (excluding standing seam roof panels) and pre-fabricated package that shall include the structural framing members, roof panels, fasteners and roof

trim as well as job-specific installation instructions. The structure will be shipped in an un-assembled package for ease of shipment and minimum shipping charges.

206-13.1.4 Submittals.

1. Submit a minimum of four (4) sets of submittal drawings and (2) sets of structural calculations signed and sealed by a Professional Engineer licensed in the state of California.

2. PRODUCT DESIGN REQUIREMENTS:

   The structure shall meet the following design requirements:

   a) Building Code: California Building Code 2022

   b) Ground Snow Load: 20 p.s.f.

   c) Live Load: 20 p.s.f.

   d) Wind Speed: 85 m.p.h. Exp “C”

   e) Seismic Design Category: D

3. SUBMITTAL REQUIREMENTS:

   Calculations:

   a) Design according to the requirements of the national, state or local building codes as indicated in Section 1.04.B.

   b) Calculations shall include all member design for each different member type.

   c) Connection design for each different connection that will determine the design of the bolts, welds, plate thickness and anchorage to the foundation.

   d) Foundation design shall be for the loads applied, not a generic foundation design, while taking into account all soils information.

   Submittal Drawings:

   a) Anchor bolt layout with all appropriate dimensions for installation.

   b) Site specific foundation design.

   c) Isometric as well as elevation and plan views of the farming members along with the member sizes and locations indicated on the drawings.

   d) Connection details for every connection on the frame.

   e) Roof panel connections and trim installation details.

   f) All accessories on the structure shall have an installation detail as well as connection details.

4. FOUNDATION DESIGN

a) The foundation design shall be supplied by the manufacturer.

b) Anchor bolts shall be supplied by the manufacturer.

c) Foundation materials and labor shall be provided by the structure contractor.

d) Owner should provide site specific soils information for proper foundation design, if that data is not provided the foundation will be design for the minimum soil values allowed by code.

206-13.1.5 Quality Assurance.

1. MANUFACTURER QUALIFICATIONS

a) The product shall be designed, engineered and fabricated at a facility operated and directly supervised by the manufacturer.

b) The manufacturer shall have experience in steel shelter fabrication.

c) Full Time on Staff Quality Assurance Manager.

d) All welders must be AWS certified for welding steel structures.

e) Membership in the American Welding Society (AWS).

f) Membership in the American Institute of Steel Construction (AISC).

g) Full Time on Staff Licensed Engineer.

h) Published Quality Control System manual.

i) Quality Control System must pass an annual audit by a Third Part Agency.

j) ISO 9001 certification for Powder Coating System.

2. MANUFACTURER'S CERTIFICATIONS

a) Clark County, NV Approved Fabricator.

b) City of Riverside, CA Approved Fabricator.

c) City of Houston, TX Approved Fabricator Structural Steel.

d) City of Los Angeles, CA Approved Fabricator Structural Steel

206-13.1.6 Field or Site Conditions.

1. Foundations shall be installed per the ICON installation drawings.

a) All foundations shall be cast at the same elevation unless specifically noted on the ICON installation drawings.

2. Anchor bolts shall be placed in the foundation as per the ICON installation drawings utilizing the anchor bolt template supplied with the anchor bolts.

a) Anchor bolts shall be installed per the dimensions and orientation shown on the drawings.

206-13.1.7 Manufacturer Warranty.

1. Shelter shall have a 10-year limited warranty on the steel framing members.
2. For all Metal Roofing there will be a pass-through warranty direct from the metal Roofing supplier, warranty shall be provided on request.

206-13.2 Materials.

206-13.2.1 Manufacturers.

1. Acceptable Manufacturer: ICON Shelter Systems, Inc., 1455 Lincoln Rd., Holland, MI, 49423. Email: info@iconshelters.com, Website: www.iconshelters.com
2. Pricing for this specific project and specified shelter can be requested from: Chad Barry, Unique Recreation Consultants, 1804 Garnet Avenue 478, San Diego, CA 92109, 951-541-8380, cbarry@uniquerecreationinc.com
3. The product shall be designed and fabricated at a facility operated and directly supervised by the manufacturer.
4. Or Approved Equal

206-13.2.2 Substitution Limitations.

1. Substitutions must be approved a minimum of ten (10) business days prior to bid. All approved manufacturers shall be notified on writing before the bid date and shall not be allowed to bid without written notification. Any approval of an alternate manufacturer shall be through and official bid addendum prior to the bid date.
2. Alternate suppliers shall meet the requirements, qualifications and provide proof of certifications listed under Section 1.05 QUALITY ASSURANCE.
3. Alternate suppliers shall provide documentation that the powder-coat system being provided meets or exceeds the ICON supplied powder-coat system listed under Section 2.01(c)(8).

206-13.2.3 Product Requirements and Materials.

1. GENERAL:
   a) The pre-engineered and pre-fabricated package of parts shall be pre-cut and packaged unless noted otherwise. These packages will include all parts and pieces necessary to field assemble the shelter at the jobsite. The shelter shall be shipped in knocked down format to minimize
2. CONCRETE FOR FOUNDATIONS:

a) Concrete shall have a minimum 28-day compressive strength of 2,500 psi unless noted otherwise on the foundation detail.

b) Reinforcing steel shall be ASTM A615, Grade 60.

3. COLUMNS:

a) Hollow Structural Section (HSS) columns shall meet ASTM A500, Grade B with a minimum wall thickness of 3/16" (0.1875").

b) Unless the columns are direct buried in the foundation the columns shall attach to the foundation with a minimum of four (4) anchor rods and shall meet OSHA Steel Erection Standard 29 CFR 1926.755(a)(1).

4. STRUCTURAL FRAMING:

a) All Hollow Structural Sections (HSS) shall meet ASTM A500, Grade B. "I" Beams, tapered columns or open channel sections shall not be accepted for primary members.

5. COMPRESSION RINGS:

a) Compression rings shall be made of ASTM A36 structural plate or of structural channel welded together to form the ring. All connections not requiring compression rings shall use ASTM A500, Grade B HSS sections for these connections.

6. CONNECTION REQUIREMENTS:

a) Anchor rods shall be ASTM F1554, Grade 36 unless otherwise noted.

b) Structural fasteners shall be ASTM A325 high strength bolts and A563 nuts.

c) All structural fasteners shall be hidden within the framing members whenever possible.

d) No field welding shall be required to finish the construction of the shelter.

e) Manufacturer shall supply extra fasteners.

7. ROOFING MATERIALS:

a) PRIMARY ROOF DECK – Laser Cut Steel Panels

8. FACTORY FRAME FINISH:

E-COAT/ POWDERCOAT:

a) The steel shall be shot-blasted to the specification of SSPC-SP10 near white blast cleaning. SSPC-SP2 hand tool cleaning will not be an acceptable alternative.

b) The shot-blasted parts are then washed with zinc-phosphate in an eight (8) stage washer.

c) The steel is then immersed in a liquid epoxy and coated through an electro-deposition process (E-coat), this is coated both inside and out to a uniform cover of 0.7-0.9 mils. The E-coat totally encapsulates the part for superior corrosion protection.

d) The parts are then coated with a color coat of TGIC polyester powder and then one clear coat for a final finish thickness of 8 to 12 mils.

9. ACCESSORIES

ELECTRICAL ACCESS

a) Standard in all column bases is a 3" diameter hole, located in the center of the plate. This allows electrical wiring into the column base.

206-13.3 Execution.

206-13.3.1 Storage and Handling.

1. When the shelter arrives at the jobsite protect the products from weather, sunlight and damage.

2. When unloading, pad the forks and use other precautions to protect the powder-coated finish. Do not use chains to move the materials, use straps. Handle all materials carefully in the field to avoid scratching the powder-coat finish.

3. Contractor shall store the product elevated from the soil to allow full air circulation around the materials as do not introduce mold, decay, fungi or insects into or on the materials. One end of the materials shall be elevated higher than the other end if storage will be longer than a few days as to allow the water to run off the materials.

206-13.3.2 Installation of Materials.

1. The shelter shall be placed on prepared foundations that were designed by the manufacturer (unless otherwise noted). Materials for these foundations are not supplied by ICON but by the foundation installation contractor. Foundation shall be constructed to all local building code requirements and per good construction practices for the specific site conditions.

a) In accordance with OSHA Steel Erection Standard 29 CFR 1926.750 Part R, anchor rods shall be installed for proper column stability and shall have a minimum of four (4) anchor bolts per column. Therefore, no single anchor rod column base connections shall be allowed.

2. The contractor shall install all parts and pieces per the manufacturer's supplied installation instructions and these specifications.

3. The interface with other work required is to be coordinated by the customer or the customer's agent. Some design may have electrical or plumbing requirements that are not supplied by ICON.

4. Tolerances on structural steel members are set according to AISC Code of Standard Practice for Steel Buildings and Bridges and have been used for the fabrication of this product. These tolerances will not and cannot be increased. No field slotting or opening of holes will be allowed without proper guidance from the ICON Engineering Department.

206-13.3.3 Repair.

1. No field modifications or corrections are allowed without authorization from the ICON Engineering Department.

206-13.3.4 Site Quality Control.

1. ICON does not require any on-site inspections or testing but these may be required by local authorities and the local building inspector. Please be aware of any on-site requirements prior to starting installation.

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.

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

SECTION 218 – DETECTABLE WARNING TILES (DWT)

218-1 **GENERAL.** To the "WHITEBOOK", item 1, ADD the following:

c) Detectable warning surfaces shall be in conformance with CBC Section 1133B.8.5. Color shall be yellow for detectable warning surface shall conform to Color 33538 per Federal Standard No. 595B. CBC Sections 1133B.8.5 and 1121 B.3.1, Item 8(a). Provide a minimum of 5-year warranty per DSA Bulletin 10/31/2002, revised 04/09/2008.

ADD:

SECTION 219 – POURED-IN-PLACE PLAYGROUND SURFACING SYSTEM

219-1 POURED-IN-PLACE PLAYGROUND SURFACING SYSTEM.

219-1.1 General.

219-1.1.01 Work Scope.

1. Furnish labor, material, and equipment necessary to install the poured-in-place, resilient surfacing system as shown on the drawings and specified herein.

    a) Work shall include, but not be limited to the following: layout; excavation; backfill; furnishing and installing of base material; furnishing and installing of poured-in- place, resilient surfacing and all other incidental work to provide a complete resilient surfacing system.

    b) Poured in place playground surfacing shall consist of a polyurethane binder mixed with recycled rubber, which will make up the attenuation cushion layer. The attenuation cushion layer is capped with TPV granules, mixed with a polyurethane binder creating the Wear Course.

    c) Surfaces shall comply with ADA and CPSC guidelines as well as ASTM Standards. Manufacturer is to be certified by IPEMA, a third-party testing organization for playground surfaces and equipment.

219-1.1.02 Performance Requirements.

1. Area Safety: Poured in place within playground use zones shall meet or exceed the performance requirements of the CPSC, ADA and Fall Height Test ASTM F1292-18. The surface must yield both a peak deceleration of no more than 200 G-max 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. IPEMA certification is required. (ASTM F1292-18, section 15 The laboratory test used to determine critical fall height shall have been conducted on surfacing material samples identical in design, materials, components, and thickness and manufactured as the installed playground surface).

2. Accessibility: NOTE: 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 (9AEI) Design Criteria.

3. The requirements of the Americans with Disabilities Act. Accessibility Guidelines (ADAAG) 28 CFR Part 36 that provide equal or greater accessibility than the requirements of UFAS must also be met in children’s outdoor play areas.

4. Poured-in-place surfaces intended to serve as accessible paths of travel for persons with disabilities shall be firm, stable and slip-resistant, and shall meet the requirements of ASTM F 1951-14 and ASTM F1292-18.

219-1.1.03 Applicable Standards.

1. ASTM International
2. ASTM D2047 - 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 C1028.
3. ASTM D412 – Standard test methods for vulcanized rubber and thermoplastic rubbers and thermoplastic elastomers-tension.
4. ASTM D624 - Standard test method for tear strength of conventional vulcanized rubber and thermoplastic elastomers.
5. ASTM D2859 – Standard test method for flammability of finished textile floor covering materials.
6. ASTM E303 – Standard test method for measuring surfacing frictional properties using the British Pendulum tester.
7. ASTM F1292-18 – Standard specification for impact attenuation of surface systems under and around playground equipment.
8. ASTM F1951 – Standard specification for determination of accessibility of surface systems under and around playground equipment.

219-1.1.04 Requirements.

1. Poured-in-place surfaces shall be manufactured and installed by trained, experienced company employees or certified installers who have successfully completed the “Certified Installers Training Program” required by Robertson Industries Inc. A certification of completion of such training program shall be part of the product submittal to the Resident Engineer for review and acceptance during construciton phase.

219-1.1.05 Submittals.

1. Product Data: Submit manufacturer’s product data and installation instructions.
2. Verification Samples: Submit manufacturer’s standard verification samples of 9" x 9" (229 x 229 mm) minimum.
3. The Contractor shall submit a complete set of the material submittals, as required, including manufacturer’s name and address, specific trade names, catalog and model numbers, illustrations and descriptive material.
4. Products submitted as equal must include hard copies of manufactures written specifications, warranty, purchase and use of materials.

5. Manufacturer's descriptive data and installation instructions.

6. Manufacturer's details showing depths of wear course and sub-base materials, anchoring systems and edge details.

7. Upon request, a listing of at least five installations where products similar to these proposed for use have been installed and have been in service. The list shall include owner or purchaser, address of installation, date of installation, contact person, and phone number.

8. A signed statement by an authorized official certifying that the surfacing system meets the requirements of ASTM F1292-18, section 15 for a head-first fall from the highest accessible portion of the specified playground equipment.

9. A signed statement from the manufacturer of the poured-in-place surfacing attesting that all materials under this section shall be installed only by the Manufacturer's Trained Installers.

10. A Certificate of Insurance shall be provided by the Manufacturer for poured in place surfacing for use as playground safety surfacing, covering general and product liability, of not less than $1,000,000 for each occurrence, $2,000,000 general aggregate, with an excess/umbrella liability of $25,000,000. The issuing underwrite shall be AA rated.

11. IPEMA Certification mandatory

219-1.1.06 Delivery, Storage and Handling.

1. Materials and equipment shall be delivered and stored in accordance with the manufacturer's recommendations.

219-1.1.07 Project Site Conditions.

1. Poured-in-place surfacing must be installed on a dry sub-surface, with no prospect of rain within the initial drying period and within the recommended temperature range of the manufacturer. Installation in weather condition of extreme heat, cold (less than 55°F), and/or high humidity may affect cure time, and the structural integrity of the final product. Immediate surrounding sites must be reasonably free of dust conditions or this could affect the final surface look.

219-1.1.08 Sequencing and Scheduling.

1. Poured-in-place surfacing shall be installed after all playground equipment, shade structures, signs and any other items that will be within the surfacing area. Coordinate with General Contractor.

219-1.1.09 Warranty.

1. Poured-in-Place surface shall maintain required impact attenuation characteristics and be guaranteed against defects in workmanship AND material for a limited seven-year period or as specified and agreed upon per alternate contract. Warranty will be specific to maintenance requirements and performance standards of completed product. Warranty is void if not installed by Manufacturers Trained and Certified Poured in Place Surfacing Installers.

219-1.1.09 Testing.

1. NOTE: Critical Fall Height Four feet through 10 feet have been tested in accordance with ASTM F1292-18 - Section 15 – Critical Fall Height Test Procedure.

219-1.2 Products.

1. Safety surfacing shall consist of both recycled and synthetic materials meeting the requirements of this specification. The type of safety surfacing shall be Robertson Industries Inc., manufactured and installed by Robertson Industries Inc. or its Certified Installers. Telephone: (800) 858-0519, or approved equal.

219-1.2.01 Product Scope.

1. Poured-in-place Surface: The poured-in-place surface shall consist of recycled rubber mixed with a polyurethane binder, then capped with 0.5-1.5mm TPV granules mixed with an aliphatic binder.
2. It shall consist of a uniform material manufactured in such a way that the top portion meets the requirements specified herein for wear surface.
3. The type of safety surfacing shall be a poured-in-place system and shall be indicated on the drawings.

219-1.2.2 Attenuation Cushion Layer Section.

1. Impact attenuation cushion layer consists of these materials; recycled styrene butadiene rubber (SBR) and/or cryogenic crumb rubber and/or pre consumer postindustrial reclaimed scrap rubber adhered with a 100% solids polyurethane binder to form a resilient porous material.
2. Strands of SBR may vary from 0.5 mm – 2.0 mm in thickness by 3.0 mm – 20 mm in length.
3. Chunk Premium Black Rubber Granules are 5/8” granules: This rubber is pre-consumer, post-industrial, reclaimed rubber, granulated through a 5/8” screen and contains less than 2% dust.

4. SBR Crumb Rubber (5-9 Mesh) using sieve analysis ASTM D5644 with a fiber content of 0.1% or less mixed in.

5. Binder shall be between 7-12% of the total weight of the material and shall provide 100 % coating of the particles.

6. The attenuation cushion layer shall be compatible with the wear course and must meet requirements herein for impact attenuation.

219-1.2.3 Wear Course.

1. Wear course shall consist of 0.5-1.5mm Thermal Plastic Vulcanized (TPV) granules with polyurethane binder formulated to produce an even, uniform, seamless surface. Installation of surfacing shall be seamless (unless otherwise agreed upon by owner).

2. TPV shall be peroxide cured with an TPV content of 26% and shall include a processing aid to prevent hardness with 26% poly content to maintain dynamic testing characteristics, weatherization and UV stability.

3. ASTM D2240 (Shore A) hardness of 55-65, not less than 26 percent rubber hydrocarbons

4. Size of TPV granules .5-1.5mm across. Binder shall be not less than 20% of total weight of rubber used in the wear surface and shall provide 100% coating of the particles.

5. Thickness of wear course shall be a minimum 0.5” (12.7 mm).

6. The wear course shall be porous.

219-1.2.4 Binder.

1. No Toluene Diphenyl Isocyanate (TDI) shall be used.

2. No filler materials shall be used in urethane such as plasticizers and the catalyzing agent shall contain no heavy metals.

3. Weight of polyurethane shall be no less than 8.5 lbs. /gal (1.02 Kg/1) and no more than 9.5 lbs. /gal (1.14 Kg/1).

4. Manufacturer is permitted to modify the type of urethane required to match extreme weather conditions. Substitutions must be equal to or exceed original quality.

219-1.2.5 Materials

1. Wear Course – TPV Granules

   a) Manufacturers: Rosehill Polymers, or Approved Equal

   b) As Distributed by: Robertson Industries Inc. (800) 858-0519, or Approved Equal

   c) Location Used: Playground Area

2. Attenuation cushion layer

    a) Robertson Industries Inc. Shredded and/or Chunk Rubber, or Approved Equal

    b) As Distributed by: Robertson Industries Inc. (800) 858-0519, or Approved Equal

    c) Location Used: Playground Area

3. Binder – Aliphatic Urethane Premium, Non-Ambering

    a) Manufacturer: Accella Polyurethane Systems, or Approved Equal

    b) As Distributed by: Robertson Industries Inc. (800) 858-0519, or Approved Equal

    c) Location Used: Playground Area

4. Chunk Premium Black Rubber Granules

    a) Manufacturer: American Recycling Center, Inc. (989) 725-5100 655 Wabassee Drive, Owosso, MI 48867, or Approved Equal

    b) As Distributed by: Robertson Industries Inc. (800) 858-0519, or Approved Equal

    c) Location Used: Playground Area

219-1.3 Execution.

219-1.3.01 Site Preparation.

1. Finished Grade/Slope: Verify that finished elevations or adjacent areas are as indicated on the architectural or site plans, that the appropriate sub-grade elevation has been established for the safety surface to be installed, and that the subsurface has been installed per architectural, site or equipment plans while meeting accessibility and use zones requirements.

2. Aggregate Subbase: Tolerance of aggregate sub-base shall be within .5” in depth. Verify that aggregate sub-base has been fully compacted. Per ADA Guidelines: compacted Aggregate sub-base – 4” of .75” minus irregular stone with fines compacted to 95% in 2” watered lifts.

3. Concrete Sub-Base: Tolerance of concrete or bituminous sub-base shall be with .125” (3.0 mm) in 10’ (3050 mm). Per ADA Guidelines: Concrete a minimum of 3’ – 4’ at a minimum 2500 PSI. Concrete must cure for 7 days prior to application of attenuation cushion layer. Concrete must cure 21 days if wear course is to be applied directly to concrete surface. If poured-in-place surfacing is installed, verify that the concrete sub-base has cured (all areas appear white in color usually at 7 days) and that all concrete curing compounds and other deleterious substances that might adversely affect adhesion have been removed. Surface shall be clean and dry.

4. Asphalt Sub-Base: Asphalt cure time requires 21-28 days. Once the new asphalt has cured, it must be pressure washed prior to the surfacing being installed. The contractor shall be responsible for flooding the pad to ensure proper slope and tolerance. Any areas holding enough water to cover a flat nickel shall be patched prior to the arrival of our installation crews.

5. Drainage: Verify that sub-surfacing drainage, if required, has been installed to provide positive drainage.

219-1.3.02 Installation.

1. Poured-in-Place Surfacing: Components of the poured-in-place surfacing shall be mixed on-site in a rotating tumbler to ensure components are thoroughly mixed and are in accordance with manufactures recommendations. Installation of surfacing shall be seamless up to 2,000 square feet per day. Material shall cover all foundations and fill around all elements penetrating the surface.

2. Attenuation Cushion Layer: Whenever practical, attenuation cushion layer of surfacing material shall be installed in one continuous pour on the same day of up to 2,000 square feet. When a second pour is required, step the seam (see detail) and fully coat the step of the previous work with polyurethane binder to ensure 100% bond with new work. Apply adhesive in small quantities so that new attenuation cushion layer can be placed before the adhesive dries.

3. Wear Course: Wear course must be quality peroxide cured TPV granules. wear surface shall be bonded to attenuation cushion layer. If necessary, additional primer will be used between the attenuation cushion layer and wear course. Apply adhesive to attenuation cushion layer in small quantities allowing the wear course to be applied before adhesive dries. Surface shall be hand troweled to a smooth, even finish. Expect continuous and seamless up to 2,000 square feet per day (contact sales representative for seamless in excess of 2,000 square feet). Where seams are required due to color change, size or adverse weather, a step configuration will be constructed to maintain wear course integrity. The edge of initial pour shall be coated with adhesive and wearing surface mixture shall be immediately applied. Pads with multiple seams are encouraged to include a top coat of urethane before being placed into use. Butt joint seams are not acceptable except for repairs. Under special conditions and with Owners written approval seams may be permitted in same color pad. Consult with Manufacturer for specific applications.

4. Perimeter: For installations over existing concrete, the perimeter shall be saw cut to provide a keyway 1” deep x 1” wide, or formed during the pour, with surfacing rolled down into the void. Primer adhesive must be applied to all sides of the void. When connecting to a concrete curb or border, the inside vertical edge shall be primed with adhesive and the final 2” of the attenuation

cushion layer shall be tapered to allow the wear surface material to be 1.5"– 2" thick where it joins the concrete.

5. Thickness: Construction methods such as the use of measured screeds or guides shall be employed to ensure that the full depth of specified surfacing material is installed. Surfacing system thickness throughout the playground equipment use zone shall be as required to meet the impact attenuation requirements specified herein.

6. Clean Up: Manufacturer installers shall work to minimize excessive adhesive on adjacent surfaces or play equipment. Spills of excess adhesive shall be promptly cleaned.

7. Protection: The safety surface shall be allowed to fully cure in accordance with Manufacturer's instructions. The surface shall be protected by the owner from all traffic during the curing period of at a minimum of 48 hours or as instructed by the Manufacturer.

8. Manufacturer Services: For poured-in-place safety surfacing, a Manufacturer's representative who is experienced in the installation of playground safety surfacing shall be provided. The representative shall supervise the installation to ensure that the system meets the impact attenuation requirements as specified herein.

219-1.3.01 Site Area Clean Up.

1. The site shall be kept clean and free of tools, trash, and debris and installation materials daily. Products may be stored on site during installation with appropriate protective measures and approval by the Owner's representative.

ADD:

SECTION 220 – SPORT COURT SURFACE COLOR COATING SYSTEM

220-1 MULTI-PURPOSE COURT SURFACE COLOR COATING SYSTEM.

220-1.1 General.

220-1.1.1 Section Includes.

1. Concrete basketball & multi-purpose court surface color coating system.

220-1.1.2 Related Requirements.

1. Section Cast-in-Place Concrete.

2. Section Precast Concrete.

220-1.1.3 Reference Standards.

1. American Sports Builders Association (ASBA).

2. United States Tennis Association (USTA) Rules of Tennis.

3. National Basketball Association (NBA) Official Rules

4. National Federation of State High School Associations (NFHS) Rule Book

5. National Collegiate Athletic Association (NCAA) Rule Book

220-1.1.4 Submittals.

1. Comply with Section Submittal Procedures.

2. Product Data: Submit manufacturer's product data, including surface and crack preparation and application instructions.

3. Samples: Submit manufacturer's color samples of color coating.

4. Test Reports:

   a) Submit independent test results for solar reflectance index.

   b) Submit independent test results for 2000 Hour ASTM G154, accelerated weathering UV test, to demonstrate long-term durability and fade resistance.

   c) Submit independent test results for 2000 Hour, accelerated weathering ASTM G155 Xenon Arc test, to demonstrate long-term fade resistance and quality of pigment.

5. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.

6. Manufacturer's Project References: Submit manufacturer's list of successfully completed concrete basketball & multi-purpose court surface color coating system projects, including project name, location, and date of application.

7. Applicator's Project References: Submit applicator's list of successfully completed concrete basketball & multi-purpose court surface color coating system projects, including project name, location, type and quantity of color coating system applied, and date of application.

8. Warranty Documentation: Submit manufacturer's standard warranty.

9. Authorized Installer Certificate: Submit manufacturer's authorized installer certificate.

220-1.1.5 Quality Assurance.

1. Manufacturer's Qualifications:

   a) Manufacturer regularly engaged in manufacture of concrete basketball & multi-purpose court surface color coating systems of similar type to that specified.

   b) United States owned company.

   c) Member: ASBA.

2. Applicator's Qualifications:

   a) Applicator regularly engaged in application of basketball & multi-purpose court surface color coating systems of similar type to that specified.

   b) Employ persons trained for application of basketball & multi-purpose court surface color coating systems.

   c) Applicator must be authorized installer of the surfacing brand used.

220-1.1.6 Delivery, Storage, and Handling.

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

2. Storage and Handling Requirements:

   a) Store and handle materials in accordance with manufacturer's instructions.

   b) Keep materials in manufacturer's original, unopened containers and packaging until application.

   c) Store materials in clean, dry area indoors.

   d) Store materials out of direct sunlight.

   e) Keep materials from freezing.

   f) Protect materials during storage, handling, and application to prevent contamination or damage.

   g) Close containers when not in use.

   h) Retain manufacturer batch codes on each container and application dates, for warranty purposes.

220-1.1.7 Ambient Conditions.

1. Do not apply concrete basketball & multi-purpose court surface color coating system when air or surface temperatures are below 50°F (10°C) during application or within 24 hours after application.

2. Do not apply concrete basketball & multi-purpose court surface color coating system when rain is expected during application or within 24 hours after application.

220-1.2 Products.

220-1.2.1 Manufacturer.

1. SportMaster Sport Surfaces, PO Box 2277, 2520 South Campbell Street, Sandusky, Ohio 44870. Toll Free 800-326-1994. Fax 877-825-9226. Website www.sportmaster.net. E-mail moreinfo@sportmaster.net (or approved equal).

2. If submitting another brand, bidder must furnish copies of all submittal documents specified.

220-1.2.2 Materials.

1. Concrete Basketball & Multi-Purpose Court Surface Color Coating System: SportMaster Color Coating System.

2. Crack Sealant: SportMaster "Crack Magic".

   a) 100 percent acrylic emulsion elastomeric crack sealant.

   b) Seals cracks and expansion joints up to 1/2 inch wide in concrete pavement.

   c) Weight per Gallon at 77 Degrees F: 8.8 lbs., plus or minus 0.5 lbs.

   d) Non-Volatile Material: 61 percent, plus or minus 5 percent.

3. Crack Filler: SportMaster "Acrylic Crack Patch".

   a) 100 percent acrylic emulsion trowel-grade crack filler.

   b) Fills cracks in concrete pavement up to 1 inch wide.

   c) Chemical Characteristics, by Weight, Minimum:

      i. Acrylic Emulsion: 10.0 percent.

      ii. Hiding Pigment: 0.2 percent.

      iii. Mineral Inert Fillers: 78.0 percent.

      iv. Film Formers, Additives: 1.8 percent.

      v. Water: 8.5 percent.

   d) Weight per Gallon at 77 Degrees F: 15.2 lbs., plus or minus 1.0 lbs.

   e) 5. Non-Volatile Material: 80 percent, plus or minus 5 percent.

   f) 6. Color: Per Drawings

4. Patch Binder: SportMaster "Acrylic Patch Binder".

   a) 100 percent acrylic emulsion liquid binder.

   b) Mix on-site with sand and cement.

c) Levels and repairs low spots and depressions up to 3/4 inch deep in concrete pavement.

d) Weight per Gallon at 77 Degrees F: 8.8 lbs., plus or minus 0.5 lbs.

5. Filler Course: SportMaster "Acrylic Resurfacer".

a) 100 percent acrylic emulsion resurfacer.

b) Mix on-site with silica sand.

c) Apply to adhesion promoter or previously colored acrylic surfaces in preparation of color coating system.

d) Chemical Characteristics, by Weight, Minimum:

i. Acrylic Emulsion: 44.0 percent.

ii. Hiding Pigment: 2.0 percent.

iii. Mineral Inert Fillers: 5.0 percent.

iv. Film Formers, Additives: 0.2 percent.

v. Water: 45.0 percent.

e) Weight per Gallon at 77 Degrees F: 8.5 lbs., plus or minus 0.5 lbs.

f) Non-Volatile Material: 27.5 percent, plus or minus 5.0 percent.

g) Color: Black or Neutral.

6. Adhesion Promoter: SportMaster "Acrylic Adhesion Promoter".

a) Acrylic emulsion primer.

b) Primes concrete surface and promotes adhesion of color coating system materials.

c) Weight per Gallon at 77 Degrees F: 8.7 lbs., plus or minus 0.5 lbs.

7. Color Coating: SportMaster "ColorPlus System".

a) 100 percent acrylic emulsion coating.

b) Mix on-site with silica sand and water.

c) Color coats basketball and multi-purpose courts.

d) Weight per Gallon at 77 Degrees F: 9.2 lbs., plus or minus 0.5 lbs.

e) Color: Per Drawings

8. Line Markings Primer: SportMaster "Stripe-Rite".

a) 100 percent acrylic emulsion primer, clear drying.

b) Primes line markings and prevents bleed-under for sharp lines.

c) Chemical Characteristics, by Weight, Nominal:

d) Acrylic Emulsion: 38.0 percent.

e) Hiding Pigment: 0.0 percent.

f) Mineral Inert Fillers: 7.0 percent.

g) Film Formers, Additives: 1.5 percent.

h) Water: 50.0 percent.

i) Weight per Gallon at 77 Degrees F: 8.9 lbs., plus or minus 0.5 lbs.

j) Non-Volatile Material: 29 percent, plus or minus 5 percent.

9. Line Paint: SportMaster "Textured Line Paint".

a) Pigmented, 100 percent acrylic emulsion line paint.

b) Line marking on concrete basketball and multi-purpose courts.

c) Chemical Characteristics, by Weight, Nominal:

d) Acrylic Emulsion: 25.89 percent.

e) Pigment: 14.90 percent.

f) Mineral Inert Fillers: 13.12 percent.

g) Additives: 4.73 percent.

h) Water: 41.36 percent.

i) Weight per Gallon at 77 Degrees F: 10.65 lbs., plus or minus 0.75 lbs.

j) Non-Volatile Material: 45.17 percent, plus or minus 5 percent.

k) Color: Per Drawings

220-1.3 Execution.

220-1.3.1 Examination.

1. Examine concrete basketball and multi-purpose court surfaces to receive color coating system.

2. Verify:

a) Suitable vapor barrier beneath concrete slab.

b) Perimeter drainage to prevent moisture accumulation beneath concrete surface.

c) No curing compounds have been applied to surface.

d) Concrete basketball and multi-purpose courts meet ASBA requirements.

3. Notify Architect of conditions that would adversely affect application or subsequent use.

4. Do not begin surface preparation or application until unacceptable conditions are corrected.

220-1.3.2 Surface Preparation.

1. Protection of In-Place Conditions: Protect adjacent surfaces and landscaping from contact with concrete basketball and multi-purpose court surface color coating system.

2. Prepare surfaces in accordance with manufacturer's instructions.

3. New Concrete:

   a) Cure new concrete surfaces a minimum of 28 days before application of concrete basketball and multi-purpose court surface color coating system.

   b) Provide medium broom finish or similar roughened texture.

   c) Do not steel trowel finish.

   d) Acid etch with phosphoric or muriatic acid and rinse thoroughly prior to application of color coating system.

4. Existing Concrete:

   a) Sandblast, shotblast, or scarify smooth concrete surfaces to roughened texture similar to medium broom finish. If shot blasting, a shot blast profile of CSP3 or CSP4 is recommended.

   b) If existing concrete is uncoated, acid etch with phosphoric or muriatic acid and rinse thoroughly prior to application of color coating system.

5. Remove dirt, dust, debris, oil, grease, sealers, curing compounds, vegetation, loose coatings, loose materials, and other surface contaminants which could adversely affect application of concrete basketball and multi-purpose court surface color coating system. Pressure wash entire surface.

6. Repair cracks, depressions, and surface defects in accordance with manufacturer's instructions before application of color coating.

7. Repair spalled areas and level depressions 1/8 inch and deeper with patch binder in accordance with manufacturer's instructions.

8. Apply adhesion promoter over entire concrete surface in accordance with manufacturer's instructions.

9. Apply 1 coat of filler course to provide smooth underlayment for application of color coating.

10. Ensure surface repairs are flush and smooth to adjoining surfaces.

220-1.3.3 Application.

1. Apply concrete basketball and multi-purpose court surface color coating system in accordance with manufacturer's instructions at locations indicated on the Drawings.
2. Mix materials in accordance with manufacturer's instructions.
3. Apply Filler Course and Color Coating with a 50-60 durometer, soft rubber squeegee.
4. Filler Course:
    a) Apply 1 coat on new concrete or existing acrylic surfaces with minimal repairs.
    b) Apply 2 coats on existing acrylic surfaces with extensive cracks or low spot repair.
5. Apply a minimum of 2 coats of color coating to prepared surfaces in accordance with manufacturer's instructions.
6. Allow material drying times in accordance with manufacturer's instructions before applying other materials or opening completed surface to foot traffic.

220-1.3.4 Line Markings.

1. Lay out court line markings in accordance with appropriate governing body:
    a) USTA Rules of Tennis.
    b) NBA Official Rules for professional basketball
    c) NFHS Rules for high school basketball
    d) NCAA Rules for college basketball
    e) Other required game layout
2. Apply line markings primer, after masking tape has been laid, to seal voids between masking tape and court surface to prevent bleed-under when line paint is applied.
3. Apply a minimum of 1 coat of line paint in accordance with manufacturer's instructions.

220-1.3.5 Protection.

1. Allow a minimum of 24 hours curing time before opening courts for play.
2. Protect applied concrete basketball and multi-purpose court surface color coating system to ensure that, except for normal weathering, coating system will be without damage or deterioration at time of Substantial Completion.

SECTION 300 – EARTHWORK

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 the Work. Clearing and Grubbing shall also include saw cutting, demolition, removal and disposal of all existing improvements called out on the Plans to be removed and/or disposed of, including, but not limited to, excess soil, sediment basin, CMP sediment basin riser, 18" RCP storm drain pipe, pavement, fencing, gates, sidewalk to nearest joint, curb and gutter, pedestrian curb ramp, trees, vegetation and all other existing improvements that are shown on the Plans for removal or are in conflict with the installation of work shown on the Plans, directed by the Resident Engineer to be removed, or otherwise required to perform the work which are not designated as separate bid items or which are not included in other bid items.

11. Prior to submittal of a Bid for this Work, the Contractor shall inspect the project site to verify the magnitude and cost of Salvaging and/or Re-Installing/Relocating Existing Improvements, as called out on the Plans and necessary to accomplish the Work.

300-1.4 Payment. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Payment for clearing and grubbing shall be part of the Contract Lump Sum Price for **"Construction of Hidden Trails Neighborhood Park Project as Shown on Plans and Specifications, and Coordination."** No other payments shall be made therefore.

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

301-2 UNTREATED BASE.

301-2.1 General. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Class II Aggregate Base shall be installed per this Section 301-2.

301-2.4 Measurement and Payment. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Payment for Class II Aggregate Base shall be part of the Contract Lump Sum Price for **"Construction of Hidden Trails Neighborhood Park Project as Shown on Plans and Specifications, and Coordination."**

301-3.3.14 **Payment.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Payment for cement-treated base shall be part of the Contract Lump Sum Price for **"Construction of Hidden Trails Neighborhood Park Project as Shown on Plans and Specifications, and Coordination."**

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-15.1 **General.** To the "WHITEBOOK", item 1, ADD the following:

q) storm drain cleanouts per SDSW-101

r) saddled water service connection

s) sewer cleanouts per SDS-102

SECTION 402- UTILITIES

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

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

SECTION 800 – MATERIALS

800-1 **LANDSCAPING MATERIALS.**

800-1.1 **Topsoil.**

800-1.1.1 **General.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

Topsoil shall be designated as Class A (imported), or Class C (unclassified). The Engineer will determine the suitability of topsoil prior to use. The Engineer may make such inspections and perform such tests as deemed necessary to determine that the material meets the requirements. Topsoil shall be transported from the source to its final position unless stockpiling is specified in the Special Provisions.

ADD the following:

1. Typically the onsite soils (Class C) are suitable and preferred for reuse as topsoil if free from excessive vegetation, trash and debris, and other deleterious matter. The soil laboratory test will determine suitability of onsite topsoil material.
2. If import of topsoil is determined to be necessary, Class A topsoil shall be provided and tested, as specified. Topsoil source and quality shall be approved by the Project Landscape Architect prior to delivery. Topsoil must be weed free upon delivery, or treated as specified for weed eradication. If topsoil is to be stored on-site for later installation, it shall not be stored for more than one week.

800-1.1.3 Class "B" Topsoil. To the "GREENBOOK", DELETE in its entirety.

800-1.2 Soil Fertilizing and Conditioning Materials.

800-1.2.1 General. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Submittals: Product data and samples shall be made in one package. Submit manufacturer's product data on amendments, fertilizers and all other materials as described in this section. Include brand names, estimate quantities and supplier. For organic mulches, submit three (3) ¼ lb. bagged samples of each specified material. Label bag with name, source, size and color range.

800-1.2.4 Organic Soil Amendment. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Soil Amendment: a blend of organic fractions with several degrees of breakdown rate, a long-lasting form of iron, trace elements, pH of 5.5 to 7.5, maximum salinity of 2.50 ECe, organic matter (dry weight basis) more than 90%, non-ionic wetting agent and total nitrogen content of 0.4 – 0.8%, such as "Numex Lif" by John Deere Landscapers, (619) 562-8777, or "A-1 Nutri-Gro" by A-1 Soils, (858) 715-5600, or approved equal.

2. Gypsum: a commercially processed and packaged gypsum (CaSo4, H2O) Calcium Sulfate Product - 94.3%. Ninety percent shall pass a 50 mesh screen.

3. Iron Sulfate: a non-staining iron with micronutrients, pelletized, slow release, environmentally safe; 40% Iron, 1% Manganese, 1% Zinc, 1% Magnesium, 6% Sulfur; 2% Humic Acids. Such as "Premium Green Iron 40% Fe" as manufactured by Gro-Power®, Inc. (800) 473-1307 or approved equal.

4. Sulfur: a commercially processed and packaged product in elemental form (S) Sulfur - 90.0%, capable of oxidizing over time and providing nutrient sulfur. Pelletized. Such as "Tiger 90 CR". As supplied by Butler's Mill (800) 233-6933, or approved equal.

5. Mycorrhizal Inoculum / Soil Conditioner: Inculum shall be both Endo and Ecto (granular), with consititing of propagules (spores, fragments of fungal mycelium, and pieces of mycorrhizal roots capable of colonizing host plant roots) of the vesicular arbuscular mycorrhizal species Glomus intraradices, Glomus aggregatum, Glomus mosseae, combined with other species and/or additional genera including, Sclerocyctis, Gigaspora, Scutellospora, Entrophospora, and Acaulospora. Ectomycorrhiza include Pisolithus and 4 species of Rhizopogon. Soil Conditioner portion shall consist of organic materials consisting of higher plant form life, composted beyond the fiberous stage, to humus. Also shall have humic acids and beneficial soil bacteria

strains. It shall NOT contain poultry, animal or human waste (i.e., sewage sludge), pathogenic viruses, fly larvae, insecticides, herbicides, fungicide or poisonous chemicals that would inhibit plant growth. Shall be "GroLife" (800) 473-1307, or approved equal.

Ingredients:	Percentage (minimum):
Mycorrhizal Inoculum	6,500/5,500 progagules per lb.
Humus	65%
Humic Acids	25%

800-1.2.5 Mulch. To the "WHITEBOOK", item 3, subitems a) through m), DELETE in their entirety and SUBSTITUTE with the following:

a) **Mulch** (Organic Mulch): "Perennial Mulch" or "Orchard Mulch"; composted mulch product, dark in color, high in organic content and comprised of yard trimming, free of trash and other deleterious materials and animal waste, with pathogens and weeds removed by temperature treatment.

i. Size Range:

a. "Perennial Mulch": 3/4" screened

b. "Orchard Mulch": 2" minus

ii. Acceptable Manufacturer: Agri Service Inc., (800) 262-4167, or approved equal.

ADD:

800-1.2.7 Herbicides and Pesticides.

1. Herbicides and pesticides shall be used in their appropriate applications with strict adherence to manufacturers' specifications and instructions.
2. Post-emergent herbicide for all areas shall be Round Up, Diquat, Montar, or approved equivalent.
3. Pre-emergent herbicide for shrub and groundcover areas (planted from flats) shall be Treflan, Surflan, Eptan, or approved equivalent.

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

8. Plants shall have grown in their containers for at least six months, but not over two years.
9. Quality and Size: Plants shall be in accordance with the California State Department of Agriculture Regulations for Nursery Inspections of Rules and Grading. Nursery tags must be submitted to the Project Landscape Architect. Sizes shall conform to the dimensions indicated on the planting plan. All plants shall be reviewed and approved for acceptable size and quality by the Project Landscape Architect prior to planting. All plants shall have a growth habit normal to the species and shall be symmetrical, typical for variety and species,

sound, healthy, vigorous and free from insect pests, insect eggs, plant diseases, sun scalds, fresh bark abrasions, excessive abrasions, or other objectionable disfigurements. All plants shall have normal well-developed branch systems, and vigorous and fibrous root systems which are neither root- nor pot-bound and are free of kinked or girdling roots. Immediately upon award of contract for work in this section, locate and purchase or hold for purchase all trees required. Color photos of all palm trees shall be submitted to Project Landscape Architect for approval for a minimum of 15 days prior to delivery of the plants to the site. The Project Landscape Architect reserves the right to reject any plant species upon conducting a physical inspection after delivery to the site.

10. Quantities: Quantities of all plant materials shall be furnished as needed to complete work as shown on the Drawings. Inspection of plant materials required by City, County or State authorities shall be the responsibility of the Contractor, and where necessary, permits or certificates shall have been secured prior to delivery of plans to site. The Project Landscape Architect is the sole judge as to acceptability of each plant. Vigorous, healthy, well-proportioned plants are the intent of this specification. Plants which are even moderately "overgrown," or are showing signs of decline or lack of vigor are subject to rejection. 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 Project Landscape Architect, 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: The Project Landscape Architect reserves the right to reject any plant material found to be defective or not in conformance with plans and specifications. Plants shall be subject to inspection and approval or rejection at the project site at any time before or during progress of work, for size, variety, condition, latent defects, and injuries. 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 and replaced with new plants by the Contractor at his expense. Rejected plant material shall be replaced within one week of written notice, unless otherwise approved by the Project Landscape Architect. Substitutions will not be permitted except if proof is submitted that any plant specified is not obtainable, then a proposal will be considered for use of the nearest equivalent size or variety and cost. All substitutions are subject to Project Landscape Architect’s written approval.

12. Right To Changes: The Project Landscape Architect 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 do 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 (10) days before the planting operation has commenced.

13. Submittals: For each plant specified, include photo quality color photographs at 8 ½ x11 size format of each required species and size of plant material as it will be furnished to the Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Identify each photograph with the full scientific name of the plant, container size, height and spread, and name of the growing nursery. Review of plant photographs does not indicate acceptance of the plant material as delivered to the Project Site.

14. Reference Standards: Reference Standards apply to this Sections and shall be the latest edition of the following:

    a) "A Checklist of Woody Ornamental Plants of California", University of California, College of Agriculture.

    b) ANSI Z60.1 American Standards for Nursery Stock.

    c) Hortus Third.

    d) Sunset Western Garden Book, Sunset Publishing Corporation.

    e) Guideline Specifications for Nursery Tree Quality by Urban Tree Foundation.

ADD:

800-1.7 Aeration Tubes.

1. Tubes:

    a) 4” dia., schedule 40 PVC perforated pipe cut to lengths as shown on the Drawings.

    b) Acceptable Manufacturer: Pacific Plastics, Inc. (714)-990-9050, or approved equal.

2. Grates:

    a) 4”dia., round, black, flat plastic slotted drain grates

    b) Acceptable Manufacturer: National Diversified Sales (NDS), or approved equal.

3. Filter fabric “Sock”:

    a) Spunbond, Typar 3341, Geoscape Landscape Fabric - 2.5 oz., Commercial Grade

    b) Acceptable Manufacturer: ADS (800) 821-6710, or approved equal.

SECTION 801 – INSTALLATION

801-1 **GENERAL.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Contractor is to obtain Resident Engineer's acceptance of tree locations in the field prior to installation of irrigation equipment. Tree locations on the plan are approximate and shall be adjusted as directed by the Resident Engineer. Tree locations take precedence over irrigation equipment conflicting with accepted tree locations.

2. In paved areas, all tree and palm planting holes are to be excavated and amended per the specifications prior to the pouring of the concrete paving.

3. Examine areas to be planted before start of work, locate utilities, improvements, and easements, verify dimensions and areas shown on the Drawings with actual conditions, identify and tag existing plant material to remain. Document conditions which are in direct conflict with the Drawings and notify the Owner's Representative. Do not start work until conditions that would adversely affect performance, installation, or quality of the work have been corrected. Start of work of this Section constitutes acceptance of the conditions.

4. Contractor shall install a temporary water supply from an approved source to irrigate the existing trees during construction, as outlined in Subsection 308-4.9.5 of the Standard Specifications.

5. Site observation visits herein shall be made by the Resident Engineer. The contractor shall request site observation three (3) working days in advance of the time of observation is required. The Landscape Contractor or his authorized representative shall be on the site at the time of each site observation by the Resident Engineer. Site observations shall be required for the following parts of work:

    a) Pre-Construction Meeting to review proposed construction.

    b) Demolition Mark-out (48 hours)

    c) Irrigation Function Test Prior to demolition to be coordinated with adjacent HOA

    d) Hardscape at time of finished staking and layout

    e) Finish Grading and Soil Preparation

    f) Plant material (when delivered) and placement approval

    g) Playground Inspection

    h) Project Construction 90 Percent Complete (Develop Punch List and Submit Red-Line As-Builts)

    i) Second Irrigation Function Test

j) 90-Day Plant Maintenance Period (This inspection is to be held when the punch list items are complete)

k) Final Walk-through, acceptance by the City. Contractor to submit Final Approved As-Built Drawings to the City.

ADD:

801-1.1 Weeding.

1. Weed eradication for entire project site. After irrigation installation, but before planting installation, the Contractor shall irrigate the entire project site three (3) to four (4) times over seven (7) to ten (10) days to germinate existing weeds seeds. Allow weed seeds to grow until they reach a maximum height of two to three inches (2"-3"). A post emergent herbicide shall then be applied per Manufacturers specifications and instructions. Avoid contact of herbicide with the existing plants to remain.

801-2 EARTHWORK AND TOPSOIL PLACEMENT.

801-2.1 General. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

Earthwork and topsoil placement shall include the preparation for and the spreading, densification, cultivation, and raking of topsoil, including fertilization and conditioning.

Preliminary rough grading and related work to prepare areas for landscaping work to within 0.1 foot (30 mm) of finish grade, or to subgrade for Class A, shall conform to 300-2, 300-4, and 301-1.

801-2.2 Topsoil Preparation and Conditioning.

801-2.2.1 General. To the "WHITEBOOK", ADD the following:

7. Soil Tests:

a) After asphalt and structure demolition and removal are completed and once rough

b) At the conclusion of rough grading, collect 4 soil samples from areas identified by the Resident Engineer, and submit the samples to an agricultural soils laboratory for testing. Submit copy of specified amendments with soil samples for testing lab reference. Submit the test results to the Resident Engineer for review. No amendments shall be applied prior to receipt of test results. The Resident Engineer shall recommend changes to the amendments and/or procedure listed herein, after review of the test results. Costs for testing shall be included in the base bid. Cost change for soil preparation work shall be in accordance with the provisions of the General Conditions.

c) The cost of the soil analysis and testing shall be included in the bid documents and the Contractor shall not be due additional compensation.

d) Conduct percolation and soil suitability tests per sections 800-4 and 800-5, prior to commencing work on this section.

8. Percolation Tests:

a) Locate and prepare the percolation test pits where indicated on the Drawings or as indicated by Owner' representative, and as describe herein. Percolation tests shall take place prior to any tree planting.

b) Excavate the pits as describe under the plant installation section, remove all loose material, and fill the pits with six inches (6") of water. After 12 hours refill with the same amount of water. Six hours after the second filling, inspect the pits with the Resident Engineer and document locations where water remains in the pit. 100% of water needs to be absorbed after 6 hours.

c) If percolation problems occur, provide means and methods for correcting said problems. Planting operations at the locations identified shall be suspended as necessary or as directed by the Resident Engineer. Payment for corrective work shall be in accordance with the provisions of the General Conditions. Proceeding with the work without written approval, does not entitle the Contractor to additional compensation for corrective work.

801-2.2.2 Fertilizing and Conditioning Procedures. To the "WHITEBOOK", items 2 and 4, DELETE in their entirety and SUBSTUTITE with the following:

2. Spread amendments over all planting areas indicated on the Drawings, and mechanically till and blend to a depth of six (6) inches. Prepare areas within the dripline of existing trees by hand, do not use mechanical tillers. Remove foreign material, construction debris, and rocks larger than 2" in diameter. Rake smooth, lightly water, and compact to the finish grades shown on the Drawings.

4. After spreading, cultivate the following soil amendments into the upper 15 inches (381 mm) of soil by suitable equipment operated in at least two directions approximately at right angles. In small planters the same results are to be achieved using hand tilling methods.

801-2.3 Finish Grading. To the "WHITEBOOK", ADD with the following:

12. Planting surfaces shall be graded with no less than one percent (1%) surface slope for positive drainage.

13. Molding and rounding of the grades shall be provided at all changes in slope.

14. All undulations and irregularities in the planting surfaces resulting from tillage, rototilling, and all other operations, shall be leveled and floated out before planting operations are initiated.

15. The Contractor shall take every precaution to protect and avoid damage to irrigation heads, irrigation lines, and other underground utilities during the grading and soil conditioning operations.

16. Final grades shall be acceptable to the Resident Engineer before planting operations will be allowed to begin.

801-4 PLANTING.

801-4.1 General. To the "WHITEBOOK", ADD the following:

7. Actual planting shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally accepted horticultural practice, as approved by the Resident Engineer. The determination of adequate soil moisture for planting shall be the sole judgment of the Resident Engineer and his decision shall be final. The Contractor shall obtain a soil moisture level found to be sufficient for planting. All planting pits shall be filled with water and allowed to drain before starting planting operations. No more plants shall be distributed in the planting area on any day that can be planted and watered as herein specified immediately after removal from containers.

8. Excavation shall include the stripping and staking of all acceptable soil encountered within the areas to be excavated for plant pits and planting beds. Protect all areas that are to be trucked over and upon which soils to be temporarily stacked pending its re-use for the filling of holes, pits and beds.

9. Excess soil generated from the planting holes shall be removed from the site, or distributed thereon with, and only with, approval of the Resident Engineer.

10. Refer to planting details for trees that are to have root barriers.

11. All plant material and their locations shall be approved by the Resident Engineer before cutting into containers and excavating soil for planting.

801-4.3 Layout and Plant Locations. To the "WHITEBOOK", ADD the following:

4. The layout of locations for plants and outlines of ground cover areas to be planted shall be approved on the site by the Resident Engineer. All container plants shall be sited by the Contractor in their final locations, as approved by the Resident Engineer, prior to their planting. All such locations shall be checked for interference with existing underground piping, prior to excavation of holes. If underground construction or utility lines are encountered in the excavation of planting areas, other locations for the planting may be selected by the Resident Engineer. Damage to existing utilities shall be the responsibility of the Contractor.

5. Tree Layout: Flag or stake the tree locations as shown on the Drawings, and review with the Resident Engineer, the locations which conflict with new or existing utilities, foundations, paving, drainage flow lines and structures. Do not install trees in areas of conflict without review and approval from the Resident Engineer.

801-4.5 **Tree and Shrub Planting.** To the "WHITEBOOK", items 1 and 4, DELETE in their entirety and SUBSTITUTE with the following:

1. Plant Pits: Excavate planting pits to the minimum size and depth indicated on the Drawings. The pits shall have vertical sides and level or sloping bottoms with roughened surfaces. Pits may be larger to avoid damage or injury during installation, or due to other constraints. Notify the Resident Engineer of conditions where hardpan, adobe clay, or inadequate subgrade compaction are encountered. Planting operations at the locations identified shall be suspended pending corrective action provided by the Resident Engineer. Any plant with a broken or cracked root ball before or during planting shall not be planted.

4. Backfill and Compaction:

   a) Place backfill in maximum 6 inch layers. Puddle and tamp to 85% relative dry density prior to placement of each succeeding layer. Place plant tablets as indicated on the Drawings and in the quantities noted below, do not place plant tablets in direct contact with the rootball. At completion of the planting operation, thoroughly water-in each plant to the full depth of the plant pit.

   b) Backfill mixture for all plants except palms shall be thoroughly blended, based on the soil test report recommendation, such as:

Amendment	Amount
Soil Conditioner*	per soil test
Existing Soil	per soil test
Iron Sulfate	per soil test

Amendment	Amount
Soil Sulfur	per soil test
Gypsum	per soil test
Pre-plant Fertilizer (5-3-1)*	per soil test
Mycorrhizal Inoculum / Soil Conditioner**	per soil test

* Incorporate these items only in the top 18” layer.

** Incorporate these items only in the top 6” layer.

c) Place planting tablets in the planting pits at the following rates:

Plant Size	Qty.	Tablet Size
Liner and flat size plant	1	5 gram
1 gallon container	1	21 gram
5 gallon container	2	21 gram
15 gallon container	3	21 gram
Box specimen	2	21 gram for each 12” of box size

ADD:

801-4.6.4 Root Barriers.

1. Materials shall be delivered and stored in accordance with Section 4 of the Standard Specifications. Avoid prolonged exposure to direct sunlight and high temperatures. Material exposed to direct sunlight for more than one week shall be rejected and replaced. Install as soon as possible after opening container.

2. Material shall be handled in accordance with manufacturer's instructions.

3. Install root barrier against edge of all paving adjacent to planting areas within 10' of tree trunks measured perpendicular to curb. A minimum 4" wide trench shall be excavated to the depth of root barrier. Insert barrier to bottom of trench and stretch it straight against the side of trench adjacent to concrete. Top edge shall be 3" below grade of concrete structures. To permit backfilling, tape, wire or pin the barrier against the trench wall. The fabric shall be laid in a continuous barrier without gaps. Splices shall be made tight and permanent using the manufacturer’s locking strips installed per instructions. Tamp soil gently and firmly into place as backfilling is accomplished to prevent soil settling. Avoid collapsing or distorting the barrier when backfilling. Cutting shall be accomplished using a sharp knife.

4. Price for root barriers shall include labor, materials, equipment and all incidentals necessary to provide a complete installation.

5. Root barrier shall be installed against hardscape features, or as shown diagrammatically on the Drawings, not encircling tree rootball. Install per manufacturer recommendations.

SECTION 802 – NATIVE HABITAT PROTECTION, INSTALLATION, MAINTENANCE, AND MONITORING

802-2.1 **Project Biologist.** To the "WHITEBOOK", Item 2, DELETE in its entirety and SUBSTITUTE with the following:

2. You shall retain a qualified Project Biologist to perform biological monitoring Work for this Contract. You shall coordinate your activities and Schedule with the activities and schedules of the Project Biologist.

SECTION 1001 – CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs)

1001-1 **GENERAL.** To the "WHITEBOOK", ADD the following:

8. Based on a preliminary assessment by the City, this Contract is subject to **SWPPP Risk Level 2**.

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**.

TECHNICALS

TECHNICAL SPECIFICATIONS

TABLE OF CONTENTS

DIVISION 26 – ELECTRICAL

260519 - Low Voltage Electrical Power Conductors and Cables

260526 - Grounding and Bonding for Electrical Systems

260533 - Raceways and Boxes for Electrical Systems

260543 - Underground Ducts and Raceways for Electrical Systems

260553 - Identification for Electrical Systems

260573.13 - Short-Circuit Studies

260573.16 - Coordination Studies

260573.19 - Arc-Flash Hazard Analysis

260923 - Lighting Control Devices

262713 - Electricity Metering

265613 - Lighting Poles and Standards

265619 - LED Exterior Lighting

SECTION 26 05 19 - 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 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 2000 V and less.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Product Schedule: Indicate type, use, location, and termination locations.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer's authorized service representative.

B. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: Member company of NETA.

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, provide products by one of the following, or approved equal:

1. Alpha Wire Company.
2. American Bare Conductor.
3. Belden Inc.
4. Cerro Wire LLC.
5. Encore Wire Corporation.

6. General Cable Technologies Corporation.
7. Service Wire Co.
8. Southwire Company.

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. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Conductors: Copper, complying with NEMA WC 70/ICEA S-95-658.
1. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type THHN/THWN-2.

2.2 CONNECTORS AND SPLICES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or approved equal::

1. 3M Electrical Products.
2. AFC Cable Systems; a part of Atkore International.
3. Gardner Bender.
4. Hubbell Power Systems, Inc.
5. Ideal Industries, Inc.
6. ILSCO.
7. NSi Industries LLC.
8. O-Z/Gedney; a brand of Emerson Industrial Automation.
9. Service Wire Co.
10. TE Connectivity Ltd.

B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated; 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 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Copper; Stranded minimum #12 AWG.

B. Branch Circuits: Copper. Stranded, minimum #12 AWG.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.

B. Branch Circuits Concealed Underground: Type THHN/THWN-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Conceal cables underground in finished walls, ceilings, and under bridge structures unless otherwise indicated.

B. 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.

C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

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.

1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm) of slack.

3.5 IDENTIFICATION

A. Identify and color-code conductors and cables according to Section 26 05 53 "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 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Perform each of the following visual and electrical tests:

a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
b. Test bolted connections for high resistance using one of the following:

1) A low-resistance ohmmeter.
2) Calibrated torque wrench.

c. Inspect compression applied connectors for correct cable match and indentation.

d. Inspect for correct identification.
e. Inspect cable jacket and condition.
f. Insulation-resistance test on each conductor with respect to ground and adjacent conductors. Apply a potential of 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable for a one-minute duration.
g. Continuity test on each conductor and cable.
h. Uniform resistance of parallel conductors.

C. Cables will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports 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.

END OF SECTION

SECTION 26 05 26 - 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 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. As-Built Data: Plans showing dimensioned as-built locations of grounding features specified in "Field Quality Control" Article, including the following:

1. Ground rods.

B. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or approved equal:

1. Burndy; Part of Hubbell Electrical Systems.
2. Dossert; AFL Telecommunications LLC.
3. ERICO International Corporation.

4. Fushi Copperweld Inc.

2.2 SYSTEM DESCRIPTION

A. Comply with UL 467 for grounding and bonding materials and equipment.

2.3 CONDUCTORS

A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

B. Bare Copper Conductors:
   1. Stranded Conductors: ASTM B 8.
   2. 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.

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.

2.5 GROUNDING ELECTRODES

A. Ground Rods: Copper-clad steel; 3/4 inch by 10 feet (19 mm by 3 m).

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install stranded conductor unless otherwise indicated.

B. 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.
   5. Fencing: Bolted connectors.

3.2 GROUNDING UNDERGROUND DISTRIBUTION SYSTEM COMPONENTS

A. Comply with IEEE C2 grounding requirements.

B. Grounding Handholes: Install a driven ground rod through handhole floor, per drawing detail.

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. Flexible raceway 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.

D. Metallic Fences: Comply with requirements of IEEE C2.

1. Grounding Conductor: Bare copper, not less than No. 8 AWG.
2. Gates: Shall be bonded to the grounding conductor with a flexible bonding jumper.
3. Barbed Wire: Strands shall be bonded to the grounding conductor.

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 (50 mm) 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.

C. Test Wells: Ground rod driven through drilled hole in bottom of handhole. Handholes are specified in Section 26 05 43 "Underground Ducts and Raceways for Electrical Systems," and shall be at least 12 inches (300 mm) deep, with cover.

1. Test Wells: Install at least one test well for each service unless otherwise indicated. Install at the ground rod electrically closest to service entrance. Set top of test well flush with finished grade or floor.

D. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.

1. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.

3.5 FIELD QUALITY CONTROL

A. 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.

B. 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 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.

C. Grounding system will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

E. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify the Resident Engineer promptly and include recommendations to reduce ground resistance.

END OF SECTION

SECTION 26 05 33 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal conduits and fittings.
2. Boxes, enclosures, and cabinets.

B. Related Requirements:

1. Section 26 05 43 "Underground Ducts and Raceways for Electrical Systems" for exterior ductbanks, manholes, and underground utility construction.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

1.3 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:

1. Structural members in paths of conduit groups with common supports.
2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.

B. Seismic Qualification Data: Certificates, for enclosures, cabinets, and conduit racks and their mounting provisions, including those for internal components, from manufacturer.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

A. Metal Conduit:

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. Republic Conduit.
b. Western Tube and Conduit Corporation.
c. Wheatland Tube Company.
d. Or approved equal.

2. 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.
3. PVC-Coated Electrical Rigid Metal Conduit: Comply with ANSI C80.1 and UL 6.
4. EMT: Comply with ANSI C80.3 and UL 797.
5. FMC: Comply with UL 1; zinc-coated steel.
6. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

B. Metal Fittings: Comply with NEMA FB 1 and UL 514B.

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. Republic Conduit.
   b. Western Tube and Conduit Corporation.
   c. Wheatland Tube Company.
   d. Or approved equal.

2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
3. Fittings, General: Listed and labeled for type of conduit, location, and use.
4. Fittings for EMT:

   a. Material: Non-cast steel.
   b. Type: compression.

5. 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.

C. PVC-Coated-Steel Electrical Rigid Metal Conduit Couplings and Fittings: Comply with UL 6.

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.

2. Exterior Coating: PVC complying with NEMA RN 1.

D. Joint Compound for IMC, GRC, or ARC: 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 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. ABB (Electrification Products Division).
2. Appleton - EGS; Emerson Electric Co., Automation Solutions.
3. Eaton (Crouse-Hinds).
4. Hubbell Incorporated.
5. nVent (Hoffman).
6. Spring City Electrical Manufacturing Company.
7. Or approved equal.

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, aluminum, Type FD, with gasketed cover.

E. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb (23 kg). Outlet boxes designed for attachment of luminaires weighing more than 50 lb (23 kg) shall be listed and marked for the maximum allowable weight.

F. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

G. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum with gasketed cover.

H. Box extensions used to accommodate new building finishes shall be of same material as recessed box.

I. Device Box Dimensions: 4 inches square by 2-1/8 inches deep (100 mm square by 60 mm deep).

J. Gangable boxes are prohibited**.**

K. 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. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

L. Cabinets:

1. NEMA 250,Type 1 galvanized-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.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
1. Exposed conduit: PVC-Coated Electrical Metal Conduit up to 4 feet above grade. GRC greater than 4 feet above grade.
2. Concealed Conduit, Aboveground: EMT.
3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFNC.
4. 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 and Subject to Severe Physical Damage: GRC.
3. Concealed in Ceilings and Interior Walls and Partitions: EMT.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
5. Damp or Wet Locations: GRC.
6. 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: 3/4-inch (21-mm) 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. EMT: Use compression, non-cast steel fittings. Comply with NEMA FB 2.10.
3. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.

E. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F (49 deg C).

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 NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.

B. Do not install raceways or electrical items on any "explosion-relief" walls or rotating equipment.

C. Do not fasten conduits onto the bottom side of a metal deck roof.

D. 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.

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 (300 mm) of changes in direction.

G. Make bends in raceway using large-radius preformed ells. Field bending shall be according to NFPA 70 minimum radii requirements. Use only equipment specifically designed for material and size involved.

H. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.

I. Support conduit within 12 inches (300 mm) of enclosures to which attached.

J. 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.

K. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.

L. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.

M. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches (1830 mm) of flexible conduit for recessed and semirecessed 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.

N. 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.

O. 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 raintight connection between the box and cover plate or the supported equipment and box.

P. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.

Q. Locate boxes so that cover or plate will not span different building finishes.

R. 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.

S. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

3.3 PROTECTION

A. Protect coatings, finishes, and cabinets from damage and deterioration.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

END OF SECTION

SECTION 26 05 43 - 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 apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Direct-buried conduit, ducts, and duct accessories.
2. Handholes and boxes.

1.3 DEFINITIONS

A. Trafficways: 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 warning tape.

1.5 INFORMATIONAL SUBMITTALS

A. Duct-Bank Coordination Drawings: Show duct profiles and coordination with other utilities and underground structures.

1. Include plans and sections, drawn to scale, and show bends and locations of expansion fittings.

B. Product Certificates: For concrete and steel used in precast concrete handholes, as required by ASTM C 858.

C. Qualification Data: For professional engineer and testing agency responsible for testing nonconcrete handholes and boxes.

D. Source quality-control reports.

E. 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 36 inches (900 mm) below ground surface unless a higher 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. Solvents and Adhesives: As recommended by conduit manufacturer.

B. 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 26 05 53 "Identification for Electrical Systems."

2.4 PRECAST CONCRETE HANDHOLES AND BOXES

A. Comply with ASTM C 858 for design and manufacturing processes.

B. 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 Legend: Molded lettering, "LIGHTING" or “ELECTRIC”, based on wiring.
3. Configuration: Units shall be designed for flush burial and have integral closed bottom unless otherwise indicated.
4. Extensions and Slabs: Designed to mate with bottom of enclosure. Same material as enclosure.

a. Extension shall provide increased depth of 12 inches (300 mm).
b. Slab: Same dimensions as bottom of enclosure, and arranged to provide closure.

5. Joint Sealant: Asphaltic-butyl material with adhesion, cohesion, flexibility, and durability properties necessary to withstand maximum hydrostatic pressures at the installation location with the ground-water level at grade.

C. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate layout and installation of ducts, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field. Notify Resident Engineer 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 Resident Engineer.

C. Clear and grub vegetation to be removed, and protect vegetation to remain according to Section 300 of the White Book. Remove and stockpile topsoil for reapplication according to Section 300 of the White Book.

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.

3.3 EARTHWORK

A. Excavation and Backfill: Comply with Section 300 of the White Book, but do not use heavy-duty, hydraulic-operated, compaction equipment.

B. Restore surface features at areas disturbed by excavation, and re-establish original grades unless otherwise indicated. Replace removed sod immediately after backfilling is completed.

C. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary top soiling, fertilizing, liming, seeding, sodding, sprigging, and mulching. Cut and patch existing pavement in the path of underground ducts and utility structures.

3.4 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 (1200 mm), 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. Installation Adjacent to High-Temperature Steam Lines: Where duct banks are installed parallel to underground steam lines, perform calculations showing the duct bank will not be subject to environmental temperatures above 40 deg C. Where environmental temperatures are calculated to rise above 40 deg C, and anywhere the duct bank crosses above an underground steam line, install insulation blankets listed for direct burial to isolate the duct bank from the steam line.

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 (1.03-MPa) hydrostatic pressure.

G. Pulling Cord: Install 100-lbf- (445-N-) test nylon cord in empty ducts.

H. Direct-Buried Duct Banks:

1. Excavate trench bottom to provide firm and uniform support for duct bank. Comply with requirements in 700 of the White Book for preparation of trench bottoms for pipes less than 6 inches (150 mm) in nominal diameter.
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 five spacers per 20 feet (6 m) 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 (150 mm) between tiers.
4. Depth: Install top of duct bank at least 36 inches (900 mm) below finished grade unless otherwise indicated.
5. Set elevation of bottom of duct bank below frost line.
6. 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.
7. Elbows: Install manufactured duct elbows for stub-ups at poles and equipment, at building entrances through floor, and at changes of direction in duct run unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
8. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment, at bridge structure, 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 (75 mm) of concrete.

b. For equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches (1500 mm) from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.

9. 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 (100 mm) 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. Comply with requirements in 300 of the White Book for installation of backfill materials.

   a. Place minimum 3 inches (75 mm) of sand as a bed for duct bank. Place sand to a minimum of 6 inches (150 mm) above top level of duct bank.
   b. Place minimum 6 inches (150 mm) of engineered fill above concrete encasement of duct bank.

I. Warning Tape: Bury warning tape approximately 12 inches (300 mm) above all concrete-encased ducts and duct banks. Align tape parallel to and within 3 inches (75 mm) of centerline of duct bank. Provide an additional warning tape for each 12-inch (300-mm) increment of duct-bank width over a nominal 18 inches (450 mm). Space additional tapes 12 inches (300 mm) apart, horizontally.

3.5 INSTALLATION OF CONCRETE, HANDHOLES, AND BOXES

A. Precast Concrete Handhole 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 (25-mm) sieve to No. 4 (4.75-mm) 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.

3.6 GROUNDING

A. Ground underground ducts according to Section 26 05 26 "Grounding and Bonding for Electrical Systems."

3.7 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.

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- (150-mm-) 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 26 05 26 "Grounding and Bonding for Electrical Systems."

B. Correct deficiencies and retest as specified above to demonstrate compliance.

3.8 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.

END OF SECTION

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

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. Identification for conductors.
2. Underground-line warning tape.
3. Warning labels and signs.
4. Equipment identification labels, including arc-flash warning labels.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for electrical identification products.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with ASME A13.1 and IEEE C2.

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.

2.2 COLOR AND LEGEND REQUIREMENTS

A. Cables Carrying Circuits at 600 V or Less:

1. Black letters on an white field.

B. Warning labels and signs shall include, but are not limited to, the following legends:

1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM)."

2.3 EQUIPMENT IDENTIFICATION LABELS

A. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. Black letters on a white background. Minimum letter height shall be 3/8 inch (10 mm).

2.4 LABELS

A. Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.

2.5 TAPES AND STENCILS:

A. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

B. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide; compounded for outdoor use.

C. Underground-Line Warning Tape
   1. Tape:
      a. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical utility lines.
      b. Printing on tape shall be permanent and shall not be damaged by burial operations.
      c. Tape material and ink shall be chemically inert and not subject to degradation when exposed to acids, alkalis, and other destructive substances commonly found in soils.
   2. Color and Printing:
      a. Comply with ANSI Z535.1, ANSI Z535.2, ANSI Z535.3, ANSI Z535.4, and ANSI Z535.5.
      b. Inscriptions for Red-Colored Tapes: "ELECTRIC LINE, HIGH VOLTAGE".

2.6 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. 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 PREPARATION

A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 INSTALLATION

A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.

B. Verify identity of each item before installing identification products.

C. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.

D. Apply identification devices to surfaces that require finish after completing finish work.

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. During backfilling of trenches, install continuous underground-line warning tape directly above cable or raceway at 6 to 8 inches (150 to 200 mm) below finished grade. Use multiple tapes where width of multiple lines installed in a common trench exceeds 16 inches (400 mm) overall.

3.3 IDENTIFICATION SCHEDULE

A. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, 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. Colors for 480/277-V Circuits:

        1) Phase A: Brown.

2) Phase B: Orange.
3) Phase C: Yellow.

2. Color for Neutral: White.
3. Color for Equipment Grounds: Green.

a. 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.

B. Control-Circuit Conductor Identification: For conductors and cables in pull and junction boxes, manholes, and handholes, use self-adhesive vinyl labels with the conductor or cable designation, origin, and destination.

C. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.

1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
2. Use system of marker-tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.

D. Locations of Underground Lines: Identify with underground-line warning tape for power, lighting, and control wiring cable.
1. Install underground-line warning tape for direct-buried cables and cables in raceways.

E. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual. Apply labels to disconnect switches and protection equipment, control panels. Systems include power, lighting, control, communication, signal, monitoring, and alarm unless equipment is provided with its own identification.

1. Labeling Instructions:
   a. Outdoor Equipment: Engraved, laminated acrylic or melamine label.
   b. Unless labels are provided with self-adhesive means of attachment, fasten them with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.
   c. Black letters on white field.

2. Equipment To Be Labeled:

   a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be in the form of an engraved, laminated acrylic label.
   b. Enclosures and electrical cabinets.
   c. Enclosed controllers.
   d. Contactors.
   e. Remote-controlled switches, dimmer modules, and control devices.
   f. Sports lighting controllers.
   g. Switchboards.
   h. Transformers.
   i. Circuit Breakers.

END OF SECTION

SECTION 26 05 73.13 - SHORT-CIRCUIT STUDIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes a computer-based, fault-current study to determine the minimum interrupting capacity of circuit protective devices.

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 and salvaged, or removed and reinstalled. Existing to remain items shall remain functional throughout the construction period.

B. Field Adjusting Agency: An independent electrical testing agency with full-time employees and the capability to adjust devices and conduct testing indicated and that is a member company of NETA.

C. One-Line Diagram: A diagram that 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.

D. Power System Analysis Software Developer: An entity that commercially develops, maintains, and distributes computer software used for power system studies.

E. Power Systems Analysis Specialist: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located.

F. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion of the circuit from the system.

G. SCCR: Short-circuit current rating.

H. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

I. Single-Line Diagram: See "One-Line Diagram."

1.4 ACTION SUBMITTALS

A. Product Data:
   1. For computer software program to be used for studies.
   2. Submit the following after the approval of system protective devices submittals. Submittals shall be in digital form.

a. Short-circuit study input data, including completed computer program input data sheets.
b. Short-circuit study and equipment evaluation report; signed, dated, and sealed by a qualified professional engineer.

1) Submit study report for action prior to receiving final approval of 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 selection of devices and associated characteristics is satisfactory.
2) Revised one-line diagram, reflecting field investigation results and results of short-circuit study.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data:
1. For Power Systems Analysis Software Developer.
2. For Power System Analysis Specialist.
3. For Field Adjusting Agency.

B. Product Certificates: For short-circuit study software, certifying compliance with IEEE 399.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data:
1. For overcurrent protective devices to include in emergency, operation, and maintenance manuals.
2. The following are from the Short-Circuit Study Report:
a. Final one-line diagram.
b. Final Short-Circuit Study Report.
c. Short-circuit study data files.
d. Power system data.

1.7 QUALITY ASSURANCE

A. Study shall be performed using commercially developed and distributed software designed specifically for power system analysis.

B. Software algorithms shall comply with requirements of standards and guides specified in this Section.

C. Manual calculations are unacceptable.
1. Power System Analysis Software Qualifications: Computer program shall be designed to perform short-circuit studies or have a function, component, or add-on module designed to perform short-circuit studies.
2. Computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.

D. Power Systems Analysis Specialist Qualifications: Professional engineer 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.

E. Short-Circuit Study Certification: Short-Circuit Study Report shall be signed and sealed by Power Systems Analysis Specialist.

F. Field Adjusting Agency Qualifications:
   1. Employer of a NETA ETT-Certified Technician Level III or NICET Electrical Power Testing Level III certification responsible for all field adjusting of the Work.
   2. A member company of NETA.
   3. Acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 POWER SYSTEM ANALYSIS SOFTWARE DEVELOPERS

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, or approved equal:
   1. Operation Technology, Inc.
   2. Power Analytics, Corporation.

B. Comply with IEEE 399 and IEEE 551.
   1. Analytical features of power systems analysis software program shall have capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.

C. Computer software program shall be capable of plotting and diagramming time-current-characteristic curves as part of its output.

2.2 SHORT-CIRCUIT STUDY REPORT CONTENTS

A. Executive summary of study findings.

B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.

C. One-line diagram of modeled power system, showing the following:
   1. Protective device designations and ampere ratings.
   2. Conductor types, sizes, and lengths.
   3. Transformer kilovolt ampere (kVA) and voltage ratings.
   4. Motor and generator designations and kVA ratings.
   5. Switchgear, switchboard, motor-control center, and panelboard designations and ratings.
   6. Derating factors and environmental conditions.
   7. Any revisions to electrical equipment required by the study.

D. Comments and recommendations for system improvements or revisions in a written document, separate from one-line diagram.

E. Protective Device Evaluation:
   1. Evaluate equipment and protective devices and compare to available short-circuit currents. Verify that equipment withstand ratings exceed available short-circuit current at equipment installation locations.
   2. Tabulations of circuit breaker, fuse, and other protective device ratings versus calculated short-circuit duties.
   3. For 600-V overcurrent protective devices, ensure that interrupting ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.

4. For devices and equipment rated for asymmetrical fault current, apply multiplication factors listed in standards to 1/2-cycle symmetrical fault current.
5. Verify adequacy of phase conductors at maximum three-phase bolted fault currents; verify adequacy of equipment grounding conductors and grounding electrode conductors at maximum ground-fault currents. Ensure that short-circuit withstand ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.

F. Short-Circuit Study Input Data:
1. One-line diagram of system being studied.
2. Power sources available.
3. Manufacturer, model, and interrupting rating of protective devices.
4. Conductors.
5. Transformer data.

G. Short-Circuit Study Output Reports:
1. Low-Voltage Fault Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:
   a. Voltage.
   b. Calculated fault-current magnitude and angle.
   c. Fault-point X/R ratio.
   d. Equivalent impedance.
2. Momentary 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. Calculated asymmetrical fault currents:
      1) Based on fault-point X/R ratio.
      2) Based on calculated symmetrical value multiplied by 1.6.
      3) Based on calculated symmetrical value multiplied by 2.7.
3. 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.

PART 3 - EXECUTION

3.1 POWER SYSTEM DATA

A. Obtain all data necessary for conduct of the study.
1. Verify completeness of data supplied on one-line diagram. Call any discrepancies to Architect's attention.
2. For equipment included as Work of this Project, use characteristics submitted under provisions of action submittals and information submittals for this Project.

3. For equipment that is existing to remain, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers. Qualifications of technicians and engineers shall be as defined by NFPA 70E.

B. Gather and tabulate the required input data to support the short-circuit study. Record data on a Record Document copy of one-line diagram. Comply with recommendations in IEEE 551 as to the amount of detail that is required to be acquired in the field. Field data gathering shall be under 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-Certified Technician Level III or NICET Electrical Power Testing Level III certification. Data include, but are not limited to, the following:
   1. Product Data for Project's overcurrent protective devices 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 transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.
   5. For reactors, provide manufacturer and model designation, voltage rating, and impedance.
   6. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip, SCCR, current rating, and breaker settings.
   7. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.
   8. Busway manufacturer and model designation, current rating, impedance, lengths, and conductor material.
   9. Motor horsepower and NEMA MG 1 code letter designation.
   10. Conductor sizes, lengths, number, conductor material and conduit material (magnetic or nonmagnetic).
   11. Derating factors.

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 device characteristics supplied by device manufacturer.

D. Extent of electrical power system to be studied is indicated on Drawings.

E. Begin short-circuit current analysis at the service, extending down to 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. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.

G. Include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and apply to low- and medium-voltage, three-phase ac systems. Also

account for the fault-current dc decrement to address asymmetrical requirements of interrupting equipment.

H. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault and a single line-to-ground fault at each equipment indicated on one-line diagram.
   1. For grounded systems, provide a bolted line-to-ground fault-current study for areas as defined for the three-phase bolted fault short-circuit study.

I. Include in the report identification of any protective device applied outside its capacity.

END OF SECTION

SECTION 26 05 73.16 - COORDINATION STUDIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes computer-based, overcurrent protective device coordination studies to determine overcurrent protective devices and to determine overcurrent protective device settings for selective tripping.
   1. Study results shall be used to determine coordination of series-rated devices.

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. Existing to remain items shall remain functional throughout the construction period.

B. Field Adjusting Agency: An independent electrical testing agency with full-time employees and the capability to adjust devices and conduct testing indicated and that is a member company of NETA.

C. One-Line Diagram: A diagram that 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.

D. Power System Analysis Software Developer: An entity that commercially develops, maintains, and distributes computer software used for power system studies.

E. Power System Analysis Specialist: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located.

F. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion of the circuit from the system.

G. SCCR: Short-circuit current rating.

H. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

I. Single-Line Diagram: See "One-Line Diagram."

1.4 ACTION SUBMITTALS

A. Product Data:
   1. For computer software program to be used for studies.

2. Submit the following after the approval of system protective devices submittals. Submittals shall be in digital form.
    a. Coordination-study input data, including completed computer program input data sheets.
    b. Study and equipment evaluation reports.
3. Overcurrent protective device coordination study report; signed, dated, and sealed by a qualified professional engineer.
    a. Submit study report for action prior to receiving final approval of 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 selection of devices and associated characteristics is satisfactory.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data:
1. For Power System Analysis Software Developer.
2. For Power Systems Analysis Specialist.
3. For Field Adjusting Agency.

B. Product Certificates: For overcurrent protective device coordination study software, certifying compliance with IEEE 399.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For overcurrent protective devices to include in emergency, operation, and maintenance manuals.
1. The following are from the Coordination Study Report:
    a. Final one-line diagram.
    b. Final protective device coordination study.
    c. Coordination study data files.
    d. List of all protective device settings.
    e. Time-current coordination curves.
    f. Power system data.

1.7 QUALITY ASSURANCE

A. Studies shall be performed using commercially developed and distributed software designed specifically for power system analysis.

B. Software algorithms shall comply with requirements of standards and guides specified in this Section.

C. Manual calculations are unacceptable.

D. Power System Analysis Software Qualifications:
1. Computer program shall be designed to perform coordination studies or have a function, component, or add-on module designed to perform coordination studies.
2. Computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.

E. Power Systems Analysis Specialist Qualifications: Professional engineer 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.

F. Field Adjusting Agency Qualifications:
   1. Employer of a NETA ETT-Certified Technician Level III responsible for all field adjusting of the Work.
   2. A member company of NETA.
   3. Acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 POWER SYSTEM ANALYSIS SOFTWARE DEVELOPERS

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 or approved equal:
   1. Operation Technology, Inc.
   2. Power Analytics, Corporation.

B. Comply with IEEE 242 and IEEE 399.

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.

D. Computer software program shall be capable of plotting and diagramming time-current-characteristic curves as part of its output. Computer software program shall report device settings and ratings of all overcurrent protective devices and shall demonstrate selective coordination by computer-generated, time-current coordination plots.
   1. Optional Features:
      a. Arcing faults.
      b. Simultaneous faults.
      c. Explicit negative sequence.
      d. Mutual coupling in zero sequence.

2.2 COORDINATION STUDY REPORT CONTENTS

A. Executive summary of study findings.

B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.

C. One-line diagram of modeled power system, showing the following:
   1. Protective device designations and ampere ratings.
   2. Conductor types, sizes, and lengths.
   3. Transformer kilovolt ampere (kVA) and voltage ratings.
   4. Motor and generator designations and kVA ratings.
   5. Switchgear, switchboard, motor-control center, and panelboard designations.
   6. Any revisions to electrical equipment required by the study.
   7. Study Input Data: As described in "Power System Data" Article.

a. Short-Circuit Study Output: As specified in "Short-Circuit Study Output Reports" Paragraph in "Short-Circuit Study Report Contents" Article in Section 26 05 73.13 "Short-Circuit Studies."

D. Protective Device Coordination Study:
1. Report recommended settings of protective devices, ready to be applied in the field. Use manufacturer's data sheets for recording the recommended setting of overcurrent protective devices when available.
   a. Phase and Ground Relays:
      1) Device tag.
      2) Relay current transformer ratio and tap, time dial, and instantaneous pickup value.
      3) Recommendations on improved relaying systems, if applicable.
   b. Circuit Breakers:
      1) Adjustable pickups and time delays (long time, short time, and ground).
      2) Adjustable time-current characteristic.
      3) Adjustable instantaneous pickup.
      4) Recommendations on improved trip systems, if applicable.
   c. Fuses: Show current rating, voltage, and class.

E. Time-Current Coordination Curves: Determine settings of overcurrent protective devices to achieve selective coordination. Graphically illustrate that adequate time separation exists between devices installed in series, including power utility company's upstream devices. Prepare separate sets of curves for the switching schemes and for emergency periods where the power source is local generation. Show the following information:
1. Device tag and title, one-line diagram with legend identifying the portion of the system covered.
2. Terminate device characteristic curves at a point reflecting maximum symmetrical or asymmetrical fault current to which the device is exposed.
3. Identify the device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.
4. Plot the following listed characteristic curves, as applicable:
   a. Power utility's overcurrent protective device.
   b. Medium-voltage equipment overcurrent relays.
   c. Medium- and low-voltage fuses including manufacturer's minimum melt, total clearing, tolerance, and damage bands.
   d. Low-voltage equipment circuit-breaker trip devices, including manufacturer's tolerance bands.
   e. Transformer full-load current, magnetizing inrush current, and ANSI through-fault protection curves.
   f. Cables and conductors damage curves.
   g. Ground-fault protective devices.
   h. Motor-starting characteristics and motor damage points.
   i. Generator short-circuit decrement curve and generator damage point.
   j. The largest feeder circuit breaker in each motor-control center and panelboard.
5. Maintain selectivity for tripping currents caused by overloads.
6. Maintain maximum achievable selectivity for tripping currents caused by overloads on series-rated devices.
7. Provide adequate time margins between device characteristics such that selective operation is achieved.
8. Comments and recommendations for system improvements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine Project overcurrent protective device submittals for compliance with electrical distribution system coordination requirements and other conditions affecting performance of the Work. Devices to be coordinated are indicated on Drawings.
   1. Proceed with coordination study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to coordination study may not be used in study.

3.2 POWER SYSTEM DATA

A. Obtain all data necessary for conduct of the overcurrent protective device study.
   1. Verify completeness of data supplied in one-line diagram on Drawings. Call any discrepancies to Architect's attention.
   2. For equipment included as Work of this Project, use characteristics submitted under provisions of action submittals and information submittals for this Project.
   3. For equipment that is existing to remain, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers. Qualifications of technicians and engineers shall be as defined by NFPA 70E.

B. Gather and tabulate all required input data to support the coordination study. List below is a guide. Comply with recommendations in IEEE 551 for the amount of detail required to be acquired in the field. Field data gathering shall be under 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-Certified Technician Level III or NICET Electrical Power Testing Level III certification. Data include, but are not limited to, the following:
   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. Electrical power utility impedance at the service.
   3. Power sources and ties.
   4. Short-circuit current at each system bus (three phase and line to ground).
   5. Full-load current of all loads.
   6. Voltage level at each bus.
   7. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.
   8. For reactors, provide manufacturer and model designation, voltage rating, and impedance.
   9. 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.
   10. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.
   11. For relays, provide manufacturer and model designation, current transformer ratios, potential transformer ratios, and relay settings.
   12. Maximum demands from service meters.
   13. Busway manufacturer and model designation, current rating, impedance, lengths, size, and conductor material.
   14. Motor horsepower and NEMA MG 1 code letter designation.
   15. Low-voltage cable sizes, lengths, number, conductor material, and conduit material (magnetic or nonmagnetic).

16. Medium-voltage cable sizes, lengths, conductor material, cable construction, metallic shield performance parameters, and conduit material (magnetic or nonmagnetic).
17. Data sheets to supplement electrical distribution system one-line diagram, cross-referenced with tag numbers on diagram, showing the following:
    a. Special load considerations, including starting inrush currents and frequent starting and stopping.
    b. Transformer characteristics, including primary protective device, magnetic inrush current, and overload capability.
    c. Motor full-load current, locked rotor current, service factor, starting time, type of start, and thermal-damage curve.
    d. Generator thermal-damage curve.
    e. Ratings, types, and settings of utility company's overcurrent protective devices.
    f. Special overcurrent protective device settings or types stipulated by utility company.
    g. Time-current-characteristic curves of devices indicated to be coordinated.
    h. Manufacturer, frame size, interrupting rating in amperes root mean square (rms) symmetrical, ampere or current sensor rating, long-time adjustment range, short-time adjustment range, and instantaneous adjustment range for circuit breakers.
    i. Manufacturer and type, ampere-tap adjustment range, time-delay adjustment range, instantaneous attachment adjustment range, and current transformer ratio for overcurrent relays.
    j. Switchgear, switchboards, motor-control centers, and panelboards ampacity, and SCCR in amperes rms symmetrical.
    k. Identify series-rated interrupting devices for a condition where the available fault current is greater than the interrupting rating of downstream equipment. Obtain device data details to allow verification that series application of these devices complies with NFPA 70 and UL 489 requirements.

3.3 COORDINATION STUDY

A. Comply with IEEE 242 for calculating short-circuit currents and determining coordination time intervals.

B. Comply with IEEE 399 for general study procedures.

C. Base study on device characteristics supplied by device manufacturer.

D. Extent of electrical power system to be studied is indicated on Drawings.

E. Begin analysis at the service, extending down to 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. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.

G. Transformer Primary Overcurrent Protective Devices:
    1. Device shall not operate in response to the following:
        a. Inrush current when first energized.
        b. Self-cooled, full-load current or forced-air-cooled, full-load current, whichever is specified for that transformer.

c. Permissible transformer overloads according to IEEE C57.96 if required by unusual loading or emergency conditions.

2. Device settings shall protect transformers according to IEEE C57.12.00, for fault currents.

H. Motor Protection:
1. Select protection for low-voltage motors according to IEEE 242 and NFPA 70.
2. Select protection for motors served at voltages more than 600 V according to IEEE 620.

I. Conductor Protection: Protect cables against damage from fault currents according to ICEA P-32-382, ICEA P-45-482, and protection recommendations in IEEE 242. Demonstrate that equipment withstands the maximum short-circuit current for a time equivalent to the tripping time of the primary relay protection or total clearing time of the fuse. To determine temperatures that damage insulation, use curves from cable manufacturers or from listed standards indicating conductor size and short-circuit current.

J. Generator Protection: Select protection according to manufacturer's written instructions and to IEEE 242.

K. Include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and apply to low- and medium-voltage, three-phase ac systems. Also account for fault-current dc decrement, to address asymmetrical requirements of interrupting equipment.

L. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault and a single line-to-ground fault at each equipment indicated on one-line diagram.
1. For grounded systems, provide a bolted line-to-ground fault-current study for areas as defined for the three-phase bolted fault short-circuit study.

M. Protective Device Evaluation:
1. Evaluate equipment and protective devices and compare to short-circuit ratings.
2. Adequacy of switchgear, motor-control centers, and panelboard bus bars to withstand short-circuit stresses.
3. Any application of series-rated devices shall be recertified, complying with requirements in NFPA 70.
4. Include in the report identification of any protective device applied outside its capacity.

3.4 LOAD-FLOW AND VOLTAGE-DROP STUDY

A. Perform a load-flow and voltage-drop study to determine the steady-state loading profile of the system. Analyze power system performance two times as follows:
1. Determine load flow and voltage drop based on full-load currents obtained in "Power System Data" Article.
2. Determine load flow and voltage drop based on 80 percent of the design capacity of load buses.
3. Prepare load-flow and voltage-drop analysis and report to show power system components that are overloaded, or might become overloaded; show bus voltages that are less than as prescribed by NFPA 70.

3.5 MOTOR-STARTING STUDY

A. Perform a motor-starting study to analyze the transient effect of system's voltage profile during motor starting. Calculate significant motor-starting voltage profiles and analyze the effects of motor starting on the power system stability.

3.6 FIELD ADJUSTING

A. Adjust relay and protective device settings according to recommended settings provided by the coordination study. Field adjustments shall be completed by the engineering service division of equipment manufacturer under the "Startup and Acceptance Testing" contract portion.

B. Make minor modifications to equipment as required to accomplish compliance with short-circuit and protective device coordination studies.

C. Testing and adjusting shall be by a full-time employee of the Field Adjusting Agency, who holds NETA ETT-Certified Technician Level III or NICET Electrical Power Testing Level III certification.
   1. Perform each visual and mechanical inspection and electrical test stated in NETA ATS. Certify compliance with test parameters. Perform NETA tests and inspections for all adjustable overcurrent protective devices.

3.7 DEMONSTRATION

A. Engage Power Systems Analysis Specialist to train Owner's maintenance personnel in the following:
   1. Acquaint personnel in fundamentals of operating the power system in normal and emergency modes.
   2. Hand-out and explain the coordination study objectives, study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpreting time-current coordination curves.
   3. For Owner's maintenance staff certified as NETA ETT-Certified Technicians Level III or NICET Electrical Power Testing Level III Technicians, teach how to adjust, operate, and maintain overcurrent protective device settings.

END OF SECTION

SECTION 26 05 73.19 - ARC-FLASH HAZARD ANALYSIS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions 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. Field Adjusting Agency: An independent electrical testing agency with full-time employees and the capability to adjust devices and conduct testing indicated and that is a member company of NETA.

C. One-Line Diagram: A diagram that 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.

D. Power System Analysis Software Developer: An entity that commercially develops, maintains, and distributes computer software used for power system studies.

E. Power Systems Analysis Specialist: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located.

F. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion from the system.

G. SCCR: Short-circuit current rating.

H. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

I. Single-Line Diagram: See "One-Line Diagram."

1.4 ACTION SUBMITTALS

A. Product Data: For computer software program to be used for studies.

B. Study Submittals: Submit the following submittals after the approval of system protective devices submittals. Submittals shall 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 Power Systems Analysis Specialist.
3. Submit study report for action prior to receiving final approval of 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 selection of devices and associated characteristics is satisfactory.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data:
1. For Power Systems Analysis Software Developer.
2. For Power System Analysis Specialist.
3. For Field Adjusting Agency.

B. Product Certificates: For arc-flash hazard analysis software, certifying compliance with IEEE 1584 and NFPA 70E.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data:
1. Provide maintenance procedures in equipment manuals according to requirements in NFPA 70E.

1.7 QUALITY ASSURANCE

A. Study shall be performed using commercially developed and distributed software designed specifically for power system analysis.

B. Software algorithms shall comply with requirements of standards and guides specified in this Section.

C. Manual calculations are unacceptable.

D. Power System Analysis Software 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. Computer program shall be designed to perform arc-flash analysis or have a function, component, or add-on module designed to perform arc-flash analysis.
2. Computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.

E. Power Systems Analysis Specialist Qualifications: Professional engineer in charge of performing the arc-flash 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.

F. Arc-Flash Study Certification: Arc-Flash Study Report shall be signed and sealed by Power Systems Analysis Specialist.

G. Field Adjusting Agency Qualifications:
1. Employer of a NETA ETT-Certified Technician Level III or NICET Electrical Power Testing Level III certification responsible for all field adjusting of the Work.
2. A member company of NETA.
3. Acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 COMPUTER SOFTWARE DEVELOPERS

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 or approved equal:
   1. EasyPower, LLC (formerly ESA Inc.).
   2. Power Analytics, Corporation.
   3. 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 ARC-FLASH STUDY REPORT CONTENT

A. Executive summary of study findings.

B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.

C. One-line diagram, showing the following:
   1. Protective device designations and ampere ratings.
   2. Conductor types, sizes, and lengths.
   3. Transformer kilovolt ampere (kVA) and voltage ratings, including derating factors and environmental conditions.
   4. Motor and generator designations and kVA ratings.
   5. Switchgear, switchboard, motor-control center, panelboard designations, and ratings.

D. Study Input Data: As described in "Power System Data" Article.

E. Short-Circuit Study Output Data: As specified in "Short-Circuit Study Output Reports" Paragraph in "Short-Circuit Study Report Contents" Article in Section 26 05 73.13 "Short-Circuit Studies."

F. Protective Device Coordination Study Report Contents: As specified in "Coordination Study Report Contents" Article in Section 26 05 73.16 "Coordination Studies."

G. Arc-Flash Study Output Reports:
   1. Interrupting Duty Report: Three-phase and unbalanced fault calculations, showing the following for each equipment location included in the report:
      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.

H. 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. Restricted approach boundary.
   6. Limited approach boundary.
   7. Working distance.
   8. Incident energy.
   9. Hazard risk category.
   10. Recommendations for arc-flash energy reduction.

I. Fault study input data, case descriptions, and fault-current calculations including a definition of terms and guide for interpretation of computer printout.

2.3 ARC-FLASH WARNING LABELS

A. Comply with requirements in Section 26 05 53 "Identification for Electrical Systems" for self-adhesive equipment labels. Produce a 3.5-by-5-inch (76-by-127-mm) self-adhesive equipment label for each work location included in the analysis.

B. 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. Protection boundaries.
      a. Arc-flash boundary.
      b. Restricted approach boundary.
      c. Limited approach boundary.
   4. Arc flash PPE category.
   5. Required minimum arc rating of PPE in Cal/cm squared.
   6. Available incident energy.
   7. Working distance.
   8. 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 ARC-FLASH HAZARD ANALYSIS

A. Comply with NFPA 70E and its Annex D for hazard analysis study.

B. Preparatory Studies: Perform the Short-Circuit and Protective Device Coordination studies prior to starting the Arc-Flash Hazard Analysis.

1. Short-Circuit Study Output: As specified in "Short-Circuit Study Output Reports" Paragraph in "Short-Circuit Study Report Contents" Article in Section 26 05 73.13 "Short-Circuit Studies."
2. Coordination Study Report Contents: As specified in "Coordination Study Report Contents" Article in Section 26 05 73.16 "Coordination Studies."

C. Calculate maximum and minimum contributions of fault-current size.
1. Maximum calculation shall assume a maximum contribution from the utility and shall assume motors to be operating under full-load conditions.
2. Calculate arc-flash energy at 85 percent of maximum short-circuit current according to IEEE 1584 recommendations.
3. Calculate arc-flash energy at 38 percent of maximum short-circuit current according to NFPA 70E recommendations.
4. Calculate arc-flash energy with the utility contribution at a minimum and assume no motor contribution.

D. Calculate the arc-flash protection boundary and incident energy at locations in electrical distribution system where personnel could perform work on energized parts.

E. Include medium- and low-voltage equipment locations, except equipment rated 240 V ac or less fed from transformers less than 125 kVA.

F. Calculate the limited, restricted, and prohibited approach boundaries for each location.

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 shall not be considered beyond three to five cycles.
2. Fault contribution from synchronous motors and generators shall be decayed to match the actual decrement of each as closely as possible (for example, contributions from permanent magnet generators will typically decay from 10 per unit to three per unit after 10 cycles).

H. Arc-flash energy shall generally be reported for the maximum of line or load side of a circuit breaker. However, arc-flash computation shall be performed and reported for 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.

3.3 POWER SYSTEM DATA

A. Obtain all data necessary for conduct of the arc-flash hazard analysis.
1. Verify completeness of data supplied on one-line diagram on Drawings. Call discrepancies to Architect's attention.
2. For new equipment, use characteristics from approved submittals under 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. Electrical Survey Data: Gather and tabulate the following input data to support 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-Certified Technician Level III or NICET Electrical Power Testing Level III certification. Data include, but are not limited to, the following:
   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 or available short circuit current at the service.
   3. Power sources and ties.
   4. Short-circuit current at each system bus (three phase and line to ground).
   5. Full-load current of all loads.
   6. Voltage level at each bus.
   7. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.
   8. For reactors, provide manufacturer and model designation, voltage rating and impedance.
   9. 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.
   10. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.
   11. For relays, provide manufacturer and model designation, current transformer ratios, potential transformer ratios, and relay settings.
   12. Busway manufacturer and model designation, current rating, impedance, lengths, size, and conductor material.
   13. Motor horsepower and NEMA MG 1 code letter designation.
   14. Low-voltage conductor sizes, lengths, number, conductor material and conduit material (magnetic or nonmagnetic).
   15. Medium-voltage conductor sizes, lengths, conductor material, conductor construction and metallic shield performance parameters, and conduit material (magnetic or nonmagnetic).

3.4 LABELING

A. Apply one arc-flash label on the front cover of each section of the equipment for each equipment included in the study. Base arc-flash label data on highest values calculated at each location.

B. Each piece of equipment listed below shall have an arc-flash label applied to it:
   1. Low voltage transformers. Exclude transformers with high voltage side 240 V or less and less than 125 kVA.
   2. Panelboard and safety switch over 250 V.
   3. Applicable panelboard and safety switch under 250 V.
   4. Control panel.
   5. Pedestal.

C. Note on record Drawings the location of equipment where the personnel could be exposed to arc-flash hazard during their work.
   1. Indicate arc-flash energy.
   2. Indicate protection level required.

3.5 APPLICATION OF WARNING LABELS

A. Install arc-flash warning labels under the direct supervision and control of Power System Analysis Specialist.

3.6 DEMONSTRATION

A. Engage Power Systems Analysis Specialist to train Owner's maintenance personnel in potential arc-flash hazards associated with working on energized equipment and the significance of arc-flash warning labels.

END OF SECTION

SECTION 26 09 23 - LIGHTING CONTROL DEVICES

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. Central Management System - The System shall utilize a Central Management System that is hosted by the system provider or specified hosting partner location.
2. Backhaul Communication Network - The System shall utilize a Backhaul Communication Network specified by the City and approved by the Vendor.
3. Field Devices.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
1. Include data features, accessories, and finishes.
2. Include physical description and dimensions of devices.
3. Wiring diagrams for power, control, and signal wiring.
4. Light Grid Node devices – remote outdoor wireless control system.
5. Light Grid Gateway – remote monitoring and control, utility grade energy measurement.

B. Shop Drawings: Show installation details for field devices and control system.

1. Interconnection diagrams showing field-installed wiring.
2. Include diagrams for power, signal, and control wiring.

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 operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 CENTRAL MANAGEMENT SYSTEM

A. Physical Features and Requirements.

1. The Central Management System will display screen images depicting the following features and functions, as applicable:

    a. Map Data.
    b. Satellite Image Data.
    c. Control Point location.
    d. Control Point equipment type (i.e. luminaire type).
    e. Controller and Gateway status (i.e. online, online reporting error, offline).
    f. Luminaire status (On, Off).
    g. Luminaire Dimmed State.
    h. Luminaire Location via controller integrated GPS receiver.

2. The Central Management System shall be accessible to individual users only by name and password.

3. The Central Management System shall be capable of restricting user access to specific functions. At a minimum, these functions shall include the following:

    a. Creating and managing users and groups.
    b. Configuration.
    c. Monitoring.
    d. Control.
    e. Basic report generation.

4. The Central Management System shall be accessible through a handheld mobile device via a WEB BROWSER.

5. All asset data shall be stored on the Central Management System.

6. The Central Management System shall be capable of storing the following asset information for all Control Points:

    a. Pole number.
    b. Pole type.
    c. Pole GPS location
    d. Pole grouping.
    e. Luminaire make and model.
    f. Luminaire nominal input voltage.
    g. Luminaire power requirement (wattage).
    h. Luminaire installation date.
    i. Utility billing account number.

7. The Central Management System shall store all remote monitoring data for a period needed to operate the system.

B. Logical Features and Requirements

1. The Central Management System shall ensure secure communication between itself and all Field Devices by logically enabling security features inherent to the underlying communications protocols.
2. The Central Management System shall be capable of detecting communication failures between Field Devices and the Central Management System.
3. The Central Management System shall be capable of delivering Field Device firmware upgrades over the Backhaul Communication Network.

4. The Central Management System shall be capable of remotely monitoring Field Device performance, in order to identify and report exceptions.

C. Power Trimming

1. All controllers shall continuously adjust the load consumption with 2% of the user defined target over the full temperature range.
2. All controllers shall utilize a power change ramp rate of 1 second per 1% of total load wattage change.
3. All controllers shall support Lumen Maintenance and Constant Light output over the life of the load (default is L70).

D. Management Features and Requirements

1. The Central Management System shall be capable of RETRIEVING and STORING the following online Control Point parameters:

    a. Controller status (Online, Offline, Warnings, Errors).
    b. Luminaire status (ON, OF, Dimmed State, Warnings, Errors).
    c. Average input voltage (RMS) in ON state.
    d. Average input current (mA) in ON state.
    e. Average input power (W) in ON state.
    f. Average input power factor in ON state.
    g. Cumulative ON state time (minutes).
    h. Cumulative energy consumption (kWh).
    i. Actual GPS location via Controller integrated GPS receiver.
    j. Temperature.

2. The Central Management System shall be capable programming the online Control Point parameter Reporting Frequency for ALL Control Points.
3. The Central Management System shall be capable of programming the online Control Point parameter Reporting Frequency for A SINGLE Control Point.
4. The Central Management System shall be capable of defining Luminaire groups.
5. The Central Management System shall be capable of Manual Control, whereby the ON/OFF and DIMMED state of a single Luminaire or group of Luminaires is modified in response to commands created by the Central Management System.
6. The Central Management System shall be capable of creating programs for Scheduled Control, whereby the ON/OFF and DIMMED state of a single Luminaire or a group of Luminaires is modified according to a predefined schedule.
7. The Central Management System shall be capable of creating programs for Scheduled Control containing a minimum of 6 times/events per day.
8. The Central Management System shall be capable of creating programs for Scheduled Control that is time-based, whereby Controllers modify Luminaire operation when a specific time in the schedule occurs, or event-based, whereby Controllers modify Luminaire operation when the next event in the schedule occurs.
9. The Central Management System shall be capable of creating programs for time-based Scheduled Control that are defined:

    a. On a daily recurring basis.
    b. On a weekday recurring basis.
    c. On a weekend recurring basis.

10. Field Devices shall be capable of true input power control, whereby the Luminaire DIMMED state is actuated to achieve to a desired true input power (percent relative watts).

11. The Central Management System shall be capable of creating programs for automatically maintaining constant Luminaire light output (lumens) over time by compensating for Luminaire lumen depreciation.
12. The Central Management System shall be capable or comparing all reported Control Point parameters with optional pre-defined maximum and minimum thresholds, and generating error messages in real-time (based on reported data availability) for any condition that violates a specified threshold a specified number (1 or more) of times.
13. The Central Management System shall be capable of creating Remote Monitoring reports:

    a. Based on the generation of an error message.
    b. Based on a schedule.

14. The Central Management System shall be capable of creating pre-defined Remote Monitoring reports containing:

    a. Instances of communication loss between Field Devices and the Central Management System.
    b. Control points with error conditions, sorted by error type and/or Electrical Service Point location.
    c. Energy Consumption Data for individual Luminaries and/or groups of Luminaires.

15. The Central Management System shall be capable of creating customized Remote Monitoring reports.
16. The Central Management System shall be capable generating Notifications, whereby specified Remote Monitoring reports (pre-defined or customized) are sent to assigned users and/or user groups via text message (SMS) and/or email.

2.2 FIELD DEVICES

A. Physical Features and Requirements

1. Field Devices shall be capable of normal operation over an ambient temperature range of-40 degrees C to 50 degrees C (cold environment).
2. Field Devices installed external to luminaires shall be rated IP54 and allow any moisture to drain without effecting operation. The Gateway housing shall be rated IP66.
3. Field Devices shall operate from the following input voltage (nominal ±10%) 120-277 AC RMS (For LED Post TOP Luminaire and 347V-480V for LED sports lighting).
4. The peak power requirement of will be less than Controller 2W, Gateway 3W.
5. Controllers shall be integrated (mechanically and electrically connected) at Control Points External to Luminaires, using a NEMA C136.41 standard polarized twist-lock receptacle for both electrical and dimming control signal connectivity.
6. Controllers shall be capable of actuating the status (ON state, OFF state) of Luminaires.
7. Controllers shall be capable of actuating a Luminaire OFF state that results in a ZERO watt power requirement for the Luminaire. It is understood that the Controller will require power to remain online.
8. Controllers shall be capable of actuating a Luminaire DIMMED state by creating A 0-10V control signal.
9. Actuated changes to Luminaire DIMMED states by Controllers shall occur at the following rate at a user of 1% change per second.
10. Controllers shall be capable or measuring instantaneous true input power, input voltage (RMS), input current and power factor.
11. True input power, input voltage (RMS), input current and power factor shall be measured, at each Control Point for the combined system of the Luminaire AND the Controller.

12. Each Controller shall be capable physically monitoring or measuring the following parameters:

    a. Nominal sunrise and sunset times (via integrated photo detector).
    b. GPS Location (via integrated GPS receiver).
    c. Temperature.

13. Field Devices shall be capable of logging cumulative hours in the ON state for each Control Point.
14. Field Devices shall be capable of logging cumulative energy consumption at each Control Point.
15. During Offline Operation, Field Devices shall be capable of monitoring and STORING the following offline TIME-STAMPED Control Point parameters:

    a. Controller status (Online, Offline, Warnings, Errors).
    b. Luminaire status (ON, OFF, Dimmed State, Warnings, Errors).
    c. Cumulative ON state time (minutes).
    d. Cumulative energy consumption (kWh).

16. During Offline Operation Field Devices shall be capable of STORING measurements of voltage, current, power, power factor, energy (KWH) and ON time. Frequency and the number of days to be stored are user configurable.

B. Logical Features and Requirements

1. During Online Operation, Field Devices shall be capable of monitoring and REPORTING the following online Control Point parameters:

    a. Controller status (Online, Offline, Warnings, Errors).
    b. Luminaire status (ON, OF, Dimmed State, Warnings, Errors).
    c. Average input voltage (RMS) in ON state.
    d. Average input current (mA) in ON state.
    e. Average input power (W) in ON state.
    f. Average input power factor in ON state.
    g. Cumulative ON state time (minutes).
    h. Cumulative energy consumption (kWh).
    i. Driver status (Warnings, Errors).
    j. Ambient light (via integrated photoelectric sensor).
    k. GPS location (via integrate GPS receiver).
    l. Temperature internal to Controller.

2. Field Devices shall respond to any single command received from the Backhaul Communication Network in less than 60 seconds.
3. Field Devices shall automatically REPORT all data STORED during Offline Operation once Online Operation is restored.

C. Control Features and Requirements

1. Field Devices shall be capable of controlling a single Luminaire or groups of Luminaires (contactors may be required if total load exceeds 450W).
2. Changes in the ON/OFF or DIMMED states to groups of Luminaires shall be staggered to limit the inrush current through other electrical components (e.g. contactors, relays, circuit breakers) on the Luminaire group electrical circuit.

3. Field Devices shall be capable of Manual Control, whereby the ON/OFF and DIMMED state of a single Luminaire or group of Luminaires is modified in response to commands from the Central Management System.
4. Field Devices shall be capable of Scheduled Control, whereby the ON/OFF and DIMMED state of a single Luminaire or group of Luminaires is modified according to a predefined schedule.
5. Field Devices shall be capable of Scheduled Control that is defined for a minimum of (Instructions: enter appropriate number) times/events per day).
6. Field Devices shall be capable of Scheduled Control that is either time-based, whereby Controllers modify Luminaire operation when a specific time in the schedule occurs, or event-based, whereby Controllers modify Luminaire operation when the next event in the schedule occurs.
7. Field Devices shall be capable of time-based Scheduled Control that is defined:

    a. On a weekday recurring basis.
    b. On a weekend recurring basis.

8. Field Devices shall be capable of Adaptive Control, whereby the ON/OFF and DIMMED state of a single Luminaire or a group of Luminaires is modified in response to dynamic inputs from integral sensors or the Central Management System.
9. During Offline Operation Field Devices shall be capable of maintaining Luminaire control by Continuing to operate according to the most recently programmed Scheduled Control or a default Scheduled Control if one has not yet been programmed.
10. Field Devices shall be capable of true input power control, whereby the Luminaire DIMMED state is actuated to achieve to a desired true input power (percent relative watts).

D. Energy Metering and Billing Transfer

1. All controllers shall contain a metrology subsystems that complies to ANSI 12.20 0.5% Metering Accuracy Class.
2. The Control shall in all cases report the combined total of all energy consumed by both the controller and the load.
3. Energy Metering shall start within 3 seconds of power being applied to the controller.
4. Power Outage recovery events shall not result in more than 3 seconds of unmetered energy consumption.
5. The System shall export energy consumption for each controller at a minimum of once every 24 hours.
6. The system shall report that total energy consumption in 15 minute intervals that shall end on the ¼ hour GMT (IE 00:15:30:45).
7. All Data shall be formatted and transferred in accordance to the US DOE Green Button Data Formatting Standard.

E. Wireless Mesh

1. The Wireless Lighting Control System Shall: Utilize Licence free 915 MHz spectrum to minimise interference and increases range compared to 2400 MHz spectrum in all cases provide a wireless connection to all other controllers or gateways within 500 meters free from obstacles.
2. Transmit using a randomly selected channel from a group of a minimum of 50 discrete channels to minimise interference.
3. Comply with all IEEE 802315 g PHY communication standard requirements.
4. Comply with all IETF 6 Low PAN communication Standard Requirements.
5. Utilise a self-forming and self-restoring mesh communications protocol.

F. Security

1. All System components shall be assigned a unique permanent serial number by the manufacturer (MAC Address).
2. All System components will only use a system wide unique IPV6 address reference, no dynamic address schemes.
3. All Wireless connection will utilise a unique 128 bit ECC encryption key 256 bit Certificate Authority registered authentication key.
4. All wired connections will utilize a unique 256 bit encryption key and 256 bid Certificate Authority registered authentication key.
5. All encryption & authentication keys will be wirelessly revocable & updateable by the user should they be compromised.

2.3 SOFTWARE

A. Platform Architecture

1. Supports multiple developer frameworks and an ecosystem of application services to build, test, deploy, and scale applications such as: Future Intelligent City Devices such as Gun Shot Detection, Motion Detection, Environmental Monitoring & Analysis, Video Surveillance, Traffic Analysis, Traffic Optimization, Vibration Detection, and Parking Optimization.
2. Availability of a self-service portal where developers can access specialized services intended for use in Industrial Internet applications.
3. Supports Time Series Data Storage.
4. Supports Blob Data Storage.
5. Supports Relational Database Storage.
6. Microservices Based.
7. Context Based User Interface - Providing right information to the right user at the right time.
8. Supports Predictive and Operational Analytics.

B. File and Data Transfer

1. Ability to push data to the cloud by streaming batching or by uploading a file.

C. Store and Forward

1. Ability to manage intermittent connectivity by collecting and storing data locally and then forwarding to the cloud once connectivity is reestablished.

D. Local Data Store and Access

1. Capability to store data locally in the intelligent node for local access by say a service technician.

E. Sensor Data Aggregation

1. Ability to integrate data from multiple sensors and then push an aggregated data gathered from all the sensors to Cloud.

F. Edge Analytics

1. Capability to run the computational algorithms directly on the data that is streaming of the Intelligent Node.

G. Certificate Management

1. End-to-end security using certificate management.

H. Device Positioning

1. Auto registration and provisioning of Intelligent Nodes for further management and software upgrades.

I. Device Decommissioning

1. Ability to Notify the Cloud/CMS when an Intelligent is offline and no longer needs to be managed.

J. Configuration Management

1. Ability to remotely configure the Intelligent Node and the track configuration changes over the lifetime of the Node.

2.4 RATED LIFE & RELIABILITY

A. The rated life of all Field Devices shall be 15 years or more at an ambient temperature of 25 degrees Celsius.

B. The Vendor shall report the reliability of the Field Devices, as measured by Mean Time between Failures (MTBF) according to Telcordia SR-332.

2.5 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 26 05 19 "Low-Voltage Electrical Power Conductors and Cables".

2.6 COMPONENT WARRANTY

A. Warranty Period

1. Hardware

a. All components shall be covered by a single source written replacement warranty covering material and workmanship for a period of TEN (10) year.

2. Software & Firmware

a. All software and firmware shall be covered by a written replacement warranty covering material and workmanship for a period of TWO (2) year.

PART 3 - EXECUTION

3.1 FIELD DEVICE INSTALLATION

A. Install all field devices required to provide a complete outdoor wireless control system of pedestrian post top luminaires and skate park sports lighting.

3.2 CENTRAL MANAGEMENT INSTALLATION

A. Install all hardware and software required to provide a complete outdoor wireless control system.

3.3 COMPONENT INSTALLATION

A. Responsibility

1. All Components shall be installed by the Vendor or their 3rd Party representative.

B. Requirements

1. All hardware, software and firmware necessary for installation, operation and management of all Components shall be provided.

C. Vendor Services

1. ALL Components shall be installed by the Vendor or their 3rd Party representative:

a. The Vendor shall provide all pertinent installation and start up instructions and manuals in Portable Document Format (PDF).
b. The Vendor or a manufacturer-qualified representative shall provide installation support in person, or Via telephone and/or the internet.
c. The Vendor shall provide installation training.
d. The Vendor and Resident Engineer shall jointly perform an installation audit.

3.4 WIRING INSTALLATION

A. Wiring Method: Comply with Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables." Minimum conduit size is 1/2 inch (13 mm).

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.

3.5 SYTEM START UP

A. Responsibility

1. The System Start up shall be performed by the Vendor in conjunction with the City or their 3rd Party representative and supported by the vendor. REQUIREMENTS:

    a. The Wireless communications shall be automatically established and optimized without the use of any form of "in field" programing. The use of field programing electronic tools/computes will not be required during the installation. The physical location of each controller shall be automatically transmitted to the CMS without any in field program requirements.
    b. The System shall be examined for any hardware, software, or firmware incompatibilities or errors that occurred during Installation.
    c. The Configuration period shall begin immediately following the completion of installation, successful Start-Up, and Successful demonstration of all System functions and capabilities.
    d. The Configuration period shall include a trial period comprised of 30 consecutive calendar days of System operation. The trial will not start until the system has reached "substantial completion", been signed off by the Resident Engineer, and has met the specification requirements.
    e. Over the course of the trial period, all System functions and capabilities described during Vendor training shall be successfully demonstrated.
    f. Over the course of the trial period, all System functions and capabilities shall operate normally for at least ninety-eight Percent (98%) of the time.
    g. The Commissioning Period shall end following Resident Engineer acceptance of a successful trial period.

B. Vendor Services

1. Training

    a. The Vendor shall provide comprehensive training at the City's facility, covering (at a minimum), Testing and programming, configuration, administration, operation, and troubleshooting of the system. The contractor shall integrate a review of the User's manual and commissioning materials into City Staff Training.
    b. The Vendor training shall be scheduled based on availability of City's staff.
    c. The Vendor shall provide training manuals and all other documentation (i.e. Operations and Maintenance manuals) in Adobe™ Acrobat format.
    d. The Vendor shall provide all necessary instructional equipment to be used during the training sessions for training purposes.
    e. The Vendor training shall provide instruction using the installed System (not using a remote system or a simulated system), and geared towards new users.
    f. The City may elect to record these training sessions for the City's sole use for future training purposes. The resulting recordings shall be the sole property of the City and for the sole use of the City.
    g. The Vendor shall specify the degree of coordination needed with the City's IT staff in regard to communications with existing systems. The System is Setup and Configured by the Vendor or their 3rd Party. The system setup may require a manufacturer or manufacturer-authorized representative to be available during the testing period.

3.6 IDENTIFICATION

A. Identify components and power and control wiring according to Section 26 05 53 "Identification for Electrical Systems".

1. Identify controlled circuits wireless field devices controlled with the outdoor lighting control system.
2. Identify circuits or luminaires controlled by photoelectric and occupancy sensors at each sensor.

3.7 FIELD QUALITY CONTROL

A. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Operational Test: After installing and after electrical circuitry has been energized, start units to confirm proper outdoor wireless lighting control system operation.
2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls field devices, software and equipment.

B. Lighting control devices will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

3.8 SYSTEM MAINTENANCE

A. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting field devices to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

1. For daylighting controls, adjust set points and deadband controls to suit the City's operations.

B. Wireless Control System Maintenance:

1. Responsibility

a. The System shall be maintained by the City or their 3rd party contractor.

2. Vendor Services

a. The System will be maintained by the City or their 3rd Party Representative:
b. The Vendor shall provide comprehensive maintenance training at the City's facility, covering all aspects of The System.
c. The Vendor shall provide hardware and software maintenance and support according to the warranty terms for the duration of the warranty period. Any Maintenance terms shall start following the applicable warranty period.
d. The Vendor shall specify any and all mandatory maintenance required to maintain the terms of the warranty.
e. Software and firmware upgrades, maintenance and support shall be provided for one year at no extra cost.

END OF SECTION

SECTION 26 27 13 - ELECTRICITY METERING

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 equipment for electricity metering by utility company.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. "All-in-one" pedestal equipment

C. Shop Drawings: Dimensioned plans and sections or elevation layouts and wiring diagrams.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data. For electricity-metering equipment to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

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.

PART 2 - PRODUCTS

2.1 EQUIPMENT FOR ELECTRICITY METERING BY UTILITY COMPANY

A. Meters will be furnished by utility company.

B. Current-Transformer Cabinets: Comply with requirements of electrical-power utility company.

C. Meter Sockets: Comply with requirements of electrical-power utility company.

D. Modular Meter Center: Factory-coordinated assembly of a main service disconnect device, wireways, tenant meter socket modules, and tenant feeder circuit breakers arranged in adjacent vertical sections. Assembly shall be complete with interconnecting buses and other features as specified below.

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. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
    b. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
    c. Siemens Energy & Automation, Inc.
    d. Square D; a brand of Schneider Electric.
    e. Pacific Utility Products
    f. Milbank
    g. Or Equal

2. Comply with requirements of utility company for meter center.
3. Modular Meter Center: The "all-in-one" service equipment and all components shall be the latest standard product. Factory-coordinated assembly of a main service disconnect device, wireways, tenant meter socket modules, and tenant feeder circuit breakers arranged in adjacent vertical sections. Assembly shall be complete with interconnecting buses and other features as specified below.
    a. Housing: NEMA 250, Type 3R enclosure.
    b. Minimum Short-Circuit Rating: 42,000 amperes symmetrical at rated voltage.
    c. Main Disconnect Device: Circuit breaker, series-combination rated for use with downstream feeder and branch circuit breakers.
    d. Meter Socket: Type as approved by utility company, with rating coordinated with indicated tenant feeder circuit rating.

4. Phase and Ground Buses:
    a. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment ground conductors; bonded to box.

2.2 Branch Circuit Panelboards

A. Panelboards: NEMA PB 1, power and feeder distribution type.
1. Incoming Mains Location: Top.
2. Phase, Neutral, and Ground Buses: Hard-drawn copper, 98 percent conductivity.
3. Conductor Connectors: Suitable for use with conductor material and sizes.
    a. Material: Hard-drawn copper, 98 percent conductivity.
    b. Main and Neutral Lugs: Compression type.
    c. Ground Lugs and Bus Configured Terminators: Compression type.
4. Service Equipment Label: NRTL labeled for use as service equipment for panelboards with one or more main service disconnecting and overcurrent protective devices.
5. 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, and listed and labeled for series-connected short-circuit rating by an NRTL.
6. Directory Card: With transparent protective cover, mounted in metal frame, inside "all-in-one" door.

B. Branch Overcurrent Protective Devices:

1. Bolt-on circuit breakers.

2.3 OVERCURRENT PROTECTIVE DEVICES

A. Molded-Case Circuit Breaker: UL 489, with interrupting capacity 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 225 A and larger.

B. Molded-Case Circuit-Breaker Features and Accessories: Standard frame sizes, trip ratings, and number of poles.
   1. Lugs: Compression style, suitable for number, size, trip ratings, and conductor materials.
   2. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HACR for heating, air-conditioning, and refrigerating equipment.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with equipment installation requirements in NECA 1.

B. Install equipment for utility company metering. Install raceways and equipment according to utility company's written requirements. Provide empty conduits for metering leads and extend grounding connections as required by utility company.

C. Install modular meter center according to NECA 400 switchboard installation requirements.

D. Comply with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

E. Install panelboards and accessories according to NEMA PB 1.1.
   1. Mount plumb and rigid without distortion of box

END OF SECTION

SECTION 26 56 13 - LIGHTING POLES AND STANDARDS

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. Poles and accessories for support of luminaires.

1.3 DEFINITIONS

A. EPA: Equivalent projected area.

B. Luminaire: Complete lighting fixture.

C. Pole: Luminaire-supporting structure.

D. Standard: See "Pole."

1.4 ACTION SUBMITTALS

A. Product Data: For each pole, accessory, and luminaire-supporting, arranged as indicated.

1. Include data on construction details, profiles, EPA, cable entrances, materials, dimensions, weight, rated design load, and ultimate strength of individual components.
2. Include finishes for lighting poles and luminaire-supporting devices.
3. Anchor bolts and base plate covers.
4. Manufactured pole foundations.

B. Shop Drawings:

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Detail fabrication and assembly of poles and pole accessories.
4. Foundation construction details, including material descriptions, dimensions, anchor bolts, support devices, and calculations, signed and sealed by a professional engineer licensed in the state of installation.
5. Anchor bolt templates keyed to specific poles and certified by manufacturer.
6. Method and procedure of pole installation. Include manufacturer's written installations.

1.5 INFORMATIONAL SUBMITTALS

A. Pole and Support Component Certificates: Signed by manufacturers of poles, certifying that products are designed for indicated load requirements according to AASHTO LTS-6-M and that load imposed by luminaire and attachments has been included in design. The certification shall be based on design calculations signed and sealed by a professional engineer.

B. Qualification Data: For Installer and testing agency.

C. Seismic Qualification Certificates: For luminaire, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

D. Material Test Reports:

1. For each pole, by a qualified testing agency.

E. Source quality-control reports.

F. Sample Warranty: Manufacturer's standard warranty.

G. Soil test reports

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For poles to include in operation and maintenance manuals.

1. "Operation and Maintenance Data," shall include pole inspection and repair procedures.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Pole repair materials.

1.8 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C 1093 for foundation testing.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Store poles on decay-resistant skids at least 12 inches (300 mm) above grade and vegetation. Support poles to prevent distortion and arrange to provide free air circulation.

B. Retain factory-applied pole wrappings on metal poles until right before pole installation. Handle poles with web fabric straps.

1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of pole(s) 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 a specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs from special warranty period.

1. Warranty Period: Five years from date of Substantial Completion.
2. Warranty Period for Corrosion Resistance: Five years from date of Substantial Completion.
3. Warranty Period for Color Retention: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Foundation and pole shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the system will remain in place without separation of any parts when subjected to the seismic forces specified."
2. Component Importance Factor: 1.5.

B. Structural Characteristics: Comply with AASHTO LTS-6-M.

C. Dead Load: Weight of luminaire and its horizontal and vertical supports, lowering devices, and supporting structure, applied according to AASHTO LTS-6-M.

D. Live Load: Single load of 500 lbf (2200 N) distributed according to AASHTO LTS-6-M.

E. Wind Load: Pressure of wind on pole and luminaire, calculated and applied according to AASHTO LTS-6-M.

1. Basic wind speed for calculating wind load for poles 50 feet (15 m) high or less is 90 mph (40 m/s).

a. Wind Importance Factor: 1.0.
b. Minimum Design Life: 25 years.
c. Velocity Conversion Factor: 1.0.

F. Strength Analysis: For each pole, multiply the actual EPA of luminaires and brackets by a factor of 1.1 to obtain the EPA to be used in pole selection strength analysis.

G. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless-steel fasteners and mounting bolts unless otherwise indicated.

2.2 PRESTRESSED CONCRETE POLES

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. Utility Structures Inc.
2. Or equal

B. Poles: Comply with ASTM C1089

1. Shape: Round, straight.
2. Mounting Provisions: Steel butt flange for bolted mounting to foundation or breakaway support.
3. Finishing: Capped at top and plugged at bottom. Seat each reinforcing strand with epoxy adhesive.
4. Grounding: Continuous copper ground wire cast into pole. Terminate at top of pole.
5. Raceway: Smooth, internal, and not less than 3 inch (76 mm) in diameter.

C. Concrete: Minimum 28-day compressive strength of 7000 psi (48 265 kPa).

D. Cured with wet steam and aged for a minimum of 15 days prior to installation.

E. Reinforcement: Reinforcing bars complying with ASTM A615/A615M.

F. Surface Treatment: Hard, nonporous, and resistant to water, frost, and road and soil chemicals; and must have a maximum water-absorption rate of 3 percent.

G. Finish Texture: Standard form.

1. Exposed aggregate must be of type.

H. Fasteners: Stainless steel, size and type as determined by manufacturer. Compatible with poles and standards as well as the substrates to which poles and standards are fastened and may not cause galvanic action at contact points.

I. Nameplate: Aluminum cast into pole wall at approximately 5 ft (1.5 m) above ground line, listing name of manufacturer, Project identifier, overall height, and approximate weight.

J. Pole Brackets: Comply with ANSI C136.31.

2.3 POLE ACCESSORIES

A. Decorative accessories, supplied by decorative pole manufacturer, include the following:

1. Fixture Cross Arms: Aluminum, for mounting luminaire.
2. 7-Pin Twist-Lock Receptacle.

B. Brackets for Luminaires: Detachable, cantilever, without underbrace.

1. Adaptor fitting welded to pole, allowing the bracket to be bolted to the pole-mounted adapter, then bolted together with stainless-steel bolts.
2. Cross Section: Tapered oval, with straight tubular end section to accommodate luminaire. Match pole material and finish.

C. Fasteners: Size and type as determined by manufacturer. Corrosion-resistant items compatible with support components.

1. Materials: Compatible with poles and standards as well as the substrates to which poles and standards are fastened and 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.

D. Grounding and Bonding Lugs: Welded 1/2-inch (13-mm) threaded lug, complying with requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems," listed for attaching grounding and bonding conductors of type and size indicated, and accessible through handhole.

2.4 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 unacceptable. 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.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine poles, luminaire-mounting devices, lowering devices, and pole accessories before installation. Components that are scratched, dented, marred, wet, moisture damaged, or visibly damaged are considered defective.

C. Examine roughing-in for foundation and conduit to verify actual locations of installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 POLE FOUNDATION

A. Concrete Pole Foundations: Cast in place, with anchor bolts to match pole-base flange. Structural steel complying with ASTM A36/A36M and hot-dip galvanized according to ASTM A123/A123M; and with top-plate and mounting bolts to match pole-base flange and strength require to support pole, luminaire and accessories.

B. Anchor Bolts: Install plumb using manufacturer-supplied steel template, uniformity spaced.

3.3 POLE INSTALLATION

A. Alignment: Align pole foundations and poles for optimum directional alignment of luminaires and their mounting provisions on pole.

B. Clearances: Maintain the following minimum horizontal distances of poles from surface and underground features unless otherwise indicated on drawing.

1. Fire Hydrants and Water Piping: 60 inches (1520 mm).

2. Water, Gas, Electric, Communications, and Sewer Lines: 10 feet (3 m).
3. Trees: 15 feet (5 m) from tree trunk.

C. Raise and set pole using web fabric slings (not chain or cable) at locations indicated by manufacturer.

3.4 GROUNDING

A. Ground Metal Poles and Support Structures: Comply with requirements in Section 26 05 26 "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.

3.5 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

3.6 FIELD QUALITY CONTROL

A. Special Inspections: Engage a qualified special inspector to perform the following special inspections:

1. Inspect poles for nicks, mars, dents, scratches, and other damage.
2. System function tests.

END OF SECTION

SECTION 26 56 19 - LED EXTERIOR LIGHTING

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 solid-state luminaires that are designed for and exclusively use LED lamp technology.
2. Luminaire supports.

1.3 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color rendering index.

C. Fixture: See "Luminaire."

D. IP: International Protection or Ingress Protection Rating.

E. Lumen: Measured output of lamp and luminaire, or both.

F. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of luminaire.

1. Arrange in order of luminaire designation.
2. Include data on features, accessories, and finishes.
3. Include physical description and dimensions of luminaire.
4. Lamps, include life, output (lumens, CCT, and CRI), and energy-efficiency data.
5. Wiring diagrams for power, control, and signal wiring.
6. Means of attaching luminaires to supports and indication that the attachment is suitable for components involved.

B. Shop Drawings: For nonstandard or custom luminaires.

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

C. Product Schedule: For luminaires and lamps. Use same designations indicated on Drawings.

D. Delegated-Design Submittal: For luminaire supports.

1. Include design calculations for luminaire supports.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Luminaires.
2. Structural members to which equipment and luminaires will be attached.
3. Underground utilities and structures.
4. Above-grade utilities and structures.
5. Existing above-grade utilities and structures.

B. Qualification Data: For testing laboratory providing photometric data for luminaires.

C. Seismic Qualification Certificates: For luminaires, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

D. Product Certificates: For each type of the following:

1. Luminaire.

E. Product Test Reports: For each luminaire, for tests performed by manufacturer.

F. Source quality-control reports.

G. Sample warranty.

1.6 CLOSEOUT SUBMITTALS

1.7 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications: Luminaire manufacturers' laboratory that is accredited under the NVLAP for Energy Efficient Lighting Products.

B. Provide luminaires from a single manufacturer for each luminaire type.

C. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

D. Mockups: For exterior luminaires, complete with power and control connections.

1. Obtain Resident Engineer's approval of luminaires in mockups before starting installations.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Resident Engineer specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect finishes of exposed surfaces by applying a strippable, temporary protective covering prior to shipping.

1.9 FIELD CONDITIONS

A. Verify existing and proposed utility structures prior to the start of work associated with luminaire installation.

B. Mark locations of exterior luminaires for approval by Resident Engineer prior to the start of luminaire installation.

1.10 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures, including luminaire support components.
b. Faulty operation of luminaires and accessories.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: 5 year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Luminaires shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

B. Seismic Performance: Luminaires and lamps shall be labeled vibration and shock resistant.

1. The term "withstand" means "the luminaire will remain in place without separation of any parts when subjected to the seismic forces specified."

2.2 LUMINAIRE 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.

B. UL Compliance: Comply with UL 1598 and listed for wet location.

C. Lamp base complying with ANSI C81.61 or IEC 60061-1.

D. CRI of minimum70. CCT of 4000 K.

E. L70 lamp life of 70000 hours.

F. Lamps dimmable from 100 percent to 0 percent of maximum light output.

G. Internal driver.

H. Nominal Operating Voltage: 277 Vac.

I. In-line Fusing: On the primary for each luminaire.

J. Lamp Rating: Lamp marked for outdoor use.

K. Source Limitations: For luminaires, obtain each color, grade, finish, type, and variety of luminaire from single source with resources to provide products of consistent quality in appearance and physical properties.

2.3 LUMINAIRE TYPES

A. Area and Site:

1. Luminaire Shape: Curved and Straight.
2. Mounting: Pole.
3. Luminaire-Mounting Height: see schedule and detail drawings.
4. Distribution: As indicated on the drawings.
5. Diffusers and Globes: Heat and impact resistant tempered flat glass.
6. Housings:

    a. Aluminum housing and heat sink.

2.4 FINISHES

A. 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.

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. Examine roughing-in for luminaire electrical conduit to verify actual locations of conduit connections before luminaire installation.

C. Examine pedestrian bridge and pole base bridge overhang for suitable conditions where luminaires will be installed.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 GENERAL INSTALLATION REQUIREMENTS

A. Comply with NECA 1.

B. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer, and coordinated with pedestrian bridge fabricator.

C. Install lamps in each luminaire.

D. Fasten luminaire to structural support.

E. Supports:

1. Sized and rated for luminaire weight.
2. Able to maintain luminaire position after cleaning and relamping.
3. Support luminaires without causing deflection of finished surface.
4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and a vertical force of 400 percent of luminaire weight.

F. Wiring Method: Install cables in raceways. Conceal raceways and cables.

G. Install luminaires level, plumb, and square with finished grade unless otherwise indicated.

H. Coordinate layout and installation of luminaires with other construction.

I. 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.

J. Comply with requirements in Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables" for wiring connections and wiring methods.

3.3 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

3.4 FIELD QUALITY CONTROL

A. Inspect each installed luminaire for damage. Replace damaged luminaires and components.

B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
2. 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 IES testing guide(s):

a. IES LM-5.
b. IES LM-50.
c. IES LM-52.
d. IES LM-64.
e. IES LM-72.

2. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.

D. Luminaire will be considered defective if it does not pass tests and inspections.

E. 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.

3.5 ADJUSTING

A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting the direction of aim of luminaires to suit occupied conditions. Make up to two visits to Project during other-than-normal hours for this purpose. Some of this work may be required during hours of darkness.

1. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
2. Adjust the aim of luminaires in the presence of the Resident Engineer.

END OF SECTION

SUPPLEMENTARY SPECIAL PROVISIONS

APPENDICES

APPENDIX A

ENVIRONMENTAL DOCUMENTS

For the reports listed above, please refer to the following link:

https://drive.google.com/drive/folders/1hQqonT7ctZWUPwYSR5-_2pJ6hbftgmP5?usp=sharing

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.)

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.

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.

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.

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

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

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

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.

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. Theses 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.

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 Hydrant Meter (EXHIBIT A)

City of San Diego PUBLIC UTILITIES Water & Wastewater

(For Office Use Only)

NS REQ	FAC#
DATE	BY

METER SHOP (619) 527-7449

Application Date	Requested Install Date:

Meter Information

Fire Hydrant Location: (Attach Detailed Map//Thomas Bros. Map Location or Construction drawing.) Zip:	T.B.	G.B. (CITY USE)
Specific Use of Water:		
Any Return to Sewer or Storm Drain, If so , explain:		
Estimated Duration of Meter Use:	☐	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: (PERSON IN ACCOUNTS PAYABLE)			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:
Provide Current Meter Location if Different from Above:		
Signature:	Title:	Date:
Phone: ( )	Pager: ( )	

☐ City Meter	☐ 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
													$ -

SAMPLE

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

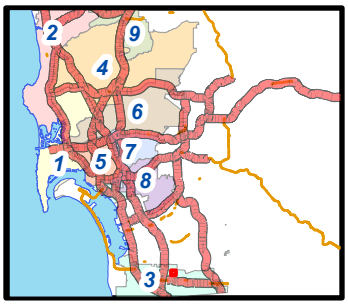
Contractor Signature and Date: _____

1/10/2024 Rev

APPENDIX E

LOCATION MAP

THIS MAP/DATA IS PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Note: This product may contain information from the SANDAG Regional Information System which cannot be reproduced without the written permission of SANDAG. This product may contain information reproduce with permission granted by RAND MCNALLY & COMPANY© to SanGIS. This map is copyrighted by RAND MCNALLY & COMPANY©. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without the prior, written permission of RAND MCNALLY & COMPANY



The City of SAN DIEGO Public Works

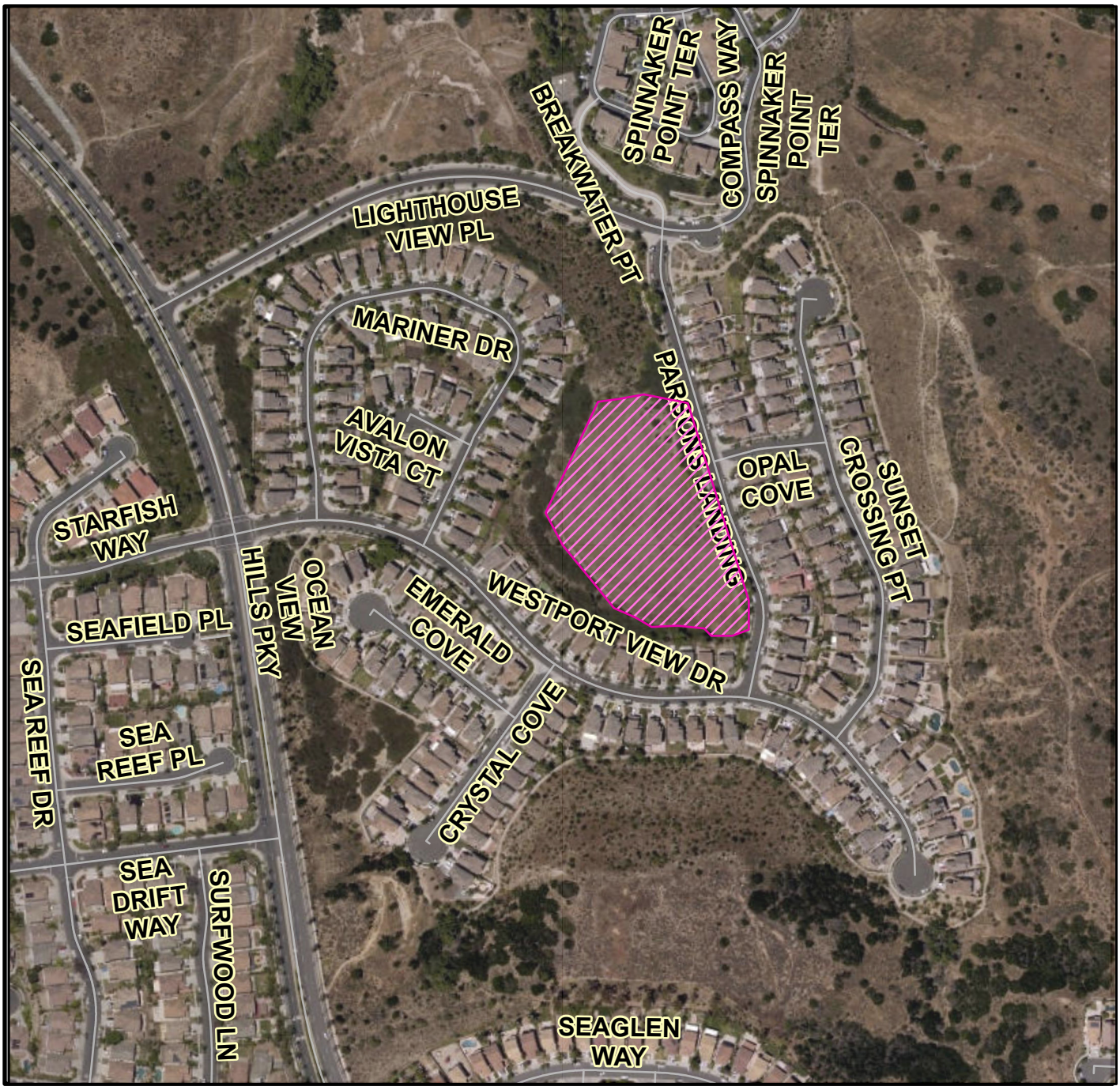
Hidden Trails Neighborhood Park
Location Map

PROJECT OFFICER II
DARREN GENOVA

PROJECT MANAGER
LING CHAN

PROJECT ENGINEER
NATHAN AUDO

FOR QUESTIONS ABOUT THIS PROJECT
Call: (619) 533-4207
Email: engineering@sandiego.gov



Legend

Project Location

N
W
E
S

COMMUNITY NAME: OTAY MESA

COUNCIL DISTRICT: 8

WBS NO: S00995

Date: 3/18/2025

SanGIS

APPENDIX F

SAMPLE OF PUBLIC NOTICE

FOR SAMPLE REFERENCE ONLY

The City of SAN DIEGO

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

To contact the City of San Diego: SD Public Works
619-533-4207 | engineering@sandiego.gov | sandiego.gov/CIP
This information is available in alternative formats upon request.

The City of SAN DIEGO

CONSTRUCTION NOTICE

PROJECT TITLE

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- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
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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

To contact the City of San Diego: SD Public Works
619-533-4207 | engineering@sandiego.gov | sandiego.gov/CIP
This information is available in alternative formats upon request.

APPENDIX G

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:

Photo 2

Network Devices, see Photo 3:

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

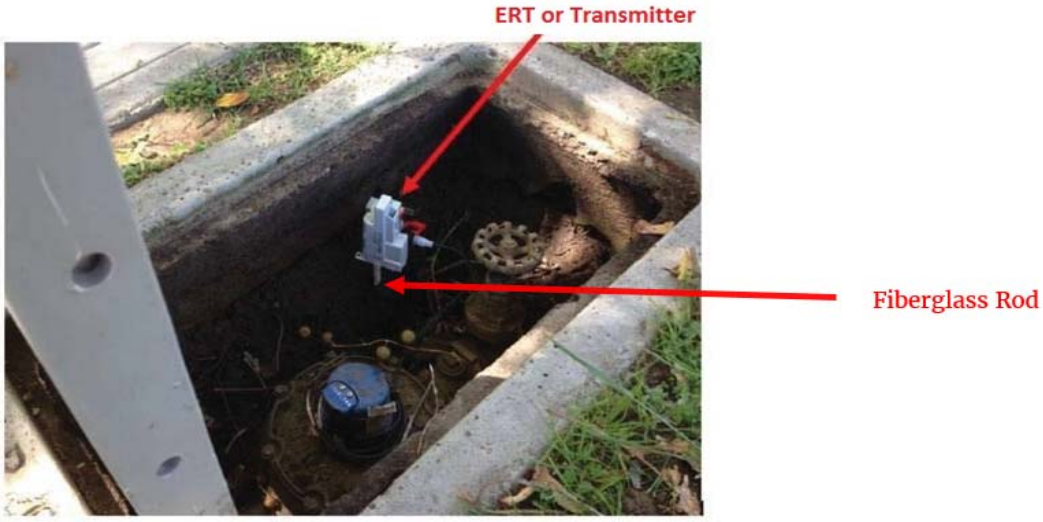


Photo 6 below is an example of disturbance that shall be avoided:

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 Santieste an, Co liance Metering Manager 6 80 80 and evin ilson, Senior ater tility Su ervisor 6 85 8 5 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

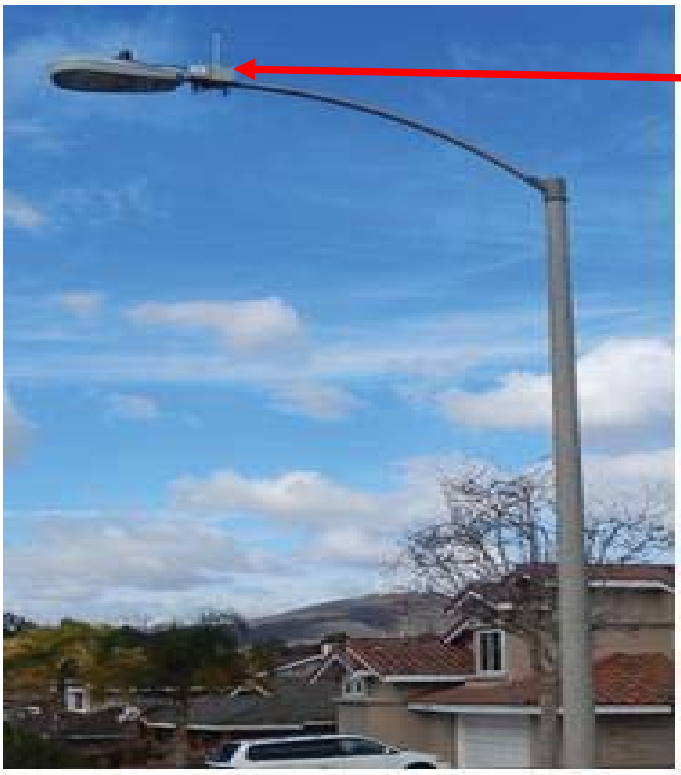


Photo 9

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 Santieste an, Co liance Metering Manager 6 80 80 and evin ilson, Senior ater tility Su ervisor 6 85 8 5 .

ev. 9.11.2023

APPENDIX H

PALEONTOLOGICAL CONSTRUCTION MONITORING REQUIREMENTS

Paleontological Construction Monitoring Requirements

PALEONTOLOGICAL MONITORING AND REPORTING PROGRAM (PMRP):

I. **GENERAL REQUIREMENTS.** Post Plan Check (After permit issuance/Prior to start of construction).

A. PRE CONSTRUCTION MEETING IS REQUIRED TEN (10) WORKING DAYS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.

1. The Contractor is responsible to arrange and perform this meeting by contacting the City Resident Engineer (RE)/Construction Manager (CM) of the Construction Management and Field Engineering (CMFE) Division and City staff from Mitigation Monitoring Coordination (MMC). Attendees shall also include the Contractor's representative(s), job site superintendent, and the paleontologist**.**

2. NOTE: Failure of all responsible Contractor's representatives and paleontological monitor to attend the pre-construction meeting shall require an additional focused meeting with all parties present.

3. CONTACT INFORMATION:

a) The primary point of contact is the RE/CM at the CMFE Division at 858-627-3200.

b) For clarification of environmental requirements, call the RE/CM and MMC at 858-627-3360.

B. PMRP COMPLIANCE.

1. This Project shall conform to the City's paleontological monitoring requirements, as further specified below, in accordance with the City of San Diego's Land Development Code – Grading Regulations, Section 142.0151, and implemented to the satisfaction of MMC and RE/CM. The requirements shall not be reduced or changed but may be annotated (i.e. to explain when and how compliance is being met and location of verifying proof, etc.). Additional clarifying information may also be added to other relevant plan sheets and/or specifications as appropriate (i.e., specific locations, times of monitoring, methodology, etc.

2. NOTE: Contractor shall alert RE/CM and MMC if there are any discrepancies in the plans or notes, or any changes due to field conditions. All conflicts shall be approved by RE/CM and MMC before the Work is performed.

C. MONITORING EXHIBIT.

1. Contractor Engineering and Capital Projects Department's consultant (if applicable) is required to submit, to RE/CM and MMC, a paleontological monitoring exhibit on a 11 x 17 inch reduction of the appropriate construction plan, such as site plan, grading, landscape, etc., marked to clearly show the Limits of Work, scope of that discipline's work (i.e. delineation showing work area(s) requiring paleontological monitoring), and notes indicating when in the construction schedule that work will be performed. When necessary for

clarification, a detailed methodology of how the work will be performed shall be included.

D. OTHER SUBMITTALS AND INSPECTIONS.

1. The Contractor or Engineering and Capital Projects Department's consultant (if applicable) shall submit all required documentation, verification letters, and requests for all associated inspections to the RE/CM and MMC for approval per the following schedule:

DOCUMENT SUBMITTAL/INSPECTION CHECKLIST:

ISSUE AREA	DOCUMENT SUBMITTAL	ASSOCIATED INSPECTION, APPROVALS, NOTES
Paleontology	Principal Investigator & Paleontological Monitors Qualification Letters	Prior to Pre-Construction Meeting
Paleontology	Site-Specific Records Search	Prior to Pre-Construction Meeting
Paleontology	Paleontological Monitoring Exhibit	Prior to, or at, the Pre-Construction Meeting
Paleontology	Letter of Acknowledgement of Responsibility for Curation	Prior to the Pre-Construction Meeting
Paleontology	Construction Schedule (Monitoring)	Prior to Construction
Paleontology	Paleontology Reports	Paleontology Observation
Final PMRP		Final PMRP Inspection

SPECIFIC PMRP ISSUE AREA CONDITIONS/REQUIREMENTS:

I. PALEONTOLOGICAL RESOURCES.

A. Prior to Permit Issuance or Construction.

1. **Letters of Qualification have been submitted to MMC**.

a) Prior to the pre-construction meeting, Engineering and Capital Projects Department shall submit a letter of verification to MMC identifying the Principal Investigator (PI) for the project and the names of all persons involved in the paleontological monitoring program, as defined in the City of San Diego Paleontology Guidelines.

b) MMC will provide a letter to Engineering and Capital Projects Department confirming the qualifications of the PI and all persons involved in the paleontological monitoring of the project.

c) Prior to the start of work, Engineering and Capital Projects Department shall obtain approval from MMC for any personnel changes associated with the monitoring program.

B. Prior to Start of Construction.

1. **Verification of Records Search**.

a) The PI shall provide verification to MMC that a site-specific records search has been completed. Verification includes, but is not limited to a copy of a confirmation letter from San Diego Natural History Museum, other institution or, if the search was in-house, a letter of verification from the PI stating that the search was completed.

b) The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

C. PI Shall Attend Pre-Construction Meetings.

1. Prior to beginning any work that requires monitoring, the City or City's representative shall arrange a pre-construction meeting that shall include the PI, Grading Contractor, RE/CM, Building Inspector (BI), if appropriate, and MMC. The qualified paleontologist shall attend any grading/excavation related pre-construction meetings to make comments and/or suggestions concerning the Paleontological Monitoring Program with the RE/CM and/or BI and Grading Contractor.

a) If the PI is unable to attend the pre-construction meeting, the Contractor, or Engineering and Capital Projects Department's consultant (if applicable), shall schedule a focused pre-construction meeting with MMC, PI, and RE/CM or BI, if appropriate, prior to the start of any work that requires monitoring.

2. Acknowledgement of Responsibility for Curation (Capital Improvement Program Project or Other Public Projects).

a) The Contractor, or Engineering and Capital Projects Department's consultant (if applicable), shall submit a letter to MMC, RE/CM and/or BI acknowledging their responsibility for the cost of curation associated with all phases of the paleontological monitoring program.

3. Identify Areas to be Monitored.

a) Prior to the start of any work that requires monitoring, the PI shall submit a Paleontological Monitoring Exhibit (PME) based on the appropriate construction documents (reduced to 11x17 inch) to MMC and RE/CM and/or BI for approval identifying the areas to be monitored including the delineation of grading/excavation limits. Monitoring shall begin at depths below 10 feet from existing grade or

as determined by the PI in consultation with MMC. The determination shall be based on site-specific records search data which supports monitoring at depths less than ten feet. The PME shall be based on the results of a site-specific records search as well as information regarding existing known soil conditions (native or formation). MMC shall notify the PI that the PME has been approved prior to commencing with any ground-disturbing activities.

4. When Monitoring Will Occur:

   a) Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE/CM and/or BI indicating when and where monitoring will occur.

   b) The PI may submit a detailed letter to MMC and RE/CM and/or BI prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as depth of excavation and/or site graded to bedrock, presence or absence of fossil resources, etc., which may reduce or increase the potential for resources to be present.

5. Approval of PME and Construction Schedule.

   a) After approval of the PME by MMC, the PI shall submit to MMC and RE/CM and/or BI written authorization of the PME and Construction Schedule from the Contractor.

D. During Construction.

1. The Monitor shall be present during Grading/Excavation/Trenching.

   a) The paleontological monitor shall be present full-time during grading/excavation/trenching activities including, but not limited to, mainline, laterals, jacking and receiving pits, services and all other appurtenances associated with underground utilities as identified on the PME that could result in impacts to formations with high and/or moderate resource sensitivity.

   b) The Contractor is responsible for notifying the RE/CM and/or BI, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the PME.

   c) The PI may submit a detailed letter to MMC and RE/CM and/or BI during construction requesting a modification to the monitoring program when a field condition such as trenching activities that do not encounter formational soils as previously assumed, and/or when unique/unusual fossils are encountered, which may reduce or increase the potential for resources to be present.

d) The paleontological monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR's shall be emailed and/or provided hard copy by the Contractor or Engineering and Capital Projects Department's consultant (if applicable) to the RE/CM and/or BI the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of ANY discoveries. The RE/CM and/or BI shall forward copies to MMC.

2. Discovery Notification Process.

a) In the event of a discovery, the paleontological monitor shall direct the contractor to temporarily divert trenching activities in the area of discovery and immediately notify the RE/CM and/or BI, as appropriate.

b) The paleontological monitor shall immediately notify the PI (unless paleontological monitor is the PI) of the discovery.

c) The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC and RE/CM and/or BI within 24 hours by fax or email with photos of the resource in context, if possible.

3. Determination of Significance.

a) The PI shall evaluate the significance of the resource.

i. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC and RE/CM and/or BI indicating whether mitigation is required. The determination of significance for fossil discoveries shall be at the discretion of the PI.

ii. If the resource is significant, the PI shall submit a Paleontological Recovery Program (PRP) and obtain written approval of the program from MMC and/or RE/CM and/or BI. PRP and any mitigation must be approved by MMC and RE/CM and/or BI before ground-disturbing activities in the area of discovery will be allowed to resume.

- Note: For pipeline trenching projects only, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under item 4, "Discovery Process for Significant Resources - Pipeline Trenching Projects".

iii. If resource is not significant (e.g., small pieces of broken common shell fragments or other scattered common fossils) the PI shall notify the RE, or BI as appropriate, that a non-significant discovery has been made. The Paleontologist shall continue to monitor the area without notification to MMC unless a significant resource is encountered.

iv. The PI shall submit a letter to MMC and RE/CM and/or BI indicating that fossil resources will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that no further work is required.

- Note: For pipeline trenching projects only, if the fossil discovery is limited in size, both in length and depth; the information value is limited and there are no unique fossil features associated with the discovery area, then the discovery should be considered not significant.
- Note: For pipeline trenching projects only, if significance cannot be determined, the Final Monitoring Report and Site Record shall identify the discovery as Potentially Significant.

4. Discovery Process for Significant Resources - Pipeline Trenching Projects.

a) Procedures for Documentation, Curation and Reporting. The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance.

i. One hundred percent of the fossil resources within the trench alignment and width shall be documented in-situ photographically, drawn in plan view (trench and profiles of side walls), recovered from the trench and photographed after cleaning, then analyzed and curated consistent with Society of Invertebrate Paleontology Standards. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact and so documented.

ii. The PI shall prepare a Draft Paleontological Monitoring Report and submit to MMC via the RE/CM and/or BI as indicated in **Section F - Post Construction**.

iii. The PI shall be responsible for recording (on the appropriate forms for the San Diego Natural History Museum) the resource(s) encountered during the Paleontological Monitoring Program in accordance with the PMRP. The forms shall be submitted to the San Diego Natural History Museum and included in the Final Paleontological Monitoring Report.

iv. The Final Paleontological Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

E. Night and/or Weekend Work.

1. If night and/or weekend work is included in the contract:
    a) When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the pre-construction meeting. The following procedures shall be followed:
        i. No Discoveries - In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via the RE/CM and/or BI via email or in person by 8AM on the next business day.
        ii. Discoveries - All discoveries shall be processed and documented using the existing procedures detailed in **Section D - During Construction**.
        iii. Potentially Significant Discoveries - If the PI determines that a potentially significant discovery has been made, the procedures detailed under **Section D - During Construction** shall be followed.
    b) The PI shall immediately contact the RE/CM and/or BI and MMC, or by 8AM on the next business day, to report and discuss the findings as indicated in **Section D - During Construction**, unless other specific arrangements have been made.
2. If night and/or weekend work becomes necessary during the course of construction:
    a) The Contractor shall notify the RE/CM and/or BI a minimum of 24 hours before the work is to begin.
    b) The RE/CM and/or BI, as appropriate, shall notify MMC immediately.
3. All other procedures described above shall apply, as appropriate.

F. Post Construction.

1. Preparation and Submittal of Draft Paleontological Monitoring Report.
    a) The PI shall submit two copies of the Draft Paleontological Monitoring Report (even if negative), prepared to the satisfaction of MMC, which describes the methods, results, analysis, and conclusions of all phases of the Paleontological Monitoring Program (with appropriate graphics) to MMC via the RE/CM and/or BI for review and approval within 90 calendar days following the completion of monitoring.
        i. For significant or potentially significant paleontological resources encountered during monitoring, as identified by the PI, the Paleontological Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
        ii. The PI shall be responsible for recording (on the appropriate forms) any significant or potentially significant fossil resources encountered during the Paleontological Monitoring Program

in accordance with the PMRP, and submittal of such forms to the San Diego Natural History Museum with the Final Monitoring Report.

b) MMC shall return the Draft Monitoring Report to the PI via the RE/CM and/or BI for revision or, for preparation of the Final Report.

c) The PI shall submit revised Draft Monitoring Report to MMC via the RE/CM and/or BI for approval.

d) MMC shall provide written verification to the PI and RE/CM and/or BI of the approved report.

2. Handling of Fossil Remains.

a) The PI shall ensure that all fossils collected are cleaned to the point of curation (e.g., removal of extraneous sediment, repair of broken specimens, and consolidation of fragile/brittle specimens) and catalogued as part of the Paleontological Monitoring Program.

b) The PI shall ensure that all fossils are analyzed to identify stratigraphic provenance, geochronology, and taphonomic context of the source geologic deposit; that faunal material is taxonomically identified; and that curation has been completed, as appropriate.

3. Curation of Fossil Remains: Deed of Gift and Acceptance Verification.

a) The PI shall be responsible for ensuring that all fossil remains associated with the monitoring for this project are permanently curated with an accredited institution that maintains paleontological collections (such as the San Diego Natural History Museum).

b) The PI shall submit the Deed of Gift and catalogue record(s) to the RE/CM and/or BI, as appropriate for donor signature with a copy submitted to MMC.

c) The RE/CM and/or BI, as appropriate shall obtain signature on the Deed of Gift and shall return to PI with copy submitted to MMC.

d) The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE/CM and/or BI and MMC.

4. Final Paleontological Monitoring Report(s).

a) The PI shall submit two copies of the Final Paleontological Monitoring Report to MMC (even if negative), within 90 calendar days after notification from MMC of the approved report.

b) The RE/CM and/or BI shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC, which includes the Acceptance Verification from the curation institution.

APPENDIX I

SWPPP CONSTRUCTION BMP MAINTENANCE LOG

S PPP Construction BMP Maintenance Log

Examples of construction BMP maintenance activites 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 Acitivities

- 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

APPENDIX J

HIDDEN TRAILS ARTWORK

HIDDEN TRAILS ARTWORK
AN INSTALLATION AT HIDDEN TRAILS NEIGHBORHOOD PARK

GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
2022 CALIFORNIA BUILDING CODE (CBC)
2022 CALIFORNIA ELECTRICAL CODE (CEC)
2022 CALIFORNIA FIRE CODE (CFC)
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
2022 TITLE 24 ENERGY STANDARDS
AND ALL CURRENT APPLICABLE CODES AND ORDINANCES FROM THE CITY OF SAN DIEGO AND PERTINENT GOVERNMENTAL AGENCIES.

INDEX

SHEET NO	TITLE
T001	TITLE SHEET
S100	GENERAL NOTES & SPECIAL INSPECTION NOTES
S300	KEY PLAN
S400	DETAILS

STORM WATER QUALITY NOTES CONSTRUCTION BMP'S

THIS PROJECT SHALL COMPLY WITH ALL CURRENT REQUIREMENTS OF THE STATE PERMIT; CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD (SDRWQCB), SAN DIEGO MUNICIPAL STORM WATER PERMIT, THE CITY OF SAN DIEGO LAND DEVELOPMENT CODE, AND THE STORM WATER STANDARDS MANUAL.

PRIOR TO ANY SOIL DISTURBANCE, TEMPORARY SEDIMENT CONTROLS SHALL BE INSTALLED BY THE CONTRACTOR OR QUALIFIED PERSON(S) AS INDICATED BELOW:

1. ALL REQUIREMENTS OF THE CITY OF SAN DIEGO "STORM WATER STANDARDS MANUAL" MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED GRADING/IMPROVEMENTS CONSISTENT WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND/OR WATER POLLUTION CONTROL PLAN (WPCP) FOR CONSTRUCTION LEVEL BMPS AND, IF APPLICABLE, THE STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) FOR POST-CONSTRUCTION BMPS.

2. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL STORM DRAIN INLET PROTECTION. INLET PROTECTION IN THE PUBLIC RIGHT-OF-WAY MUST BE TEMPORARILY REMOVED PRIOR TO A RAIN EVENT TO ENSURE NO FLOODING OCCURS AND REINSTALLED AFTER RAIN IS OVER.

3. ALL CONSTRUCTION BMPS SHALL BE INSTALLED AND PROPERLY MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.

4. THE CONTRACTOR SHALL ONLY GRADE, INCLUDING CLEARING AND GRUBBING, AREAS FOR WHICH THE CONTRACTOR OR QUALIFIED CONTACT PERSON CAN PROVIDE EROSION AND SEDIMENT CONTROL MEASURES.

5. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SUB-CONTRACTORS AND SUPPLIERS ARE AWARE OF ALL STORM WATER BMPS AND IMPLEMENT SUCH MEASURES. FAILURE TO COMPLY WITH THE APPROVED SWPPP/WPCP WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS, CIVIL PENALTIES, AND/OR STOP WORK NOTICES.

6. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF ALL SILT, DEBRIS, AND MUD ON AFFECTED AND ADJACENT STREET(S) AND WITHIN STORM DRAIN SYSTEM DUE TO CONSTRUCTION VEHICLES/EQUIPMENT AND CONSTRUCTION ACTIVITY AT THE END OF EACH WORK DAY.

7. THE CONTRACTOR SHALL PROTECT NEW AND EXISTING STORM WATER CONVEYANCE SYSTEMS FROM SEDIMENTATION, CONCRETE RINSE, OR OTHER CONSTRUCTION-RELATED DEBRIS AND DISCHARGES WITH THE APPROPRIATE BMPS THAT ARE ACCEPTABLE TO THE CITY RESIDENT ENGINEER AND AS INDICATED IN THE SWPPP/WPCP

8. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL CLEAR DEBRIS, SILT, AND MUD FROM ALL DITCHES AND SWALES PRIOR TO AND WITHIN 3 BUSINESS DAYS AFTER EACH RAIN EVENT OR PRIOR TO THE NEXT RAIN EVENT, WHICHEVER IS SOONER.

9. IF A NON-STORM WATER DISCHARGE LEAVES THE SITE, THE CONTRACTOR SHALL IMMEDIATELY STOP THE ACTIVITY AND REPAIR THE DAMAGES. THE CONTRACTOR SHALL NOTIFY THE CITY RESIDENT ENGINEER OF THE DISCHARGE, PRIOR TO RESUMING CONSTRUCTION ACTIVITY. ANY AND ALL WASTE MATERIAL, SEDIMENT, AND DEBRIS FROM EACH NON-STORM WATER DISCHARGE SHALL BE REMOVED FROM THE STORM DRAIN CONVEYANCE SYSTEM AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

10. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ONSITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID DEPLOYMENT OF CONSTRUCTION BMPS WHEN RAIN IS IMMINENT.

11. THE CONTRACTOR SHALL RESTORE AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL BMPS TO WORKING ORDER YEAR-ROUND.

12. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DUE TO UNFORESEEN CIRCUMSTANCES TO PREVENT NON-STORM WATER AND SEDIMENT-LADEN DISCHARGES.

13. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.

14. ALL EROSION AND SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED SWPPP/WPCP SHALL BE INSTALLED AND MAINTAINED. ALL EROSION AND SEDIMENT CONTROLS FOR INTERIM CONDITIONS SHALL BE PROPERLY DOCUMENTED AND INSTALLED TO THE SATISFACTION OF THE CITY RESIDENT ENGINEER.

15. AS NECESSARY, THE CITY RESIDENT ENGINEER SHALL SCHEDULE MEETINGS FOR THE PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED CONTACT PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER, AND THE CITY RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION AND SEDIMENT CONTROL MEASURES AND OTHER BMPS RELATIVE TO ANTICIPATED CONSTRUCTION ACTIVITIES.

16. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL CONDUCT VISUAL INSPECTIONS AND MAINTAIN ALL BMPS DAILY AND AS NEEDED. VISUAL INSPECTIONS AND MAINTENANCE OF ALL BMPS SHALL BE CONDUCTED BEFORE, DURING, AND AFTER EVERY RAIN EVENT AND EVERY 24 HOURS DURING ANY PROLONGED RAIN EVENT. THE CONTRACTOR SHALL MAINTAIN AND REPAIR ALL BMPS AS SOON AS POSSIBLE AS SAFETY ALLOWS.

17. CONSTRUCTION ENTRANCE AND EXIT AREA. TEMPORARY CONSTRUCTION ENTRANCE AND EXITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CASQA FACT SHEET TC-1OR CALTRANS FACT SHEET TC-01 TO PREVENT TRACKING OF SEDIMENT AND OTHER POTENTIAL POLLUTANTS ONTO PAVED SURFACES AND TRAVELED WAYS. WIDTH SHALL BE 10' OR THE MINIMUM NECESSARY TO ACCOMMODATE VEHICLES AND EQUIPMENT WITHOUT BY-PASSING THE ENTRANCE. (a) NON-STORM WATER DISCHARGES SHALL BE EFFECTIVELY MANAGED PER THE SAN DIEGO MUNICIPAL CODE CHAPTER 4, ARTICLE 3, DIVISION 3 "STORM WATER MANAGEMENT AND DISCHARGE CONTROL".

The Stone Library

Lava Field

The Time Keepers

The Listener

ARTIST CONCEPT RENDERINGS ARE NOT TO SCALE AND ARE SUBJECT TO MODIFICATIONS DURING FABRICATION AND INSTALLATION.
ENGINEER TO BE NOTIFIED IF WEIGHT OR DIMENSION LIMITS ARE EXCEEDED OR METHOD OF ATTACHMENT MUST BE MODIFIED.

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE STRUCTURAL ENGINEER 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 THE THE DESIGN IS CONSISTENT WITH 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 STRUCTURAL ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

SIGNATURE DATE:
CURTIS PATTERSON, PRINCIPAL
REGISTRATION No: SE 5629

PATTERSON ENGINEERING INC.
928 FORT STOCKTON DRIVE, SUITE 201, SAN DIEGO CA 92103
858-605-0937

CAUTION

BEFORE EXCAVATING, VERIFY THE LOCATION OF UNDERGROUND UTILITIES. AT LEAST TWO (2) WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR SHALL REQUEST MARK-OUT OF UNDERGROUND UTILITIES BY CALLING THE BELOW LISTED REGIONAL NOTIFICATION CENTER FOR AN INQUIRY IDENTIFICATION NUMBER:

IRRIGATION SYSTEMS: (619) 533-5783

IRRIGATION CONTROL WIRE: (619) 533-5783

FACILITIES MAINTENANCE DIVISION: (619) 525-8500

CONTRACTOR'S RESPOSIBILITIES

1. PURSUANT TO SECTION 4216 OF THE CALIFORNIA GOVERNMENT CODE, AT LEAST 2 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.

2. NOTIFY SDG&E AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SDG&E UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES. (I.E., 69 KV & HIGHER)

LEGAL DESCRIPTION

LOT 147 OF HIDDEN TRAILS, UNIT NO. 2, ACCORDING TO MAP THEREOF NO. 14755, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE SAN DIEGO COUNTY RECORDED MARCH 23, 2004.

PER CITY OF SAN DIEGO MUNICIPAL CODE SECTIONS 12.0104, 43.0310, 129.0104(a)(4), AND 142.0220, PERMITS ARE REQUIRED TO BE INSPECTED BY CITY INSPECTION STAFF TO ENSURE COMPLIANCE PERMIT. THIS INCLUDES, BUT IS NOT LIMITED TO, STORM WATER COMPLIANCE INSPECTION REQUIREMENTS ASSOCIATED WITH EACH PERMIT.

REFERENCE PROJECT

PRJ No. PRJ-1082990 DEVELOPMENT OF THE NEW PARK INCLUDES ALL SITE DEVELOPMENT INFO INCLUDING SURVEY, PROPERTY BOUNDARY, TOPOGRAPHY, LANDSCAPE, ACCESS, RESTROOM, SIGNAGE, SITE STRUCTURE, ELECTRICAL, AND CIVIL DRAWINGS.

SITE ADDRESS

PARSONS LANDING
SAN DIEGO, CA 92154

ASSESOR'S NUMBER

APN#: 645-352-5400 / HIDDEN TRAILS UNIT 2 MAP 14755

RIGHT-OF-WAY

NO WORK WILL BE PERFORMED IN THE RIGHT-OF-WAY.

DISTURBANCE AND IMPERVIOUS AREAS

TOTAL DISTURBANCE AREA: 425

PROPOSED AMOUNT OF IMPERVIOUS AREA: 0

NOTE: IMPERVIOUS AREA SHALL INCLUDE: ROOF, SIDEWALK, PARKING AREA, WALKWAYS, POOLS, POOL DECK, ETC.

ZONING / BOUNDARY

EXISTING ZONE: OP-2-1
(OPEN SPACE PARK)

SCOPE OF WORK

THIS PROJECT CONSISTS OF FOUR SEPARATE SCULPTURAL ART INSTALLATIONS IN A NEW PUBLIC PARK, DEVELOPED UNDER SEPARATE PERMIT. MATERIALS INCLUDE STONE, STEEL, ACRYLIC, WIRE MESH AND PLASTER.

REFER TO THE PARK PLANS FOR ALL PROPERTY LINES AND DIMENSIONS, EASEMENTS, LANDSCAPE MATERIALS AND STRUCTURES, POWER AND LIGHTING, ACCESSIBILITY, STORMWATER MANAGEMENT, AND OTHER CODE AND CONSTRUCTION PROVISIONS.

ART FABRICATION WILL BE OFFSITE BY THE ARTIST, AND INSTALLED ON SITE BY THE GENERAL CONTRACTOR OF THE PARK DEVELOPMENT.

ARTWORK SUPPORT DETAILS ARE TO SHOW INSTALLATION COMPLIANCE WITH CODE LOADS FOR SOIL BEARING, WIND, SEISMIC, AND INTERACTION WITH THE GENERAL PUBLIC INCLUDING WEIGHT BEARING, WITHOUT TIPPING OR COLLAPSE.

SCULPTURES ARE NOT DESIGNED TO BE RESISTANT TO OR REMAIN SAFE UNDER INTENTIONAL ACTS OF VANDALISM. REGULAR CONDITION ASSESSMENT AND MAINTENANCE IS REQUIRED FOR PUBLIC SAFETY AND IS THE RESPONSIBILITY OF THE PARK AUTHORITIES.

PROJECT CONTACTS

ARTIST
TREVOR AMERY
6566 GLENROY ST
SAN DIEGO, CA 92120
860-806-8666

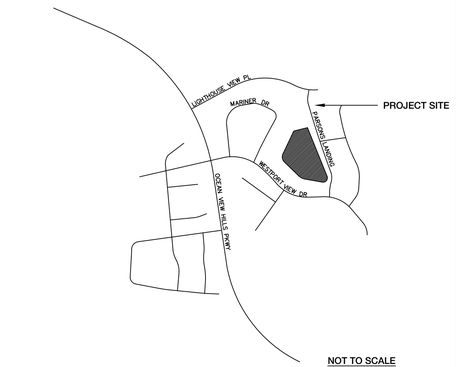
PUBLIC ART COORDINATOR
LARA BULLOCK
202 C ST
SAN DIEGO, CA 92101
619-236-5555

STRUCTURAL ENGINEER
PATTERSON ENGINEERING INC.
928 FORT STOCKTON DRIVE, SUITE 201
SAN DIEGO CA 92103
858-605-0937

LANDSCAPE ARCHITECT
SPURLOCK
2122 HANCOCK STREET
SAN DIEGO, CA 92110
619-681-0090

LOCATION MAP

ALL STORM WATER RUNOFF FROM PROPOSED AND/OR REPLACED IMPERVIOUS AREAS SHALL BE ROUTED TO PERVIOUS SURFACES OR LANDSCAPING PRIOR TO REACHING THE PUBLIC DRAIN SYSTEM.



PATTERSON ENGINEERING INC.
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REGISTERED PROFESSIONAL ENGINEER
CURTIS RALEM PATTERSON
SE 5629
STRUCTURAL
STATE OF CALIFORNIA

HIDDEN TRAILS ARTWORK
PARSONS LANDING
SAN DIEGO, CA 92154
PROJECT #:23100122

DESIGNER / ARCHITECT
TREVOR AMERY
ARTIST

REVISIONS

REV	REVISION	DATE
	PCC	3/20/24

DRAWING STATUS
- ☐ PRELIMINARY (NOT FOR CONST)
- ☒ PLAN CHECK
- ☐ CONSTRUCTION DOCUMENTS
- ☐ OTHER:

CONTENT
TITLE SHEET

DRAWN BY: CR
CHECKED BY: BF/LB
DATE: 03/08/24

SHEET
T001

THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS AS INSTRUMENTS OF SERVICE ARE THE EXCLUSIVE PROPERTY OF PATTERSON ENGINEERING, INC. AND MAY NOT BE REPRODUCED, WITHOUT THE WRITTEN PERMISSION FROM THIS COMPANY.

GOVERNING CODE: 2022 CALIFORNIA BUILDING CODE

GENERAL STRUCTURAL NOTES

1. NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS TAKE PRECEDENCE OVER THESE STANDARD STRUCTURAL NOTES. TYPICAL DETAILS SHALL BE USED WHENEVER APPLICABLE. REFER TO SPECIFICATIONS FOR INFORMATION NOT COVERED WITHIN THESE NOTES OR DRAWINGS.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS BEFORE STARTING WORK, AND THE ENGINEER / DESIGNER SHALL BE IMMEDIATELY NOTIFIED, IN WRITING, OF ANY DISCREPANCIES.
3. IN NO CASE SHALL DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THE STRUCTURAL DRAWINGS.
4. ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS AND / OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF, AND RESOLVED WITH, THE ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.
5. WHERE A CONSTRUCTION DETAIL IS NOT SHOWN OR NOTED, THE DETAIL SHALL BE THE SAME AS FOR OTHER SIMILAR WORK. ANY QUESTIONS OF SUCH DETAILS SHOULD BE CONSULTED WITH THE ENGINEER OR DESIGNER OF RECORD.
6. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN THE AREA TO BE EXCAVATED, BEFORE BEGINNING EXCAVATION.
7. NO PIPES, DUCTS, SLEEVES, CHASES, ETC. SHALL BE PLACED IN SLABS, BEAMS, OR WALLS, NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC. WITHOUT EXPRESSED WRITTEN PERMISSION FROM THE ENGINEER OF RECORD.
8. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 CBC.
9. THE 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. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE ENGINEER FREE AND HARMLESS OF ALL CLAIMS, DEMANDS AND / OR ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE NEGLIGENCE OF THE ENGINEER OF RECORD.
10. THE VERIFICATION OF A CALIFORNIA REGISTERED CIVIL ENGINEER IS NEEDED AND RETAINED TO DESIGN ALL TEMPORARY BRACING, SHORING, AND SUPPORT REQUIREMENTS DURING CONSTRUCTION.
11. THE CONTRACTOR / OWNER / DESIGNER MUST SUBMIT MATERIAL ALTERNATIVES TO THE ENGINEER OF RECORD PRIOR TO USE AND POSSIBLE PURCHASE TO AVOID UNNECESSARY COST TO CONTRACTOR /OWNER/DESIGNER. SUCH ENGINEERING REVIEW IS CONSIDERED SEPARATE ENGINEERING FEES UNDER ON-SITE ENGINEERING COSTS.
12. PLANS MUST BE APPROVED BY BUILDING DEPARTMENT PRIOR TO CONSTRUCTION.
13. THE SEOR SHALL BE NOTIFIED OF ANY DISCREPANCIES WITHIN THE SCOPE OF THE PERMIT ISSUED.

FOUNDATION

1. THE SOILS REPORT RECOMMENDATIONS SHALL BE COMPLIED WITH BY THE CONTRACTOR.

SOILS INFORMATION:	
PREPARED BY:	NINYO & MOORE GEOTECHNICAL & ENVIRONMENTAL SCIENCE CONSULTANTS
DATED:	AUGUST 12, 2022
PROJECT NO:	109014003
VERTICAL BEARING PRESSURE:	3000 PSF
SKIN FRICTION:	N/A
ACTIVE EARTH PRESSURE:	N/A
PASSIVE EARTH PRESSURE:	300 PCF
COFEFFICIENT OF FRICTION:	0.30
SEISMIC EARTH PRESSURE:	N/A

2. ALL SITE SOIL WORK SHALL BE DONE UNDER THE DIRECT OBSERVATION OF THE SOILS ENGINEER.
3. SOILS ENGINEER SHALL VERIFY IN WRITING TO THE ENGINEER THAT ANY COMPACTION SITE SOIL WORK COMPLIES WITH ALL OF THE RECOMMENDATIONS AND CONCLUSIONS OF THE SOILS REPORT.
4. THE FINISH EXCAVATION FOR FOUNDATIONS SHALL BE NEAT & TRUE TO LINE.
5. FOUNDATION EXCAVATIONS SHALL BE KEPT FREE OF LOOSE MATERIAL AND STANDING WATER AND SHALL BE CHECKED AND APPROVED BY THE SOILS ENGINEER BEFORE THE PLACEMENT OF ANY CONCRETE.
6. THE TESTING LAB SHALL SUBMIT COMPACTION REPORTS FOR ALL FILL TO THE ENGINEER BEFORE REQUESTING FOUNDATION INSPECTION. ALL LOOSE SOIL AND FILL DIRT, INCLUDING BACKFILL BEHIND RETAINING WALLS, SHALL BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY, OR GREATER AS REQUIRED BY THE SOILS REPORT.
7. PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOILS BUILDING OFFICIAL IN WRITING THAT:
   A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
   B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED, AND
   C. THE FOUNDATION EXCAVATIONS, THE SOILS EXPANSIVE CHARACTERISTICS AND BEARING SOILS REPORT.
8. THE CONTRACTOR SHALL CONFORM TO ACI 301 SECTION 3.1.1 "SUBMITTALS, DATA, AND DRAWINGS" AND ITEMS TO SEOR FOR REVIEW OF GENERAL CONFORMANCE WITH THESE DRAWINGS:
   A. CONCRETE, GROUT, OR SHOTCRETE MIX DESIGN
   B. CONCRETE, GROUT, OR SHOTCRETE STRENGTH TEST RESULTS
   C. INSTALLATION AND TESTING PROCEDURES.
9. THE CONTRACTOR SHALL REVIEW AND CONFORM TO THE SPECIFICATIONS LISTED IN CBC 2022 CHAPTER 18 "SOILS AND FOUNDATION", ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE," AND ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
10. FOUNDATION EXCAVATIONS, FILL, AND COMPACTION SHALL BE OBSERVED BY AND DEEMED ACCEPTABLE BY THE SOILS ENGINEER OR THEIR REPRESENTATIVE PRIOR TO THE PLACEMENT OF REINFORCING STEEL OR CONCRETE.
11. FOOTINGS AND SLABS SHALL BEAR ON COMPACTED STRUCTURAL FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT.
12. A MOISTURE BARRIER MEMBRANE SHALL BE PLACED PER THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER AND SOILS REPORT.
13. ALL ABANDONDED FOOTINGS, UTILITIES, ETC. THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
14. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICE IN AREAS TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. EXERCISE EXTREME CAUSTIN IN EXCAVATING AND TRENCHING. DAMAGE CAUSED AS A RESULT OF FAILING TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

REINFORCED CONCRETE

1. ALL PHASES OF WORK PERTAINING TO THE CONCRETE CONSTRUCTION SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-19) WITH MODIFICATIONS AS NOTED IN THE DRAWINGS AND SPECIFICATIONS.
2. CEMENT SHALL CONFORM TO ASTM C150, TYPE II. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTMC33.
3. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN RATIO MAX. W/C IN ACCORDANCE WITH ASTM C94.
4. CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

CONCRETE STRENGTH SCHEDULE			
LOCATION	28 DAY STRENGTH	W/CM RATIO	WELL GRADED AGGREGATE
SLABS ON GRADE	2,500 PSI	0.5	3/8"
FOOTINGS	2,500 PSI	0.5	3/8"

5. THE W/C RATIO SHALL BE BASED ON TOTAL WEIGHT OF CEMENTIOUS MATERIALS. MAXIMUM RATIOS AS SPECIFIED. DURABILITY REQUIREMENTS SHALL BE PER ACI 318, SECTION 19.3.
6. POOL CONCRETE OR SHOTCRETE SHALL BE PNEUMATICALLY PLACED UNO.
7. CONCRETE SHALL BE KEPT CONSISTENTLY DAMP FOR 14 DAYS FOLLOWING PLACEMENT.
8. CEMENTIOUS MATERIALS SPECIFICATIONS:
   A. THE USE OF FLY ASH, SILICA FUME, SLAG, OR OTHER POZZOLANS SHALL CONFORM TO ACI 319 SECTIONS 19.3.2 AND 26.4.2.2. FLYASH SHALL BE A MAXIMUM 25% OF THE TOTAL CEMENTIOUS CONTENT UNLESS REVIEWED AND APPROVED BY THE SEOR.
   B. CEMENTIOUS MATERIALS SHALL BE IN ACCORDANCE WITH ASTM STANDARDS AS LISTED IN ACI 318, SECTION 26.4.1.1.1(a).
   C. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318, SECTION 19.3.3.1. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT AND MEASURED WITH A TOLERANCE OF ±1 1/2".
   D. AGGREGATES SHALL BE IN ACCORDANCE WITH ASTM C33. LIGHTWEIGHT AGGREGATES SHALL BE IN ACCORDANCE WITH ASTM C330. INSULATING LIGHTWEIGHT AGGREGATES SHALL BE IN ACCORDANCE WITH ASTM C322.
   E. SLUMP SHALL BE DETERMINED AT POINT OF PLACEMENT AND SHALL BE IN ACCORDANCE WITH ACI 301, SECTION 4.2.2.2.
   F. CHLORIDE CONTENT SHALL BE IN ACOORDANCE WITH ACI 318, TABLE 19.3.2.1.
   G. NON-CHLORIDE ACCELERATING ADMIXTURES MAY BE USED IN CONCRETE PLACED AT AMBIENT TEMPERATURES BELOW 50 AT CONTRACTOR OPTION.
   H. EXPOSURE CLASSES ARE ASSUMED TO BE F0, S0, W0, AND C0 AS SPECIFIED IN ACI 318, SECTION 19.3.1.1 UNLESS NOTED OTHERWISE.
   I. MIXTURES MAY BE USED WITH PRIOR APPROAL OF THE SEOR. ADMIXTURES SHALL COMPLY WITH ASTM C494 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE, BUT SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT. CALCLUM CHLORIDE SHALL NOT BE USED.
9. NO CONDUIT SHALL BE EMBEDDED IN A SLAB WITH A SINGLE MAT OF REINFORCING BARS.
10. PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4" CHAMFER.
11. REFER TO DRAWINGS OF OTHER DISCIPLINES FOR MOLDS, GROOVES, CLIPS, ORNAMENTS, OR GROUNDS REQUIRED TO BE CAST INTO CONCRETE.
12. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR REVIEW BEFORE FABRICATION AND INSTALLATION.
13. STEEL EMBEDDED IN CONCRETE SHALL BE GALVANIZED OR PAINTED. ALL DAMAGED GALVANIZED AREAS SHALL BE REPAIRED PRIOR TO EMBEDMENT .
14. READY MIXED CONCRETE SHALL CONFORM TO ASTM C94.
15. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 304. CLEAN AND ROUGHEN TO 1/4" AMPLITUDE FOR ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.
16. ALL EXPOSED CONCRETE SHALL HAVE A SMOOTH FORM FINISH USING B-B PLYFORM, CLASS I EXT-APA PLYWOOD. REFER TO ARCHITECTURAL DRAWINGS FOR ALTERNATE FINISHES.
17. ALL SLABS SHALL HAVE A TROWEL FINISH UNLESS NOTED OTHERWISE.
18. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
19. SLAB ON GRADE REINFORCEMENT SHALL BE PLACED DOWN 1/2 SLAB THICKNESS FROM THE TOP OF SLAB.
20. SLEEVE PLUMBING OPENINGS IN SLABS WITH NON-CORROSIVE SLEEVE BEFORE PLACING CONCRETE AND BEND REINFORCING AROUND SLEEVES.
21. CARE SHALL BE TAKEN TO PROVIDE PROPER CONCRETE CURING IN AN EFFORT TO MINIMIZE SHRINKAGE CRACKING.
22. CODE CONFORMANCE:
    CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE FOLLOWING REFERENCE STANDARDS:
    A. ACI 301-20 "STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE"
    B. CBC 2022, CHAPTER 19 "CONCRETE"
    C. 318-19 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
    D. ACI 117-10 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS"
    E. ACI 301, SECTION 4 "CONCRETE MIXTURES" AND CBC 2022, SECTION 1904.1.
    F. ACI 301, SECTION 4.1.2 "MATERIALS" FOR MATERIALS AGGREGATES, WATER, AND ADMIXTURES.
    G. ACI 301, SECTION 4.3 FOR MEASURING, MIXING, AND DELIVERY.
    H. ACI 301, SECTION 5 FOR HANDLING, PLACING, CONSTRUCTION, AND CURING
    I. ACI 305R-20 FOR HOT WEATHER CONCRETE PLACEMENT.
    J. ACI 305R-16 FOR COLD WEATHER CONCRETE PLACEMENT
    K. ACI 301, SECTIONS 2.2.2.5, 5.2.2.1, AND 5.3.2.6 FOR CONSTRUCTION JOINTS
23. CONTRACTOR SHALL BE IN ACCORDANCE WITH AND SHALL MAINTAIN AN ON-SITE COPY OF SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."
24. A MIX DESIGN SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE SEOR FOR EACH MIX SPECIFIED.
25. FOR STRENGTH TESTING AND ACCEPTANCE, TEST SHALL BE CONDUCTED IN ACCORDANCE WITH ACI 301, SECTION 1.6.3.2. SUBSTANTIATING STRENGTH RESULTS FROM PREVIOUS TESTS SHALL NOT BE OLDER THAN 24 MONTHS PER ACI 318. SECTION 26.4.3.1(b).
26. TESTING SHALL BE AS FOLLOWS, HOWEVER ADDITIONAL SAMPLES MAY BE REQUIRED
27. TO OBTAIN CONCRETE STRENGTHS AT ALTERNATE INTERVALS THAN SHOWN BELOW:
    A. CURE CYLINDERS FOR 28 DAY TEST AGE. TEST (1) CYLINDER AT 7 DAYS, (2) CYLINDERS AT 28 DAYS, AND HOLD (1) CYLINDER FOR USE AS DIRECTED BY THE ENGINEER.AFTER 56 DAYS, THE RESERVE CYLINDER MAY BE DISCARDED WITHOUT TESTING UNLESS NOTIFIED OTHERWISE BY THE SEOR.
    B. THE NUMBER OF CYLINDERS ASSUMES A 6"x12". IF 4"x8" CYLINDERS ARE USED, ADDITIONAL CYLINDERS SHALL BE CURED FOR (3) TOTAL CYLINDER TESTS AT 28 DAYS.
    C. STRENGTH IS SATISFACTORY WHEN THE AVERAGE OF ALL SETS OF (3) CONSECUTIVE TESTS EQUAL OR EXCEED THE SPECIFIED STRENGTH AND NO INDIVIDUAL TEST FALLS BELOW THE SPECIFIED STRENGTH BY MORE THAN 500 PSI.

REINFORCING STEEL

1. REINFORCING STEEL:
   PROVIDE REINFORCING STEEL COMPLYING WITH THE APPROPRIATE STANDARD AS FOLLOWS:
   ALL REINFORCING UNLESS NOTED OTHERWISE.....ASTM A615 GRADE 60
   WELDED REINFORCING.....ASTM A706 GRADE 60
2. REINFORCING (EXCLUDING TIES) IN CONCRETE DUCTILE FRAME, SHEARWALL BOUNDARY ELEMENTS, AND MOMENT FRAME GRADE BEAMS:
   PROVIDE REINFORCING STEEL COMPLYING WITH ASTM A706 GRADE 60. MILL TESTS SHALL NOT EXCEED SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI AND RATIO OF ACTUAL ULTIMATE-TO-YIELD TENSILE STRESS SHALL NOT BE LESS THAN 1.25.
3. WIRE REINFORCING:
   PROVIDE WIRE REINFORCING COMPLYING WITH THE APPROPRIATE STANDARD AS FOLLOW:
   SMOOTH WIRE FABRIC.....ASTM A185
   DEFORMED WIRE STIRRUPS .....ASTM A497
4. REBAR BENDING:
   BEND REINFORCING STEEL COLD UNLESS OTHERWISE APPROVED BY SEOR. DO NOT FIELD BEND REINFORCING STEEL EMBEDDED IN CONCRETE U.N.O. REBAR NOT PERMITTED TO BE TWISTED OR BENT BEYOND 45°.
5. MINIMUM CONCRETE COVER:
   MAINTAIN THE FOLLOWING MINIMUM CLEAR DISTANCE BETWEEN REINFORCING STEEL AND FACE OF CONCRETE, U.N.O.
   SLAB ON GRADE.....CENTER OF SLAB
   CONCRETE BELOW GRADE-FORMED.....2"
   CONCRETE BELOW GRADE-UNFORMED.....3"
   WALLS ABOVE GRADE-EXPOSED TO WEATHER.....2"
   WALLS ABOVE GRADE-NOT EXPOSED TO WEATHER.....1"
   COLUMNS CLEAR TO FACE OF TIES.....1 1/2"
   BEAMS CLEAR TO FACE OF TIES.....1 1/2"
   STRUCTURAL SLAB-TOP AND BOTTOM.....1"
6. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND INSERTS SHALL BE SECURED IN POSITION WITH WIRE POSITIONERS BEFORE PLACING CONCRETE OR GROUT.
7. SPLICE LENGTH - CONCRETE CONSTRUCTION:
   LAP REINFORCING STEEL AT SPLICES TO LENGTHS INDICATED IN STRUCTURAL DRAWINGS. LAP WIRE FABRIC 1.5 SPACES (12" MINIMUM).
8. THE CONTRACTOR SHALL CONFORM TO ACI 301 SECTION 3.1.1 "SUBMITTALS, DATA, AND DRAWINGS" AND SHALL SUBMIT THE FOLLOWING ITEMS TO SEOR FOR REVIEW OF GENERAL CONFORMANCE WITH THESE DRAWINGS:
   A. REINFORCING FABRICATION SHOP DRAWINGS
9. BARS SHALL NOT BE WELDED UNLESS EXPLICITLY AUTHORIZED BY THE SEOR. WELDED REBAR SHALL CONFORM TO ACI 301, SECTION 3.2.2.2 "WELDING," AWS D1.4 FOR ASTM A706, GRADE 60 REBAR.

MISCELLANEOUS STEEL NOTES

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM DESIGNATION AS INDICATED BELOW (U.N.O.). PAINTING OF STEEL IS NOT REQUIRED STRUCTURALLY. VARIATION IN THE YIELD STRENGTH BELOW THE SPECIFIED MINIMUM VALUE IS NOT ALLOWED:

   PLATES.....A36
   HSS (RECT.).....A500, GRADE B, Fy=46ksi
   ANCHOR BOLTS (U.N.O.).....F1554 GRADE 36
   ALL OTHER STRUCTURAL SECTIONS.....A572, GRADE 50
2. INSTALL BOLTS/EXPANSION ANCHORS IN CONCRETE AND FIELD VERIFY AS-BUILT LOCATIONS PRIOR TO FABRICATION OF BOLT HOLES IN NEW STEEL MEMBERS. AT CONTRACTOR OPTION, OVERSIZED HOLES AND WELDED PLATE WASHERS CAN BE USED IN LIEU OF STANDARD DIAMETER HOLES.
3. ALL PERMANENTLY EXPOSED STRUCTURAL STEEL AND MISCELLANEOUS METAL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION U.N.O.

STRUCTURAL DESIGN CRITERIA

LATERAL DESIGN			
SEISMIC FACTORS		WIND FACTORS (METHOD 1)	
Ss	0.849 g	RISK CATEGORY	II
S1	0.301 g	WIND SPEED	97 mph
SDS	0.679 g	EXPOSURE	B
SD1	0.301 g	TOPOGRAPHIC, Kzt	1.0
Fa	1.2	INT PRESSURE, Cpi	±0.18
Fv	1.5		
Sm1	0.452		
Sms	1.018		
SITE CLASS	C		
DESIGN CATEGORY	D		
IMPORTANCE	1.0		
REDUNDANCY (ρ)	1.0		

SPECIAL INSPECTION NOTES

1. PROVIDE SPECIAL INSPECTIONS IN ACCORDANCE WITH THE BELOW NOTED SECTION OF TH 2022 CALIFORNIA BUILDING CODE.
2. WHERE SPECIAL INSPECTION IS REQUIRED, IT SHALL BE PERFORMED BY A REGISTERED DEPUTY INSPECTOR EMPLOYED BY THE OWNER AND APPROVED BY THE GOVERNING JURISDICTION. COPIES OF THE INSPECTION REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT AND SEOR FOR REVIEW.
3. A CERTIFICATE OF SATISFACTORY COMPLETION OF WORK REQUIRING SPECIAL INSPECTIO MUST BE COMPLETED AND SUBMITTED TO THE INSPECTION SERVICES DIVISION.
4. THESE ITEMS ARE IN ADDITION TO THE BUILDING DEPARTMENT REQUIREMENTS.
5. THE SPECIAL INSPECTOR MUST BE APPROVED BY THE LOCAL JURISDICTION.
6. THE TESTING LABORATORY MUST BE APPROVED BY THE LOCAL JURISDICTION.
7. A PROPERTY OWNER'S FINAL REPORT OF WORK REQUIRING SPECIAL INSPECTION MUST B COMPLETED BY THE PROPERTY OWNER, PROPERTY OWNER'S AGENT OF RECORD, DESIGNER OF RECORD, OR SEOR AND SUBMITTED TO THE INSPECTION SERVICES DIVISION.
8. THE SPECIAL INSPECTIONS IDENTIFIED ARE IN ADDITION TO THOSE REQUIRED BY SEC.110 OF THE BUILDING CODE, AS AMENDED. SPECIAL INSPECTION IS NOT A SUBSTITUTE FOR INSPECTION BY A LOCAL JURISDICTION INSPECTOR.
9. SOILS SPECIAL INSPECTION SHALL BE PERFORMED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (SOILS ENGINEER OR GEOTECHNICAL ENGINEER OF RECORD), WHO HAS PREPARED THE APPROVED GEOTECHNICAL INVESTIGATION REPOR
10. THE SPECIAL INSPECTOR MUST BE CERTIFIED BY THE LOCAL BUILDING OFFICIAL, DEVELOPMENT SERVICES, IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION.
11. FABRICATOR MUST BE REGISTERED AND APPROVED BY THE LOCAL BUILDING OFFICIAL, DEVELOPMENT SERVICES, FOR THE FABRICATION OF MEMBERS AND ASSEMBLIES ON THE PREMISES OF THE FABRICATOR'S SHOP.
12. FABRICATOR SHALL SUBMIT AN 'APPLICATION TO PERFORM OFF-SITE FABRICATION' TO TH INSPECTION SERVICES DIVISION FOR APPROVAL PRIOR TO COMMENCEMENT OF FABRICATION.
13. FABRICATOR SHALL SUBMIT A 'CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION' TO THE INSPECTION SERVICES DIVISION PRIOR TO ERECTION OF FABRICATED ITEMS AND ASSEMBLIES.
14. A PROPERTY OWNER'S FINAL REPORT FORM OF WORK REQUIRED TO HAVE SPECIAL INSPECTION, TESTING AND STRUCTURAL OBSERVATIONS MUST BE COMPLETED BY THE PROPERTY OWNER, PROPERTY OWNER'S AGENT OF RECORD, DESIGNER OF RECORD, OR SEOR AND SUBMITTED TO THE INSPECTION SERVICES DIVISION.
15. NOTICE TO THE APPLICANT / OWNER / OWNER'S AGENT / SEOR: BY USING THESE PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION / INSTALLATION OF THE WOR SPECIFIED HEREIN, YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING OFFICIAL FOR SPECIAL INSPECTIONS, AND THOSE REQUIREMENTS REQUIRED BY THE CALIFORNIA CONSTRUCTION CODES.
16. NOTICE TO THE CONTRACTOR / BUILDER / INSTALLER / SUB-CONTRACTOR / OWNER-BUILDER: BY USING THIS PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION / INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU ACKNOWLEDGE AND ARE AWARE OF, THE REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS. YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING OFFICIAL FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS, CONTAINED I THE STATEMENT OF SPECIAL INSPECTIONS AND, AS REQUIRED BY CALIFORNIA CONSTRUCTION CODES.
17. ITEMS REQUIRING SPECIAL INSPECTION:

INSPECTION	CODE SECTION
~~A. SHEAR WALL HOLDOWNS~~	~~1705.12.1 & 1705.13.2~~
~~B. STRUCTURAL WOOD~~	~~1705.5,1705.11.1 & 1705.13.2~~
~~C. DRAG STRUTS~~	~~1705.12.1 & 1705.13.2~~
D. SOILS	1705.6
E. POST INSTALLED ANCHORS	TABLE 1705.3 (#4)
~~F. MASONRY CONSTRUCTION~~	~~1705.4~~
~~G. CONCRETE CONSTRUCTION~~	~~1705.3~~
~~* H. STEEL CONSTRUCTION~~	~~1705.2~~
~~I. CAST-IN-PLACE DEEP FOUNDATION~~	~~1705.7~~
~~J. HELICAL PILES~~	~~1705.8~~

D. SOILS CONSTRUCTION (CBC 1705.6)

ITEM	TYPE OF INSPECTION		DETAILED INSTRUCTIONS AND FREQUENCES
VERIFY SUBGRADE IS ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY	☐CONT	☒PERIODIC	PRIOR TO PLACEMENT OF CONCRETE.
VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH AND MATERIAL	☐CONT	☒PERIODIC	PRIOR TO PLACEMENT OF COMPACTED FILL OR CONCRET
VERIFY THAT SUBGRADE HAS BEEN APPROPRIATELY PREPARED PRIOR TO PLACING COMPACTED FILL	☐CONT	☒PERIODIC	PRIOR TO PLACEMENT OF CONCRETE.
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	☐CONT	☒PERIODIC	ALL MATERIALS SHALL BE CHECKED AT EACH LIFT FOR PROPER CLASSIFICATIONS AND GRADATIONS NOT LESS THAN ONCE FOR EACH 10,000FT² OF SURFACE AREA.
VERIFY PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION.	☒CONT	☐PERIODIC	

E. POST INSTALLED (CBC 1705.3 (#4)

ITEM	TYPE OF INSPECTION		DETAILED INSTRUCTIONS AND FREQUENCES
POST INSTALLED ANCHOR BOLTS	☐CONT	☒PERIODIC	SPECIAL INSPECTOR TO VERIFY THE DRILLING OF ANY HOLES, THE CLEANLINESS OF THE HOLE, THE MOISTURE IN THE HOLE, MIXING OF THE EPOXY, EPOXY BRAND AND PROPER MATERIAL ASSEMBLY SIMPSON SET-3G ESR-4057 (SET-XP ER-265 FOR MASONRY

* SPECIAL INSPECTION IS NOT REQUIRED FOR THE STEEL COMPONENTS AND WELDING SHOWN ON 3/S400 SINCE THEY ARE 8'-0" MAXIMUM IN HEIGHT AND ARTWORK CONSISTS OF MINOR WELDS CONFORMING TO ITEMS 2 AND 7, CITY OF SAN DIEGO DSD TECHNICAL BULLETIN BLDG-17-4 DATED 4-2019.

PATTERSON ENGINEERING INC.
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SUITE 201
SAN DIEGO, CA 92103
P: (858) 605-0937
www.pattersoneng.com

CURTIS KELEM PATTERSON — SE 5629 — STRUCTURAL — STATE OF CALIFORNIA — REGISTERED PROFESSIONAL ENGINEER

HIDDEN TRAILS ARTWORK

PARSONS LANDING
SAN DIEGO, CA 92154
PROJECT #:23100122

DESIGNER / ARCHITECT

TREVOR AMERY
ARTIST

REVISIONS

REV	REVISION	DATE
△	PCC	3/20/24
△		
△		
△		
△		
△		

DRAWING STATUS

- ☐ PRELIMINARY (NOT FOR CONST)
- ✕ PLAN CHECK
- ☐ CONSTRUCTION DOCUMENTS
- ☐ OTHER:

CONTENT

TYPICAL STRUCTURAL NOTES

DRAWN BY: CR
CHECKED BY: BF/LB
DATE: 03/08/24

SHEET

S100

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LEGEND	
REFER AREAS IN SCOPE	

PROJECT SCOPE:

THIS PROJECT CONSISTS OF FOUR SEPARATE SCULPTURAL ART INSTALLATIONS IN A NEW PUBLIC PARK, DEVELOPED UNDER SEPARATE PERMIT. MATERIALS INCLUDE STONE, STEEL, ACRYLIC, WIRE MESH AND PLASTER.

REFER TO THE PARK PLANS FOR ALL PROPERTY LINES AND DIMENSIONS, EASEMENTS, LANDSCAPE MATERIALS AND STRUCTURES, POWER AND LIGHTING, ACCESSIBILITY, STORMWATER MANAGEMENT, AND OTHER CODE AND CONSTRUCTION PROVISIONS.

ART FABRICATION WILL BE OFFSITE BY THE ARTIST, AND INSTALLED ON SITE BY THE GENERAL CONTRACTOR OF THE PARK DEVELOPMENT.

ARTWORK SUPPORT DETAILS ARE TO SHOW INSTALLATION COMPLIANCE WITH CODE LOADS FOR SOIL BEARING, WIND, SEISMIC, AND INTERACTION WITH THE GENERAL PUBLIC INCLUDING WEIGHT BEARING, WITHOUT TIPPING OR COLLAPSE.

SCULPTURES ARE NOT DESIGNED TO BE RESISTANT TO OR REMAIN SAFE UNDER INTENTIONAL ACTS OF VANDALISM. REGULAR CONDITION ASSESSMENT AND MAINTENANCE IS REQUIRED FOR PUBLIC SAFETY AND IS THE RESPONSIBILITY OF THE PARK AUTHORITIES.

S300 KEY PLAN

1/32" = 1'-0"

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS MUST BE VERIFIED WITH THE ARCH. PLANS.

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REGISTERED PROFESSIONAL ENGINEER
CURTIS KALEM PATTERSON
SE 5629
STRUCTURAL
STATE OF CALIFORNIA

HIDDEN TRAILS ARTWORK

PARSONS LANDING
SAN DIEGO, CA 92154
PROJECT #:23100122

DESIGNER / ARCHITECT

TREVOR AMERY
ARTIST

REVISIONS

REV	REVISION	DATE
	PCC	3/20/24

DRAWING STATUS

- ☐ PRELIMINARY (NOT FOR CONST)
- ☒ PLAN CHECK
- ☐ CONSTRUCTION DOCUMENTS
- ☐ OTHER:

CONTENT

KEY PLAN

DRAWN BY: CR
CHECKED BY: BF/LB
DATE: 03/08/24

SHEET

S300

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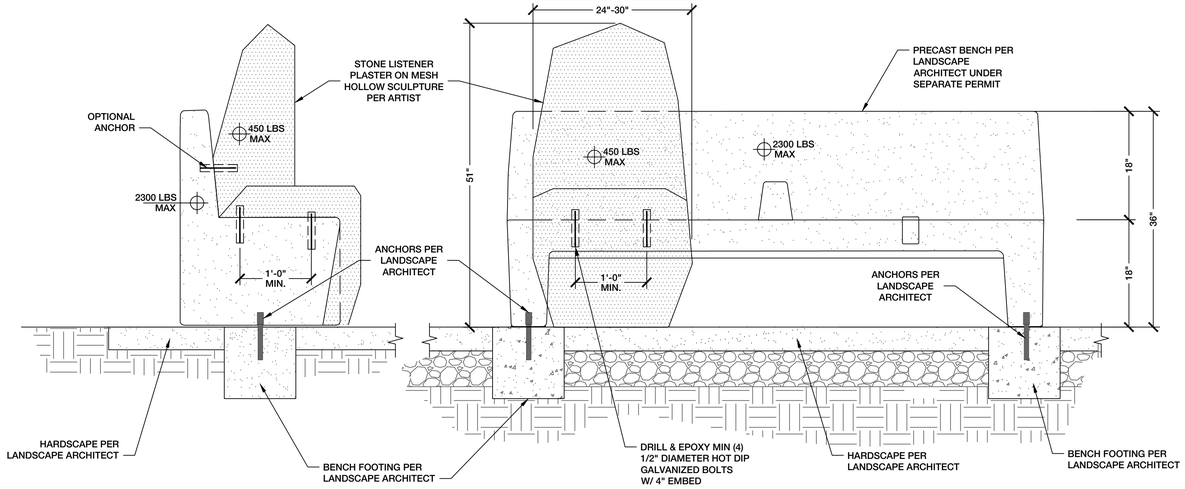

LISTENER DETAIL 4
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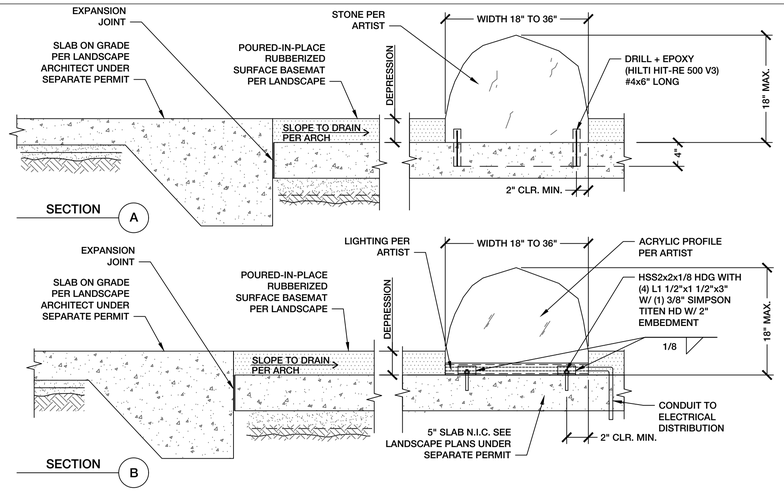

LAVA FIELD STONES DETAIL 1
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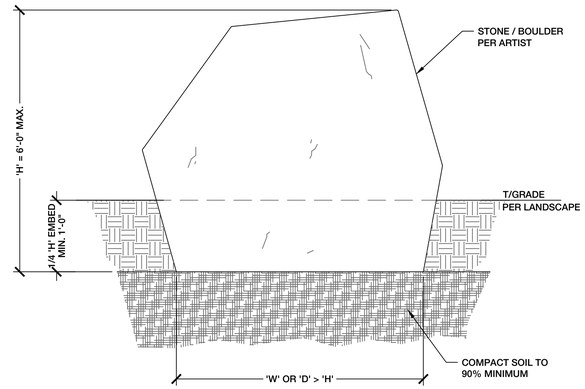

STONE LIBRARY DETAIL 2
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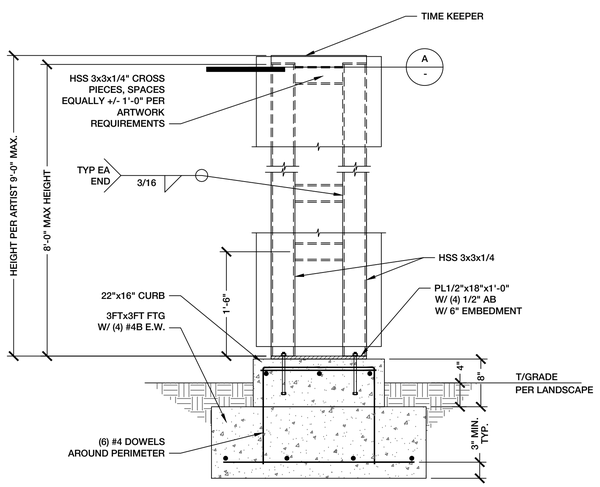

TIME KEEPER DETAIL 3
1"=1'-0"

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ARTIST

REVISIONS

REV	REVISION	DATE
	PCC	3/20/24

DRAWING STATUS

- ☐ PRELIMINARY (NOT FOR CONST)
- ☒ PLAN CHECK
- ☐ CONSTRUCTION DOCUMENTS
- ☐ OTHER:

CONTENT

FOUNDATION DETAILS

DRAWN BY: CR
CHECKED BY: BF/LB
DATE: 03/08/24

SHEET

S400

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APPENDIX K

SAMPLE CONTRACTOR PERFORMANCE EVALUATION FORM

CITY OF SAN DIEGO
CONTRACTOR PERFORMANCE EVALUATION (CPE) FORM

Date:_____

☐ **INTERIM EVALUATION:** at _____% of a _____ ☐ Working Day ☐ Calendar Day
☐ **FINAL EVALUATION:** Submitted at completion of a _____ ☐ Working Day ☐ Calendar Day

TITLE OF CONTRACT: Title of Contract

CONTRACT AMOUNT (ORIGINAL/FINAL) _____/_____

FIRM NAME: Contractor Firm Name

FIRM ADDRESS: _____

CONTRACTOR REPRESENTATIVE'S NAME: _____

CONTRACTOR SUPERINTENDENT'S NAME: _____

CONTRACTOR FOREMAN'S NAME: _____

WBS #: **BID #:**

TYPE OF WORK (CHECK ALL THAT APPLY):

TREATMENT PLANT	☐	PUMP STATION	☐	SEWER MAIN	☐	STORM DRAIN	☐
WATER MAIN	☐	FLOOD CONTROL	☐	ENVTL. MITIGATION	☐	BRIDGE	☐
STREETS/HIGHWAYS	☐	TRAFFIC SIGNAL	☐	STREET LIGHTS	☐	PARK	☐
BUILDING [specify]	☐	PIPING SYSTEM	☐	OTHER (SPECIFY)	☐	____	

CPE are one of the tools the City uses to determine if a contractor has the quality, fitness, and capacity to perform proposed work satisfactorily and is, therefore, a responsible contractor. *See* San Diego Municipal Code sections 22.3003 and 22.3004. This evaluation represents the observations and conclusions of the City of San Diego, prepared by City staff in the course of their official duties. The Contractor may agree with or dispute the contents and conclusions of this evaluation. Anyone not affiliated with the City of San Diego should conduct his/her investigation to confirm or dispel the conclusions expressed herein.

Notes:
- **The Contractor will be allowed (60) calendar days after notice of the final performance evaluation pursuant to SDMC 22.0806 to protest this evaluation in writing; otherwise, the City will deem the evaluation accepted by the Contractor.**
- **Refer to the end of the form for definitions used in this evaluation.**

SAMPLE

1. Contract Administration

The Contractor's overall rating for Section 1 is (check one):

☐ Outstanding ☐ Above Satisfactory ☐ Satisfactory ☐ Needs Improvement ☐ Unsatisfactory

2. Compliance with Contract Documents

SAMPLE

The Contractor's overall rating for Section 2 is (check one):

☐ Outstanding ☐ Above Satisfactory ☐ Satisfactory ☐ Needs Improvement ☐ Unsatisfactory

3. Construction Workmanship

The Contractor's overall rating for Section 3 is (check one):

☐ Outstanding ☐ Above Satisfactory ☐ Satisfactory ☐ Needs Improvement ☐ Unsatisfactory

4. Safety

The Contractor's overall rating for Section 4 is (check one):

☐ Outstanding ☐ Above Satisfactory ☐ Satisfactory ☐ Needs Improvement ☐ Unsatisfactory

SAMPLE

5. Storm Water / BMP Compliance

The Contractor's overall rating for Section 5 is (check one):

☐ Outstanding ☐ Above Satisfactory ☐ Satisfactory ☐ Needs Improvement ☐ Unsatisfactory

6. Cooperation, Professionalism, Communication & Public Outreach

SAMPLE

The Contractor's overall rating for Section 6 is (check one):

☐ Outstanding ☐ Above Satisfactory ☐ Satisfactory ☐ Needs Improvement ☐ Unsatisfactory

7. Subcontracting Performance and Management

The Contractor's overall rating for Section 7 is (check one):

☐ Outstanding ☐ Above Satisfactory ☐ Satisfactory ☐ Needs Improvement ☐ Unsatisfactory

OVERALL EVALUATION

THE OVERALL EVALUATION IS DERIVED FROM THE HOLISTIC REVIEW OF THE SEVEN FACTORS ABOVE.

The Contractor's overall rating (check one):

☐ Outstanding ☐ Above Satisfactory ☐ Satisfactory ☐ Needs Improvement ☐ Unsatisfactory

OVERALL SUMMARY:

SAMPLE

RESIDENT ENGINEER

SUPERVISOR

By:

(signature / date)

(signature / date)

(print name)

(print name)

Section Head's Initial_____

Asst. Deputy Director's Initials_____

ADD:

Date:_____

cc:

- Contractor
- Program Coordinator, Engineering & Capital Projects/Contracting Group, Pre-qualification Program
- Director, Purchasing & Contracting
- Deputy Director, Purchasing & Contracting
- eFile CityHub/SDShare

SAMPLE

Definitions:

1. **Performance Areas -** These include the Contractor's record of conforming to the requirements and standards of *Contract Administration*, *Compliance with Contract Documents*, *Construction Workmanship*, *Safety*, *Stormwater Best Management Practices*, *Cooperation, Professionalism*, *Communication* and *Public Outreach*, and *Subcontracting Performance and Management*.

   Here are definitions for the specified terms within the context of contractor performance areas:

   - *Contract Administration*: Managing all aspects of a construction contract to ensure compliance with its terms and conditions. This includes handling project documentation, managing changes or modifications, e.g., requests for changes, processing payments, monitoring timelines, requests for information, submittals, resolving disputes, and ensuring all parties fulfill their contractual obligations.
   - *Compliance with Contract Documents:* Adherence to the plans, specifications, and other legally binding documents that outline the scope of work, quality standards, and technical requirements. This involves ensuring all construction activities align with approved designs, materials, and regulations specified in the contract.
   - *Construction Workmanship:* The quality and standard of the physical work performed on the project. It reflects the Contractor's ability to deliver durable, precise, and code-compliant construction through skilled labor and proper techniques specified in the contract.
   - *Safety:* Implementing and maintaining measures to protect workers, site visitors, and the public from hazards. This includes compliance with Occupational Safety and Health Administration standards, site-specific safety plans, and accident prevention strategies throughout the project lifecycle.
   - *Stormwater Best Management Practices (BMPs):* Techniques and measures used to control and reduce the impact of stormwater runoff during and after construction. This includes erosion control, sediment barriers, proper waste management, and other strategies to minimize pollution and protect water quality in compliance with environmental regulations.
   - *Cooperation:* The Contractor's ability to work collaboratively and effectively with the City, subcontractors, government agencies, and other stakeholders. This involves being responsive and adaptable and maintaining a solution-oriented approach to project challenges.
   - *Professionalism:* Demonstrating ethical conduct, integrity, and respect in all aspects of the Contractor's work. It includes maintaining a positive work environment, adhering to industry standards, and fostering trust through reliable and responsible business practices.
   - *Communication and Public Outreach:* Providing clear, timely, and accurate information to stakeholders and the public as specified in the Contract Documents. This involves regular project updates, responding to concerns, and maintaining transparency to build positive community relations and ensure all parties remain informed.
   - *Subcontracting Performance and Management:* The contractor's ability to select, oversee, and coordinate Subcontractors to ensure their work meets quality standards, deadlines, and compliance requirements. Effective management includes monitoring performance, enforcing contractual terms, and resolving issues to maintain project continuity.

   The above criteria are not equally weighted. For example, though the Contractor may receive an outstanding rating for Contract Administration, Cooperation, Professionalism and/or Communication, the frequent lapses in safety on the job site or disregard for stormwater compliance resulting in serious injury or damages on site justify the Contractor receiving an overall unsatisfactory rating. Therefore, in the context of the Contractor performance ratings, the definitions can be adjusted to focus more on the quality of the Work, timeliness, and adherence to safety standards than other areas.

2. **Performance Rating -** See below for a breakdown of the Contractor's performance rating definitions. These definitions provide a set of expectations across multiple areas of the Contractor's performance, ensuring the Contractor is evaluated holistically on various critical aspects of contract execution.

   a) Outstanding:

   - Contract Administration: Consistently submits all required documentation on time and maintains proper documentation. Fully adheres to the contract's terms and proactively resolves any issues.
   - Compliance with Contract Documents: Demonstrates full understanding of and strict adherence to Contract Documents. Any changes or deviations are well-communicated and documented.
   - Construction Workmanship: The quality of the Work consistently exceeds expectations, with few to no defects, attention to detail, and thorough craftsmanship.

SAMPLE

- Safety: Safety is a top priority, with zero safety incidents, proactive safety training, and implementing additional safety measures beyond required.
- Storm Water Best Management Practices: Consistently implements and exceeds all environmental guidelines for stormwater management and addresses issues before they arise.
- Cooperation: Fully cooperative with all stakeholders, including the client, Subcontractors, and suppliers, with a strong emphasis on team collaboration and problem-solving.
- Professionalism: Maintains the highest standards of conduct, integrity, and respect in all dealings with stakeholders and regulatory agencies.
- Communication and Public Outreach: Regularly updates stakeholders, responds promptly to concerns, and engages with the public in a respectful and transparent manner. Issues are resolved proactively.
- Subcontracting Performance and Management: Subcontractors are managed effectively, adhering to contract terms and producing high-quality work. Coordination between Subcontractors is seamless.

b) Above Satisfactory:

- Contract Administration: Completes necessary documentation with minimal errors and on time. Any issues or changes are addressed promptly.
- Compliance with Contract Documents: Follows Contract Documents well, with only minor discrepancies or deviations that are communicated and resolved.
- Construction Workmanship: Work quality is generally excellent, with a few minor issues or areas for improvement that are promptly corrected.
- Safety: Strong safety record, with minor issues addressed quickly. Safety practices generally meet or exceed expectations.
- Stormwater Best Management Practices: Stormwater management practices are followed effectively, with few issues. Implements best practices and corrects problems when they arise.
- Cooperation: Works well with all parties, addressing issues with minimal conflict. Collaboration is generally smooth.
- Professionalism: Maintains a professional demeanor, resolving conflicts appropriately, and adhering to industry standards.
- Communication and Public Outreach: Communication is proactive and responsive, with timely updates to stakeholders and the public. Public outreach is effective but could be more frequent.
- Subcontracting Performance and Management: Subcontractors are effectively managed, but minor coordination issues may arise. Work is generally on time and meets the standards.

c) Satisfactory:

- Contract Administration: Documentation is completed as required, with occasional delays or missing information. Issues are resolved, but reminders may be required.
- Compliance with Contract Documents: Generally, complies with contract documents, with occasional deviations addressed upon discovery but may result in delays or minor issues.
- Construction Workmanship: Meets the minimum expected quality, with some defects or areas that could be improved. Issues are typically addressed once raised.
- Safety: Safety protocols are followed, though there may be occasional minor incidents or near-misses. The overall safety record is acceptable but not exemplary.
- Stormwater Best Management Practices: Meets basic requirements for stormwater management but may not always go above and beyond to exceed environmental standards.
- Cooperation: Cooperation with others is generally acceptable but may not be proactive. Occasionally requires intervention to resolve conflicts or issues.

SAMPLE

- Professionalism: Conducts business professionally, though there may be occasional lapses in communication or judgment.
- Communication and Public Outreach: Provides regular updates but may not always engage proactively with stakeholders or the public. Responses are typically timely but occasionally delayed.
- Subcontracting Performance and Management: Subcontractors are managed adequately, though there may be some delays or quality issues. Coordination could be improved.

d) Needs Improvement:

- Contract Administration: Frequently submits documentation late or incomplete. Requires frequent reminders to stay on track with contract requirements.
- Compliance with Contract Documents: Regularly deviates from contract documents or fails to follow specifications. Changes or deviations are not always communicated effectively.
- Construction Workmanship: Work quality does not consistently meet the minimum standards. There are frequent defects or the need for rework.
- Safety: Safety violations occur, or safety protocols are inconsistently followed. There are notable safety incidents or risks that need to be addressed.
- Stormwater Best Management Practices: Fails to comply consistently with stormwater management practices, leading to potential environmental concerns or violations.
- Cooperation: Struggles to cooperate with others, leading to frequent conflicts, delays, or miscommunications.
- Professionalism: Displays unprofessional behavior, including poor communication, lack of respect for other stakeholders, or failure to resolve conflicts properly.
- Communication and Public Outreach: Communication is often reactive rather than proactive, failing to inform stakeholders or the public promptly or transparently.
- Subcontracting Performance and Management: Subcontractors are not properly managed, leading to frequent delays, quality issues, or resource mismanagement.

e) Unsatisfactory:

- Contract Administration: Consistently fails to submit required documentation, and there are significant discrepancies or ongoing issues with contract compliance.
- Compliance with Contract Documents: Major deviations from contract documents are frequent and unaddressed. The Contractor fails to follow essential specifications or standards.
- Construction Workmanship: The quality of the Work is consistently poor, with widespread defects and the need for significant rework. It is below industry standards.
- Safety: Serious safety violations or significant incidents affecting worker safety or project progress. Safety regulations are often ignored or not implemented.
- Stormwater Best Management Practices: Failure to implement or adhere to environmental best practices leads to violations or significant environmental impacts.
- Cooperation: Exhibits a lack of cooperation, leading to frequent conflicts with stakeholders, delays, and disruptions in project progress.
- Professionalism: Consistently unprofessional behavior, lack of integrity, failure to meet basic expectations for respect and conduct.
- Communication and Public Outreach: Poor or nonexistent communication, leaving stakeholders or the public uninformed. Issues are ignored or not addressed on time.
- Subcontracting Performance and Management: Subcontractors are poorly managed, leading to significant delays, quality issues, or violations of contract terms. Coordination and oversight are lacking.

SAMPLE

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 **FEC Future Contractors and Engineers, Inc.**, herein called "Contractor" for construction of **Hidden Trails Neighborhood Park**; Bid No. **K-25-2389-DBB-3;** in the total amount of **Eight Million Six Hundred Eighty Five Thousand Dollars and Zero Cents ($8,685,000.00)**.

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 **Hidden Trails Neighborhood Park**, on file in the office of the Purchasing & Contracting Department as Document No. **S-00995**, 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 manner **Hidden Trails Neighborhood Park**, Bid Number **K-25-2389-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.

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: Samér Arabikatbi

Title: President

Date: 6/23/2025

City of San Diego License No.: B2025008918

State Contractor's License No.: 959988

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000624119

THE CITY OF SAN DIEGO

By: _____

Print Name: Berric Dorgrino
Deputy Director
Purchasing & Contracting Department

Date: 8/27/2025

APPROVED AS TO FORM

Heather Ferbert, City Attorney

By: _____

Print Name: Dana Fairchild
Deputy City Attorney

Date: 9/8/2025

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

TABLE OF CONTENTS

Page

ARTICLE 1 – RECITALS 1
ARTICLE 2 - DEFINITIONS 3
ARTICLE 3 - SCOPE OF THE PLA 6
ARTICLE 4 – UNION RECOGNITION AND EMPLOYMENT 10
ARTICLE 5 - UNION ACCESS AND STEWARDS 17
ARTICLE 6 - WAGES AND BENEFITS 18
ARTICLE 7 - WORK STOPPAGE AND LOCKOUTS 20
ARTICLE 8 – WORK ASSIGMENTS AN DJURISDICTIONAL DISPUTES 26
ARTICLE 9 - MANAGEMENT RIGHTS 26
ARTICLE 10 – SETTLEMENT OF GRIEVANCES AND DISPUTES 29
ARTICLE 11 - COMPLIANCE 31
ARTICLE 12 – SAFETY AND PROTECTION OF PERSON AND PROPERTY 32
ARTICLE 13 - TRAVEL AND SUBSISTENCE 32
ARTICLE 14 - APPRENTICES 33
ARTICLE 15 – LEGAL ACTION 34
ARTICLE 16 - PRE-JOB CONFERENCE 34
ARTICLE 17 - LABOR/MANAGEMENT COLLABORATION 35
ARTICLE 18 - SAVINGS AND SEPARABILITY 35
ARTICLE 19 - WAIVER 36
ARTICLE 20 - AMENDMENTS 36
ARTICLE 21 - EFFECTIVENESS OF THE PLA 36
ARTICLE 22 – WORK OPPORTUNITIES PROGRAM 38
ARTICLE 23 - HELMETS TO HARDHATS 40
ATTACHMENT A – CONSTRUCTION PROJECTS NOT PROCURED BY THE CITY
ATTACHMENT B – LETTER OF ASSENT
ATTACHMENT C-1 – WORKFORCE DISPATCH REQUEST FORM
ATTACHMENT C-2 – CONTRACTOR CORE WORKFORCE FORM
ATTACHMENT D – DRUG AND ALCOHOL TESTING POLICY
ATTACHMENT E – CITY COUNCIL POLICY NO. 100-17 "DRUG-FREE WORKPLACE/CITY CONTRACTORS"
APPENDIX A – MEMORANDUM OF UNDERSTANDING #1 STARTUP AND COMMISSIONING

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 Worplace/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: Christina L Rae 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
70D82C690EED49C...

Name: Carol Kim

Title: Business Manager

Dated: June 25, 2024

SIGNATORY UNIONS
(See Attached)

SIGNATORY UNIONS

By: DocuSigned by: Michael Patterson
Allied Workers Local 5

By: DocuSigned by: Luis Miramontes
Boilermakers Local 92

By: DocuSigned by: Chris Brisson
Bricklayer & Allied Crafts Local 4

By: DocuSigned by: Jack Alvarado
Cement Masons Local 500 / Area 744

By: DocuSigned by:
Electrical Workers Local 569

By: DocuSigned by:
Elevator Constructors Local 18

By: DocuSigned by: Ernesto Toscano
Painters & Allied Trades District Council 36

By: DocuSigned by: Beau Coleman
Iron Workers Local 229

By:
Laborers Local 89

By: DocuSigned by: Christian Betancourt
Plasterers Local 200

By: DocuSigned by: Jose Sanchez
Plaster Tenders Local 1414

By:
Operating Engineers Local 12

By: DocuSigned by: Steve Beringer
Plumbers & Pipefitters Local 230

By:
Operating Engineers Local 12

By: DocuSigned by: Paul Colmenero
Roofers & Waterproofers Local 45

By:
Operating Engineers Local 12

By: DocuSigned by:
Laborers Local 1184

By: DocuSigned by: Dave Gauthier
Sheet Metal Workers' Local 206

By: DocuSigned by: Ed Leam
Laborers Local 345

By: DocuSigned by: Jose Estrada
Teamsters Local 166

By: DocuSigned by: Ricardo Perez
UA Local 345

By: DocuSigned by: SERGIO RASCON
Laborers Local 300

By: DocuSigned by: Todd Barry on behalf of B.M. Robert Cooper
Road Sprinkler Fitters Local 669

By: DocuSigned by: Jr Jon Preciado
Southern California District Council of Laborers

By: DocuSigned by: Doug Hick
Southwest Regional Council of Carpenters

By DocuSigned by: Victor Torres
Teamsters Local 481

SIGNATORY UNIONS

By: DocuSigned by: Michael Patterson
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Boilermakers Local 92

By: DocuSigned by: Chris Brisson
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By:
Elevator Constructors Local 18

By:
Painters & Allied Trades District Council 36

By: DocuSigned by: Beau Coleman
Iron Workers Local 229

By: Valentine R. Macedo
Laborers Local 89

By: DocuSigned by: Christian Betancourt
Plasterers Local 200

By: DocuSigned by: Jose Sanchez
Plaster Tenders Local 1414

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Road Sprinkler Fitters Local 669

By: DocuSigned by: Jon Preciado Jr
Southern California District Council of Laborers

By:
Southwest Regional Council of Carpenters

By: DocuSigned by: Victor Torres
Teamsters Local 481

SIGNATORY UNIONS

By: _____
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By: _____
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By: _____
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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.

FEC | Inc.
FUTURE CONTRACTORS & ENGINEERS, INC.

ATTACHMENT B – LETTER OF ASSENT

To be signed by all Contractors awarded work covered by the Project Labor Agreement prior to commencing work.

June 11, 2025

VIA EMAIL: CityofSDPLA@sandiego.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 **FEC Future Contractors and Engineers, 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-25-2389-DBB-3; Hidden Trails Neighborhood Park**, 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,
FEC Future Contractors and Engineers, Inc.

By:
Sam Katbi,
President

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.

CONTRACTOR USE ONLY

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
	☐ JM ☐APP	*	
	☐ JM ☐APP	*	
	☐ JM ☐APP	*	
	☐ JM ☐APP	*	
	☐ JM ☐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:			

UNION USE ONLY

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
	☐ JM ☒ APP	☐ Yes ☐ No	☐ Yes ☐ No	
	☐ JM ☐ APP	☐ Yes ☐ No	☐ Yes ☒ No	
	☐ JM ☐ APP	☐ Yes ☐ No	☐ Yes ☐ No	
	☐ JM ☐ APP	☐ Yes ☐ No	☐ Yes ☐ No	
	☐ JM ☐ APP	☐ Yes ☐ No	☐ Yes ☐ No	
	☐ JM ☐ APP	☐ Yes ☐ No	☐ Yes ☐ 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.

CONTRACTOR INFORMATION			
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:

a. Be either a journeyperson or Apprentice;
b. 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
c. 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)(l) 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-tetrahydrocannabinoJ-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:

Hidden Trails Neighborhood Park
(Project Title)

as particularly described in said contract and identified as Bid No. **K-25-2389-DBB-3**; SAP No. (WBS) **S-00995**; 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

COMPANY LETTERHEAD

CERTIFICATE OF COMPLIANCE

Materials and Workmanship Compliance

For Contract or Task_____

I certify that the material listed below complies with the materials and workmanship requirements of the Caltrans Contract Plans, Special Provisions, Standard Specifications, and Standard Plans for the contract listed above.

I also certify that I am an official representative for_____, the manufacturer of the material listed above. Furthermore, I certify that where California test methods, physical or chemical test requirements are part of the specifications, that the manufacturer has performed the necessary quality control to substantiate this certification.

Material Description:

Manufacturer: _____

Model:_____

Serial Number (if applicable)_____

Quantity to be supplied:_____

Remarks:_____

Signed by: _____

Printed Name:_____

Title: _____

Company: _____

Date: _____

SAMPLE

City of San Diego

Engineering & Capital Projects Department, CMFE Division

NOTICE OF MATERIALS TO BE USED

To:_____ Date: _____, 20____
Resident Engineer

You are hereby notified that the materials required for use under Contract No. _____ for construction of _____
_____,

in the City of San Diego, will be obtained from sources herein designated.

CONTRACT ITEM NO. **(Bid Item)**	**KIND OF MATERIAL** **(Category)**	**NAME AND ADDRESS WHERE MATERIAL CAN BE INSPECTED** **(At Source)**

It is requested that you arrange for a sampling, testing, and inspection of the materials prior to delivery, in accordance with Section 4 – CONTROL OF MATERIALS of the WHITEBOOK, where it is practicable, and in accordance with your policy. It is understood that source inspection does not relieve the Contractor of full responsibility for incorporating in the work, materials that comply in all respects with the contract plans and specifications, nor does it preclude subsequent rejection of materials found to be undesirable or unsuitable.

Distribution:

Supplier

_____ _____
Signature of Supplier Address

SAMPLE

JOBS COORDINATOR DESIGNATION FORM

JOBS COORDINATOR. A Jobs Coordinator is an independent third-party individual, entity or employee with whom the Prime Contractor contracts with or employs to assist with: achieving and exceeding the Local Worker goals set forth in the PLA, Article 4, Section 4.5; fulfilling the Work Opportunities Program as set forth in Article 22; and 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 Covered Project or each time it is assigned a Task Order that is considered a Covered Project.

List the applicable Jobs Coordinator information below.

Legal Name and Full Street Address of Jobs Coordinator Firm (or list Prime Contractor if self-performing)	Name of Individual Acting as Jobs Coordinator	Phone number of Jobs Coordinator	Email address of Jobs Coordinator
TransCal Services, LLC 6109 South Western Avenue, Suite 103 Los Angeles, CA 90047	Jeffery Henderson	(818) 419-2581	jhenderson@transcalservices.com

Bidder Signature: _____ Dated: 6/23/25

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 the County of San Diego by describing previous interactions, relationships, and partnerships with these parties/groups.

C. Demonstrate experience with Targeted and/or Veteran Worker populations.

D. Experience working with services of the Center for Military Recruitment, Assessment and Veterans Employment and "Helmets to Hardhats" programs.

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. Distribute the City of San Diego Targeted Worker Survey Form.

    a. Screen 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 goals.

K. Work closely with the City, the building trades, and all contractors in achieving and/or exceeding the Local Worker goal and voluntary Targeted Worker participation.

JOBS COORDINATOR DELIVERABLES. The Prime Contractor may require the selected Jobs Coordinator to provide, on a monthly basis, an update of Jobs Coordinator activities via email, including but not limited to:

A. Number of Local, Targeted and/or Veteran Worker placements made.

B. Contractor availability for sponsoring new Local, Targeted and/or Veteran Workers.

C. Spotlight photos and interviews with Local, Targeted and/or Veteran Workers.

D. Activities that have been completed to achieve the Local Worker goal and voluntary Targeted Worker participation.

E. Identification of any workers who meet the Local, Targeted and/or Veteran status that are available for placement.

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. **MANDATORY DISCLOSURE OF BUSINESS INTERESTS FORM**

D. **DEBARMENT AND SUSPENSION CERTIFICATION FOR PRIME CONTRACTOR**

E. **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 FEC Future Contractors and Engineers, Inc. as Principal, and Euler Hermes North America 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

Hidden Trails Neighborhood Park, K-25-2389-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 20th day of May, 20 25

FEC Future Contractors and Engineers, Inc. (SEAL)
(Principal)

By: _____
(Signature)

Euler Hermes North America Insurance Company (SEAL)
(Surety)

By: _____
(Signature) My Hua, Attorney-in-Fact

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

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 Orange)

On MAY 20 2025 (DATE) before me, Kathy R. Mair, Notary Public ([Name of Notary Public and Title "Notary Public"]),

personally appeared My Hua ([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.

KATHY R. MAIR
Notary Public - California
Orange County
Commission # 2355508
My Comm. Expires May 22, 2025

Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended 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: My Hua

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

Signer Is Representing: _____

Signer's Name: _____

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

Signer is Representing: _____

Allianz

Allianz Trade

13632

EULER HERMES NORTH AMERICA INSURANCE COMPANY
800 Red Brook Boulevard * Owings Mills, Maryland 21117

The number of persons authorized by this Power of Attorney is not more than: 3

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That EULER HERMES NORTH AMERICA INSURANCE COMPANY (EULER HERMES), a corporation organized and existing under the laws of the state of Maryland, does hereby nominate, constitute, and appoint the person or persons named below, each individually if more than one is named, its true and lawful attorney-in-fact, for and in its name, place, and stead to execute on behalf of EULER HERMES, as surety, any and all bonds, undertakings, and contracts of suretyship, or other written obligations in the nature thereof; provided that the liability of EULER HERMES on any such bond, undertaking, or contract of suretyship executed under this authority shall not exceed the limit stated below.

NAME	ADDRESS	LIMIT OF POWER
My Hua Kathy R. Mair Mechelle Larkin	17901 Von Karman Avenue, Suite 1100 Irvine, CA 92614	Unlimited

This Power of Attorney revokes all previous powers issued on behalf of the attorney(s)-in-fact named above.

IN WITNESS WHEREOF, EULER HERMES has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunder affixed this 1st day of November, 20 22.

Euler Hermes North America Insurance Company CORPORATE SEAL 2003 MARYLAND

James Daly, President and CEO-The Americas

Nicholas P. Verna II, Senior Vice President and Regional Head of Surety and Guarantee, Americas

State of Maryland, County of Baltimore

On this 1st day of November, 20 22, before me personally appeared Nicholas P. Verna II, to me known, being duly sworn, deposes and says that he resides in Southeastern, PA; that he is Senior Vice President and Regional Head of Surety and Guarantee, Americas of Euler Hermes North America Insurance Company, the Company described herein and which executed the above instrument; that he know the seal of EULER HERMES; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of EULER HERMES; and that he signed his name thereto by like authority.

MORGAN A YANKOSKY NOTARY PUBLIC COMMISSION EXPIRES

Notary Public

Notarial Seal

This Commission Expires February 2, 2026

This Power of Attorney is granted by authority of the following resolutions adopted by the Board of Directors of EULER HERMES NORTH AMERICA INSURANCE COMPANY (Company) by unanimous consent on October 1, 2015.

RESOLVED: That the President, Executive Vice President, Senior Vice President, Vice President, Secretary, and Assistant Vice Secretary, be and hereby are authorized from time to time to appoint one or more Attorneys-in-Fact to execute on behalf of the company, as surety, and any and all bonds, undertakings and contracts of suretyship, or other written obligation in the nature thereof; to proscribe their respective duties and all respective limits of their authority; and to revoke any such appointment at any time.

RESOLVED FURTHER: That the Company seal and signature of the aforesaid officers and may be affixed by facsimile to any Power of Attorney given for the execution of any bond, undertaking, contract of suretyship, or other written obligations in the nature thereof, such signature and seal when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as thought manually affixed.

CERTIFICATION

I, Nicholas P. Verna II, Senior Vice President and Regional Head of Surety & Guarantee, Americas of EULER HERMES NORTH AMERICA INSURANCE COMPANY, do hereby certify that the foregoing Power of Attorney and the Resolutions of the Board of Directors of October 1, 2015, have not been revoked and are now in full force and effect.

Signed and sealed this 29 day of MAY 2025, 20_____.

Euler Hermes North America Insurance Company CORPORATE SEAL 2003 MARYLAND

Nicholas P. Verna II, Senior Vice President and Regional Head of Surety and Guarantee, Americas

Euler Hermes North America Insurance Company and its affiliated debt collection company are part of the Allianz group and market their products and services using the 'Allianz Trade' trademark.

CALIFORNIA CERTIFICATE OF ACKNOWLEDGMENT

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 Orange)

On 05-22- before me, Haytham Sweidan Notary Public,
(here insert name and title of the officer)

personally appeared Samer Arabiyatbi

,

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.

HAYTHAM SWEIDAN
COMM. #2508902
Notary Public - California
Orange County
My Comm. Expires Jan. 7, 2029

Signature: H Sweidan

(Seal)

Optional Information

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of Bid Bond

,

containing _____ pages, and dated _____.

The signer(s) capacity or authority is/are as:

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

representing: _____ Name(s) of Person(s) or Entity(ies) Signer is Representing

.

Additional Information

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:
○ form(s) of identification ○ credible witness(es)

Notarial event is detailed in notary journal on:
Page # _____ Entry # _____

Notary contact: _____

Other

☐ Additional Signer(s) ☐ Signer(s) Thumbprint(s)

☐ _____

© Copyright 2007-2021 Notary Rotary, PO Box 41400, Des Moines, IA 50311-0507. All Rights Reserved. Item Number 101772. Please contact your Authorized Reseller to purchase copies of this form.

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: FEC FUTURE CONTRACTORS AND ENGINEERS, INC.

Certified By SAMER ARABIKATBI Title PRESIDENT

Name

Signature Date 05/22/2025

USE ADDITIONAL FORMS AS NECESSARY

Mandatory Disclosure of Business Interests Form

BIDDER/PROPOSER INFORMATION

Legal Name		DBA	
FEC FUTURE CONTRACTORS AND ENGINEERS, INC.			
Street Address	**City**	**State**	**Zip**
184 TECHNOLOGY DRIVE, SUITE 205	IRVINE	CA	92618
Contact Person, Title		**Phone**	**Fax**
SAMER ARABIKATBI		949-328-9758	949328-9768

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
SAMER ARABIKATBI	PRESIDENT
City and State of Residence	**Employer (if different than Bidder/Proposer)**
184 TECHNOLOGY DRIVE, SUITE 205 IRVINE, CA 92618	
Interest in the transaction	
100%	

Name	Title/Position
City and State of Residence	**Employer (if different than Bidder/Proposer)**
Interest in the transaction	

*** 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.

SAMER ARABIKATBI PRESIDENT		05/22/2025
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): *Bidders* and *contractors* who have been *debarred* or *suspended* are excluded from submitting bids, submitting responses to requests for proposal or qualifications, receiving *contract* awards, executing *contracts*, participating as a *subcontractor*, employee, agent or representative of another *person* 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
SAMER ARABIKATBI	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.

N/A

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: FEC FUTURE CONTRACTORS AND ENGINEERS, INC.

Certified By SAMER ARABIKATBI Title PRESIDENT

Name

Signature

Date 05/22/2025

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
RICK FENNIMORE	VP CLIENT DEVELOPMENT

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: SoCal Shade Sails

Certified By: Rick Fennimore Title: VP

Name

Signature Date: 5/22/25

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
CRAFTERS FENCE, INC JARRETT L YOUNG	PRESIDENT

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: CRAFTERS FENCE, INC

Certified By JARRETT L YOUNG Title PRESIDENT

Name

Jarrett L Young Date 5/22/2025

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
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

Signature Date 5/22/2025

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
Leo Nava/ Nava Landscapes Inc	President

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: Nava Landscapes Inc

Certified By Leo Nava Title President

Name

Signature Date 5/22/2025

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
ANTHONY BUESCHER	PRESIDENT

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: BUESCHER ELECTRIC INC

Certified By ANTHONY BUESCHER Title PRESIDENT

Name

Signature

Date 5/22/2025

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
LADISLAV GALA	ESTIMATOR

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

☐ SUBCONTRACTOR ☐ SUPPLIER ☐ MANUFACTURER

NAME	TITLE

Contractor Name: TYLER REINFORCING STEEL

Certified By LADISLAV GALA Title ESTIMATOR

Name Ladislav Gala

Digitally signed by Ladislav Gala
DN: C=US, E=lgala@trsincorp.com, O="Tyler Reinforcing Steel, Inc. ", CN=Ladislav Gala
Reason: I am approving this document
Date: 2025.05.22 13:30:57-07'00'

Date 5/22/2025

Signature

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 A

e - Bidding

FOR

HIDDEN TRAILS NEIGHBORHOOD PARK

BID NO.: **K-25-2389-DBB-3**
SAP NO. (WBS/IO/CC): **S-00995**
CLIENT DEPARTMENT: **1714**
COUNCIL DISTRICT: **8**
PROJECT TYPE: **GB**

BID DUE DATE:

2:00 PM
MAY 22, 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 and Registered Engineer:

Leigh Kyle	5/9/2025	Seal:
1) Registered Landscape Architect	Date	

	05/08/2025	Seal:
2) For City Engineer	Date	

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. We respectfully submit for your consideration a request to approve products as an accepted substitute on Hidden Trails Neighborhood Park.

A1. Please refer to the SUPPLEMENTARY SPECIAL PROVISIONS Section 4-6, TRADE NAMES, page 56 of the Contract Document for the timing of substitution requests. Bids shall be based on products specified in the contract documents.

Q2. We are a signage subcontractor bidding for the signage portion, and would like to request the bidders list or plan holders list.

A2. The Prospective Bidders list is displayed publicly on PlanetBids.

Q3. At the 12' high tennis court: Per SDM-119 it is noted Caution: Standard drawing is not to be used if any windscreen is to be applied to the fence. What drawing should be used? What size posts and footings?

A3. Structural details 5 and 6 on Sheet S500 have been updated. Please see Section E, item 1 of this Addendum.

Q4. Can the licensing requirements be open to B or C27 License holders, so we can pursue this work with the City of San Diego? Please, advise.

A4. A Class A license is required for this project.

Q5. We request that the self-perform requirement be dropped or lowered due to the number of specialty park items, 21.3% SLBE/ELB mandatory Participation, and the PLA in this bid.

A5. Self-performance requirements are per the contract.

Q6. Please confirm that builder's risk insurance is required.

A6. The builder's risk insurance is required.

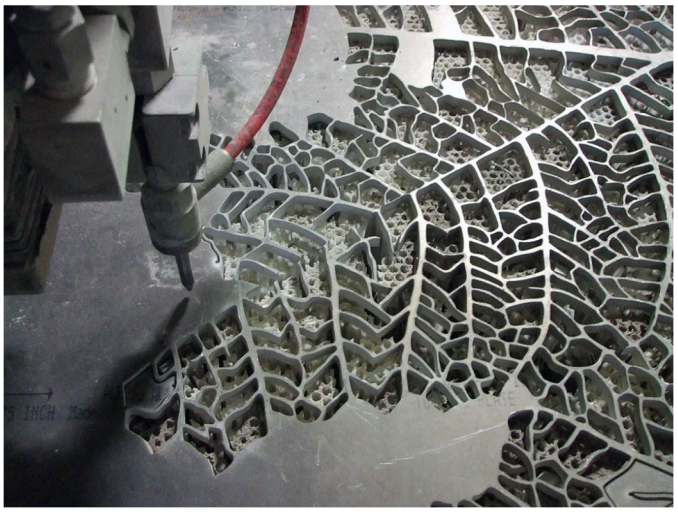
Q7. Please provide a warranty/guarantee period for this project.

A7. Please refer to the warranty section of the Contract document for the warranty/guarantee period for this project.

Q8. We are requesting that the following supplier be considered an approved equal for the shade structures and for the following reasons: SoCal Shade Sails (https://shadesails.biz/) for the structural steel fabrication, procurement & installation, and ICD Waterjet & Laser (https://www.icdwaterjetlaser.com/) for the fabrication of the laser-cut shade panels. SoCal Shade Sails will install the shade panels as well. Reasons: SoCal Shade Sails and ICD Waterjet & Laser are local to San Diego County. The warranty & product specifications will meet or exceed requirements, and lead times will decrease because all work and fabrication is performed locally.

SoCal Shade Sails

ICD Waterjet and Laser



A8. Please refer to the SUPPLEMENTARY SPECIAL PROVISIONS Section 4-6, TRADE NAMES, page 56 of the Contract Document for the timing of substitution requests. Bids shall be based on products specified in the contract documents.

C. CLARIFICATIONS

1. To Attachment E, Supplementary Special Provisions, Section 6 – PROSECUTION AND PROGRESS OF THE WORK, **subsection 6-6.1.1 – Environmental Document**, page 66, the Google Drive link below:

https://drive.google.com/drive/folders/1hQqonT7ctZWUPwYSR5-_2pJ6hbftgmP5

has been updated to include a new folder titled as Addendum A which includes the California Environmental Quality Act (CEQA) memo.

D. SUPPLEMENTARY SPECIAL PROVISIONS

1. To Attachment E, Section 3, CONTROL OF THE WORK, subsection **3-9**, **TECHNICAL STUDIES AND SUBSURFACE DATA**, page 53, **DELETE** in its entirety and **SUBSTITUTE** with the following:

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 Evaluation Hidden Trails Neighborhood Park dated August 12, 2022 by Ninyo & Moore.

b) Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP) dated January 20, 2025 by Kimley-Horn & Associates.

c) Hidden Trails Park Structural Calculations dated April 2025 by KPFF.

d) Updated Revised Second Addendum to Geotechnical Evaluation Site Retaining Walls dated April 22, 2025 by Ninyo & Moore.

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

https://drive.google.com/drive/folders/1XRgqbKZgkrB47ld2HwggzNN8VuzoZPnO?usp=sharing

E. PLANS

1. To Drawing numbers **0101036-01-D**, **0101036-02-D**, **0101036-04-D**, **0101036-18-D,** **0101036-23-D**, **0101036-41-D**, **0101036-48-D**, **0101036-50-D**, and **0101036-69-D** through **0101036-72-D**, **DELETE** in their entirety and **REPLACE** with Drawing numbers **0101036-01-D**, **0101036-02-D**, **0101036-04-D**, **0101036-18-D,** **0101036-23-D**, **0101036-41-D**, **0101036-48-D**, **0101036-50-D**, and **0101036-69-D** through **0101036-72-D.**

   Refer to the link below for PDF of the Plans:

https://drive.google.com/drive/folders/1Ih4P5DMWJOsTLtLiKPh6ELWFibL7GBQL

Rania Amen, Director
Engineering & Capital Projects Department

Dated: *May 12, 2025*
San Diego, California

RA/ED/kv/rs

Bid Results

Bidder Details

Vendor Name	FEC Future Contractors and Engineers Inc
Address	184 Technology Drive Suite 205 Irvine, California 92618 United States
Respondee	Haythem Sweidan
Respondee Title	Estimator
Phone	949-328-9758
Email	estimating@fecgc.com
Vendor Type	CADIR
License #	959988
CADIR	1000624119

Bid Detail

Bid Format	Electronic
Submitted	05/22/2025 1:56 PM (PDT)
Delivery Method	
Bid Responsive	
Bid Status	Submitted
Confirmation #	431255

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS - FEC Future Contractors and Engineers Inc.pdf	CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS - FEC Future Contractors and Engineers Inc.pdf	Contractors Certification of Pending Actions
Mandatory Disclosure of Business Interests Form - FEC Future Contractors and Engineers Inc.pdf	Mandatory Disclosure of Business Interests Form - FEC Future Contractors and Engineers Inc.pdf	Mandatory Disclosure of Business Interests
PRIME DEBARMENT AND SUSPENSION CERTIFICATION - FEC Future Contractors and Engineers Inc.pdf	PRIME DEBARMENT AND SUSPENSION CERTIFICATION - FEC Future Contractors and Engineers Inc.pdf	Prime Contractors - Debarment and Suspension Certification
SUB DEBARMENT AND SUSPENSION CERTIFICATIONP.pdf	SUB DEBARMENT AND SUSPENSION CERTIFICATIONP.pdf	Subcontractors, Suppliers & Mfgrs - Debarment and Suspension Certification
Bid Bond - FEC Future Contractors and Engineers Inc.pdf	Bid Bond - FEC Future Contractors and Engineers Inc.pdf	Bid Bond

Subcontractors

Showing 6 Subcontractors

Name & Address	Desc	License Num	CADIR	Amount	Type
Buescher Electric, Inc 157 Palm Avenue Imperial Beach, California 91932	Electrical	917219	1000006809	$817,973.00	Local
Crafters Fence, Inc 9510 Pathway Street suite B Santee, California 92071	Fencing and Gates	815320	1000014084	$187,400.00	ELBE, Local
Ferandell Tennis Courts, Inc. 3216 Grey Hawk Court Carlsbad, California 92010	Court Surfacing and Striping	603945	1000004786	$19,320.00	CADIR, ELBE, Local
Nava Landscapes Inc 484 Kensington Dr San Marcos, California 92078	Landscape	1003673	1001114682	$871,074.72	HUBZ, SDB, CADIR, MBE, LAT, MALE, SLBE, Local
SoCal Shade Sails PO Box 100 Del Mar, California 92014	Shade Sail	862901	1000368274	$502,000.00	Local
Tyler Reinforcing Steel, Inc. 8400 N Magnolia Avenue Ste D Santee, California 92071	Reinforcing Steel	1026581	1000633249	$76,490.70	Local

Line Items

Discount Terms No Discount

Item #	Item Code	Type	Item Description	UOM	QTY	Unit Price	Line Total	Response	Comment
Main Bid							$8,685,000.00		
1	524126		Bonds (Payment and Performance)	LS	1	$250,000.00	$250,000.00	Yes	
2	236220		Building Permits (EOC Type I)	AL	1	$20,000.00	$20,000.00	Yes	
3	541350		Specialty Inspection Paid For By the Contractor (EOC Type I)	AL	1	$20,000.00	$20,000.00	Yes	
4	541690		Paleontological Monitoring Program	LS	1	$35,000.00	$35,000.00	Yes	
5	238990		Construction of Hidden Trails Neighborhood Park Project as Shown on Plans and Specifications, and Coordination	LS	1	$7,200,000.00	$7,200,000.00	Yes	
6	541430		Installation and Coordination of Artwork for Hidden Trails Neighborhood Park as Shown in Appendix	LS	1	$50,000.00	$50,000.00	Yes	
7	238990		Mobilization	LS	1	$867,000.00	$867,000.00	Yes	
8			Field Orders (EOC Type II)	AL	1	$130,000.00	$130,000.00	Yes	
9	541330		Traffic Control and Working Drawings	LS	1	$20,000.00	$20,000.00	Yes	
10	238210		SDG&E Fee Allowance (EOC Type I)	AL	1	$30,000.00	$30,000.00	Yes	
11	541330		Biological Monitoring and Reporting - MBTA Nesting Survey	LS	1	$30,000.00	$30,000.00	Yes	
12	541330		SWPPP Development	LS	1	$5,000.00	$5,000.00	Yes	
13	237310		SWPPP Implementation	LS	1	$25,000.00	$25,000.00	Yes	
14	541330		SWPPP Permit Fee (EOC Type I)	AL	1	$3,000.00	$3,000.00	Yes	

Line Item Subtotals

Section Title	Line Total
Main Bid	**$8,685,000.00**
Grand Total	**$8,685,000.00**