



**REGIONAL AGENCY HEADQUARTERS FACILITY
at 390 MAIN STREET, SAN FRANCISCO:
RENOVATION & SEISMIC RETROFIT**

**PROJECT MANUAL
Divisions 00 & 01**

February 17, 2012

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*** Form must be acknowledged by a Notary**

Return ALL Contract Forms To:

**Stephen Wolf, Project Manager
Bay Area Headquarters Authority
101 Eighth Street
Oakland, California 94607-4700
Phone: (510) 817-5968
Fax: (510) 817-5848**

PLEASE NOTE:

It is not necessary to complete these forms to propose on this project. In the event Proposer is awarded the Contract, he/she shall be required to execute all Contract Forms.

SECTION 005213 – CONSTRUCTION AGREEMENT

CONTRACT FORM #1

This Agreement is entered into between the Bay Area Headquarters Authority (BAHA) and _____ ("Contractor") as of the date set out below. BAHA and Contractor agree as follows:

- 1. Scope of Work.** Contractor shall provide all labor, materials, tools, equipment and incidentals necessary to perform the work described as:

Construction of the 390 Main Street Renovation and Seismic Retrofit Project

in a satisfactory and workmanlike manner and in accordance with the provisions of the Contract Documents.

- 2. Compensation.** Full compensation to Contractor for the complete and satisfactory performance of the work under this Agreement, in strict compliance with all of the provisions of the Contract Documents, and for Contractor's payment of all obligations incurred or applicable to performance of the work, shall be the Direct Cost of the Work, plus the cost of Construction Phase Services, plus Contractor's Overhead and Profit, plus Contractor's share of the Construction Contingency, but shall not exceed the Guaranteed Maximum Price. Payment of this compensation will be made by BAHA to Contractor in accordance with the appropriate payment provisions of the Agreement.

The Guaranteed Maximum Price is \$ _____.

- 3. Contract Documents – Order of Precedence.** The following sections of the Contract Documents are incorporated by reference into this Construction Agreement:

Order of Precedence (Highest order listed first)

Contract Change Orders
Addenda
Contract Forms, including this Agreement
General Conditions
Specification Divisions 1 to 33
Project Plans
Referenced Codes and Standards
Part 1: Request for Qualifications, and Part 2: Request for Proposals
Statement of Qualifications and Proposal

These documents are essential parts of the agreement between the parties and are intended to be complementary and to describe and provide for a complete work. In the event of any discrepancy between any drawing and the dimensions written thereon, the dimensions shall

be taken as correct. Detail drawings shall prevail over general drawings. In the event of any other conflict among the documents, precedence shall be given in the order listed above.

4. **Quality of Work.** Where the plans or specifications describe portions of the work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be provided.
5. **Time of Performance.** Contractor shall commence work under the Agreement immediately upon issuance by BAHA of a Notice to Proceed and shall complete all of the work under the Agreement by the dates specified in these Specifications. The issuance of a Notice to Proceed is contingent upon Contractor's submittal of proper certificate of insurance, bonds and signed Construction Agreement. The first chargeable day under this Agreement shall be on the day to be defined in BAHA's Notice to Proceed.
6. **Entire Agreement.** This Agreement constitutes the entire agreement between BAHA and Contractor respecting the subject matter hereof. All other agreements, understandings and communications between the parties hereto are deemed to be merged into and superseded by the provisions of this Agreement. No modification or change to this Agreement shall have any force or effect unless it is in writing and expressly referred to as being a Contract Change Order to this Agreement.
7. **Responsible Conduct.** Contractor shall at all times deal in good faith and truthfully with BAHA. Contractor shall submit documentation to BAHA, including reports, claims, requests for change orders, equitable adjustment, contract modifications or requests of any kind seeking increased compensation or decreases of an obligation on this contract only in good faith and upon an honest evaluation of the underlying circumstances and an honest calculation of any amount being sought. A violation of this standard of conduct will subject the contractor to being deemed "non-responsible" and terminated from this contract, and may cause the Contractor to be ineligible for future contracts with BAHA.

IN WITNESS WHEREOF two identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by BAHA and Contractor respectively, on the dates set out below.

Bay Area Headquarters Authority

Contractor

Steve Heminger, Executive Director

Contractor's Signature

Contractor's Name (Print) and Title

Contractor's License: Number

Contractor's License: Class / Expiration Date

CONTRACT FORM #2

Bond Number: _____

SECTION 006113.10 – CONSENT OF SURETY

To be attached to and form a part of Performance and Payment Bond No. _____ in the amount of \$____ on behalf of __ as principal and executed by_____, as Surety, in favor of The Bay Area Headquarters Authority (BAHA), hereinafter called “Owner”, for the Regional Agency Headquarters Facility at 390 Main Street, San Francisco: Renovation & Seismic Retrofit.

In consideration of the mutual agreements herein contained the Principal and the Surety hereby consent to the following:

Incorporate Trade Packages and Change Orders to date.

Penal Amount of Bond Increased

From:

To:

Nothing herein contained shall vary, alter or extend any provision or condition of this bond except as herein expressly stated.

Signed, Sealed and Dated this _____ day of _____, 2012.

(Principal)

By:_____

(Surety)

By:_____

Attorney-in-fact

CONTRACT FORM #3

SECTION 006113.13 – PERFORMANCE BOND

PERFORMANCE BOND TO ACCOMPANY CONTRACT

KNOW ALL MEN BY THESE PRESENTS

THAT WHEREAS, the Bay Area Headquarters Authority (“BAHA”) has awarded to _____

_____ as Principal, hereinafter designated as the “Contractor,” a contract for the work described as follows:

AND WHEREAS, Contractor is required to furnish a bond in connection with said contract guaranteeing the faithful performance thereof;

NOW, THEREFORE, We, the undersigned Contractor and Surety, are held and firmly bound unto BAHA, in the sum of _____ dollars (\$_____), to be paid to BAHA or its certain attorney, its successors and assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the foregoing contract and any alteration thereof made, as therein provided, on his or their part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless BAHA, its officers and agents, as therein stipulated, then this obligation shall become and be null and void; otherwise, it shall be and remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____ A.D., 2012.

Contractor
Surety
Attorney in Fact

SECTION 006113.16 – PAYMENT BOND

PAYMENT BOND TO ACCOMPANY CONTRACT

KNOW ALL MEN BY THESE PRESENTS

THAT WHEREAS, the Bay Area Headquarters Authority (“BAHA”) has awarded to _____ as Principal, hereinafter designated as the "Contractor," a contract for the work described as follows:

AND WHEREAS, Contractor is required to furnish a bond in connection with said contract, to secure the payment of claims of laborers, mechanics or material suppliers employed on work under said contract as provided by law;

NOW, THEREFORE, We the undersigned Contractor and Surety are held and firmly bound unto the BAHA in the sum of _____dollars ____ (\$_____), said sum being 100% of the estimated amount payable by the said the BAHA under the terms of the contract, for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly and by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if Contractor, his or its heirs, executors, administrators, successors, assigns or subcontractors shall fail to pay any of the persons named in Section 3181 of the Civil Code, amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor pursuant to Section 13020 of the Unemployment Insurance Code with respect to the work and labor, that the surety hereon will pay for the same, in an amount not exceeding the sum specified in this bond; otherwise, the above obligation shall be void. In case suit is brought upon this bond, the said surety will pay a reasonable attorney's fee to be fixed by the court.

This bond shall inure to the benefit of any of the persons named in Section 3181 of the Civil Code, so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____ A.D., 2012.

Contractor
Surety
[SEAL]
Attorney in Fact

SECTION 006216 – CERTIFICATE OF INSURANCE

CONTRACT FORM #5

ACORD		CERTIFICATE OF INSURANCE			ISSUE DATE:
PRODUCER INSURANCE AGENCY, INC. 1000 MAIN STREET ANYWHERE, CA 93800		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW			
INSURED ACCURATE CONSTRUCTION COMPANY 18935 NORTHWESTERN HIGHWAY Oakland, CA 94999		COMPANIES AFFORDING COVERAGE			
		COMPANY A ACME INSURANCE COMPANY			
		COMPANY B DELTA INSURANCE COMPANY			
		COMPANY C SHIFTING SANDS MUTUAL INSURANCE COMPANY			
		COMPANY			
COVERAGES					
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.					
	TYPE OF INSURANCE	POLICY NO.	POLICY EFF. DATE MM/DD/YY	POLICY EXP. DATE MM/DD/YY	ALL LIMITS
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GEN. LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR.	WTO 00612	07/01/97	07/01/98	GENERAL AGGREGATE \$2,000,000 PRODUCTS-COMP/OPS AGGREGATE \$1,000,000 PERSONAL & ADVERTISING INJURY \$1,000,000 EACH OCCURRENCE \$1,000,000
B	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS		07/01/97	07/01/98	COMBINED SINGLE LIMIT \$1,000,000
A	EXCESS LIABILITY <input type="checkbox"/> UMBRELLA <input type="checkbox"/> OTHER THAN UMBRELLA FORM	XYZ000064	07/01/97	07/01/98	EACH OCCURRENCE \$4,000,000 AGGREGATE \$4,000,000 (Per location)
C	(IF CONTRACT OVER \$75,000) BUILDERS RISK	AZZ57297	07/01/97	07/01/98	ALL RISK AMOUNT OF CONTRACT
C	WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY	WTC 906221	07/01/97	07/01/98	STATUTORY <input checked="" type="checkbox"/> (Each accident) \$1,000,000 (Disease-policy limit) \$1,000,000 (Disease-each employee) \$1,000,000
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS: CERTIFICATE HOLDER IS AN ADDITIONAL INSURED AS RESPECTS THE ABOVE REFERENCED AUTO LIABILITY, GENERAL LIABILITY AND EXCESS LIABILITY POLICIES. COVERAGE AFFORDED TO THE ADDITIONAL INSURED IS PRIMARY AND NOT EXCESS TO OR CONTRIBUTING WITH ANY OTHER INSURANCE OR SELF-INSURANCE MAINTAINED BY THE ADDITIONAL INSURED. WAIVER OF SUBROGATION HAS BEEN ENDORSED TO ALL POLICIES AS STATED IN THE CONTRACT DOCUMENTS CERTIFICATE HOLDER IS LOSS PAYABLE AS RESPECTS THE BUILDERS RISK POLICY.					
CERTIFICATE HOLDER BAY AREA HEADQUARTERS AUTHORITY, ITS OFFICERS, OFFICIALS, EMPLOYEES & VOLUNTEERS Joseph P. Bort MetroCenter 101 Eighth Street Oakland, California 94607-4700 ACORD 25-S (3/90)		CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, EXCEPT 10 DAYS NOTICE FOR NON-PAYMENT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.			
		AUTHORIZED REPRESENTATIVE			

**Bay Area Headquarters Authority
Payer's Request for Taxpayer
Identification Number and Certification**

Name as shown on account (If joint account, must list and circle the name of the person or entity whose number you enter in part 1 below.)

Business Name

Address

City, State, and ZIP code

List account number(s) here

PART 1 Taxpayer Identification Number --- For All Accounts

Enter your taxpayer Identification number in the appropriate box. For most individuals, this is your social security number.

Social Security Number
/ /

or

Employer Identification Number
/ /

PART 2 For Payees Exempt From Backup Withholding (See Instructions on IRS form W-9)

PART 3 Certification

Under penalty of perjury, I certify that:

- (1) The Number shown on this form is my correct Taxpayer Identification Number (or I am waiting for a number to be issued to me), and
- (2) I am not subject to backup withholding either because I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or the IRS has notified me that I am no longer subject to backup withholding.

CERTIFICATION INSTRUCTIONS – You must cross out item (2) above if you have been notified by IRS that you are subject to backup withholding because of underreporting interest or dividends on your tax return. However, if after being notified by IRS that you were subject to backup withholding you received another notification from IRS that you are no longer subject to backup withholding, do not cross out item (2).

Please Sign Here: Signature →

Date

Please check one box in each section below that best describes your type of organization and the transaction for which we make payment to you.

ORGANIZATION:

- Individual
- Two or more Indiv. (Joint)
- Sole Proprietorship
- Partnership
- Trust /Estate
- Corporation
- Real Estate Agent
- Tax-Exempt Organization
- Public Entity
- Other Organization (Specify)

TRANSACTION:

- Rents (Space & Machine)
- Medical & Health Care Service
- Other Services (Specify)
- Interest
- Goods/Merchandise
- Freight
- Other Transaction (Specify)

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END OF SECTION

ARTICLE 1 - GENERAL PROVISIONS

1.1 DEFINITIONS

When the following terms appear in the Contract, they shall have the following meaning:

- 1.1.1 Acceptance of the Work: Written acceptance by BAHA of the completed Work, after the Contractor rectifies any and all deficiencies which may have been noted during BAHA's final inspection.
- 1.1.2 Addendum: A document issued by BAHA during the bidding period which modifies, supersedes or supplements the Contract Documents.
- 1.1.3 Agreement: Refer to "Contract".
- 1.1.4 Air District: Bay Area Air Quality Management District
- 1.1.5 Alternative: Refer to Approved Equal and Substitution.
- 1.1.6 Approved Equal: Material, equipment, or method approved by BAHA for use in the Work, as being acceptable as an equivalent in essential attributes to the material, equipment, or method specified in the Contract Documents.
- 1.1.7 Architect/Engineer (A/E): Unless preceded by "Contractor's", BAHA's consultant listed in the Contract Documents as the designer of record responsible for the preparation and coordination of the Drawings and technical sections of the Project Manual.
- 1.1.8 BAHA: Bay Area Headquarters Authority (Owner)
- 1.1.9 BAHA's Designated Representative: Person authorized to administer a portion of the Project. May include Architect/Engineer and/or Inspector, as defined by BAHA's Project Manager.
- 1.1.10 BAHA's Designee: See BAHA's Designated Representative
- 1.1.11 BAHA's Project Manager: Person authorized by BAHA to act on behalf of BAHA for the Project.
- 1.1.12 BCDC: San Francisco Bay Conservation and Development Commission
- 1.1.13 Beneficial Occupancy: Use of project or portion of it for the purpose intended.
- 1.1.14 Bidder: Any individual, partnership, corporation, association, joint venture, or any combination thereof, submitting a Bid Form for the Work.
- 1.1.15 BIM: Building Information Modeling. BIM is a digital representation of physical and functional characteristics of a facility.

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- 1.1.16 Building: When used as a noun, a man-made structure used or intended for supporting or sheltering continuous occupancy.
- 1.1.17 Calendar Day: Includes every day of the week, including weekdays, weekends and holidays.
- 1.1.18 Caltrans: The California Department of Transportation.
- 1.1.19 Change Notice (CN): A written notice issued by BAHA to inform Contractor of proposed changes to the Work. The Change Notice will request from Contractor a quotation of cost and time for completing the proposed modifications.
- 1.1.20 Change Request (CR): A written request issued by the Contractor to BAHA to modify the Contract based upon the receipt or discovery of information that changes the scope, price, schedule, level of performance, or other facet of the Contract.
- 1.1.21 Claim: A final demand by Contractor for a time extension and/or payment of money arising from Work done by, or on behalf of, Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or that Contractor is not otherwise entitled to, entitlement and/or payment of which is disputed by BAHA, after all other mechanisms for resolving changes set forth in Articles 6 and 9 have been exhausted.
- 1.1.22 Commissioning: Performed by a third-party Commissioning Agent, the process of ensuring the installed systems function as specified. Elements to be commissioned are identified, installation is observed, sampling is conducted, test procedures are devised and executed, staff training is verified, and operations and maintenance manuals are reviewed.
- 1.1.23 Construction Management At Risk (CMAR): The Contractor selected to participate in the development of the Contract Documents and who agrees to perform the Work identified in the Contract Documents. The term "Contractor" used in the Contract Documents means the Contractor or the Contractor's representative and has the same meaning as Construction Manager At Risk (CMAR).
- 1.1.24 Construction Services: The Contractor and BAHA will execute a separate Contract for Construction Services, including completion of the base scope of Work of the Project, managing Subcontractors, providing superintendence, providing quality control, and managing follow-on Work, such as tenant improvements additional to the base scope.
- 1.1.25 Construction Waste Management Plan: Also referred to as Site Waste Management Program.
- 1.1.26 Contract: The Contract Documents form the Contract. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified by a Contract Change Order. The Contract Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than BAHA and the Contractor. There will be two Contracts between BAHA and the Contractor: A contract for Preconstruction Services and a separate Contract for Construction Services. The term "Contract" used in the Contract

BAHA 390 Main Street Renovation & Seismic Retrofit

Documents will apply to both the Preconstruction Services and to the Construction Services Contract.

- 1.1.27 Contract Allowance: An Item related to the performance of the contract Work that is reasonably likely to be encountered but at the time of its creation, is undefined in either scope or amount or both.
- 1.1.28 Contract Change Order. A Contract Change Order is a written document issued by BAHA that:
- Changes the Contract Price, as modified by any previously executed Contract Change Orders;
 - Alters the scope of Work under the Contract;
 - Alters the schedule for performance of the Work under the Contract as set forth in the currently approved schedule; or
 - Makes any other change to the Contract, or makes a combination of any of the aforementioned Contract changes.
- 1.1.29 Contract Documents: The Contract Documents consist of: the Agreement between BAHA and Contractor; Payment and Performance Bonds; Part 1: Request for Qualifications and Part 2: Request for Proposals and all attachments thereto; the Statement of Qualifications and Proposal; the Conditions of the Contract, including General Conditions; Project Manual; Project Plans; Addenda; and Contract Change Orders.
- 1.1.30 Contract Sum: The Contract Sum is stated in the Agreement and, including authorized adjustments by Contract Change Order, is the total amount payable by BAHA to the Contractor for performance of the Work under the Contract Documents.
- 1.1.31 Contract Time: Unless otherwise provided, the Contract Time is the period of time, including authorized adjustments, allotted in the Contract for Final Completion of the Work.
- 1.1.32 Contractor: The individual, partnership, corporation, association, joint venture, or any combination thereof, who has entered into a contract with BAHA, identified as such in the Agreement, and referred to throughout the Contract as if singular in number. The term "Contractor" used in the Contract Documents means the Construction Manager At Risk (CMAR).
- 1.1.33 Construction Contingency: Refer to Article 8.10, Construction Contingency.
- 1.1.34 Core Subcontractors: Subcontractors that have a direct contractual relationship with Contractor.
- 1.1.35 Date of Substantial Completion: Date of Substantial Completion of Work or designated portion thereof is date certified by BAHA's Designee when construction is sufficiently complete in accordance with Contract Documents and only minor corrective measures are required. A certificate of substantial completion along with a corresponding punch list will be issued upon the Contractor's assurance that remaining corrective measure will be completed within the shortest practicable time period.

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- 1.1.36 Day: Calendar day, unless otherwise specifically defined.
- 1.1.37 Not Used
- 1.1.38 Defective: An adjective which, when modifying the word Work, refers to Work that is unsatisfactory or fails to meet the requirements of an inspection, reference standard, test or approval referred to in the Contract Documents (including, but not limited to approval of samples and “or equal” items) or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by BAHA). BAHA’s Designee shall determine whether Work is defective.
- 1.1.39 Design Assist: A service performed by the Contractor during the design phase of the project in which the Contractor:
- Reviews the A/E’s design at appropriate progress intervals and provides constructability review, clash detection, and cost savings ideas.
 - Offers alternative design solutions, maintaining function and/or form at reduced cost.
 - Solicits input from trade subcontractors for preferred alternate design solutions, materials, systems, products, etc.
- 1.1.40 Design Clarification Memorandum (DCM): A written clarification issued by BAHA or its Designated Representative to the Contractor providing additional detail or explanation of a portion of the Contract Documents. A DCM is informational, and does not change the contract.
- 1.1.41 Direct Cost: The total cost of all bid packages and self-performed work, including labor, material, equipment, overhead and profit.
- 1.1.42 Director: The Executive Director of the Bay Area Headquarters Authority, or his designee.
- 1.1.43 Not Used.
- 1.1.44 Dispute Review Board: Three-member board made up of one member selected by BAHA, one member selected by the Contractor and one member selected jointly by the DRB members selected by BAHA and the Contractor. The Board shall attempt to adjudicate disputes in order to expedite resolutions and minimize claims.
- 1.1.45 Drawings: The graphic and pictorial portions of the Contract Documents, illustrating the design, location and dimensions of the Work, generally including but not limited to, plans, elevations, sections, details, schedules and diagrams.
- 1.1.46 Emergency: 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 essential public services.
- 1.1.47 Facility: Regional Agency Headquarters Facility at 390 Main Street, San Francisco.
- 1.1.48 Federal Agencies: Whenever, in the specifications, reference is made to any Federal agency or officer, the reference shall be deemed made to any agency or officer

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succeeding in accordance with law to the powers, duties, jurisdiction and authority of the agency or officer mentioned.

- 1.1.49 Fee: Also referred to as Contractor's "profit", consists of the Contractor's allowable, allocable and reasonable home office overhead cost plus an amount the Contractor will earn by successfully delivering the Project.
- 1.1.50 Field Order: A written order, such as a bulletin, issued by BAHA, which requires minor changes in the Work but does not involve a change in the Contract Sum or the Contract Time. The Contractor must comply with a Field Order without protest, and may submit a Change Request if Contractor believes the Field Order involves a change in the Contract Sum or the Contract Time.
- 1.1.51 Fixed Costs: Any necessary labor, material and equipment costs directly expended on the item or items under consideration that remain constant regardless of the quantity of the Work done.
- 1.1.52 Force Account Work: Contract Change Order Work to be paid for on the basis of actual direct costs plus markup on direct costs for overhead and profit.
- 1.1.53 Force Account Work Directive: A written directive issued by BAHA to the Contractor describing the scope of Work and not-to-exceed budget for changed Work that will be performed by the Contractor on a force account basis.
- 1.1.54 Force Majeure: Unforeseeable causes, such as a strike, fire, flood, earthquake or other event that is not the fault of, or is beyond the control of Contractor or BAHA.
- 1.1.55 General Conditions Cost: Also referred to as the Contractor's "indirect cost" or "field office overhead", consists of the allowable, allocable and reasonable costs of all site-related items. These costs are included as part of the Contractor's Construction Phase Services from Step 2: RFP, Appendix B, Cost Proposal, Form A.
- 1.1.56 General Notes: The written instructions, provisions, conditions or other requirements appearing on the drawings, and so identified thereon, which pertain to the performance of the Work.
- 1.1.57 Guaranteed Maximum Price (GMP): The maximum price for the Work to be paid to the Contractor, as set forth in the Construction Services Agreement. The GMP consists of all cost to complete the Work, including the Direct Cost of the Work, Construction Phase Services, Allowances, Overhead, Fee, and Construction Contingency.
- 1.1.58 Laboratory: The established Laboratory authorized by BAHA to test materials and Work involved in the Contract.
- 1.1.59 Latent: Not apparent by reasonable inspection, including but not limited to the inspections and research required as a condition to bidding.
- 1.1.60 Lean Construction: An approach to maximizing value in the construction process by minimizing waste of materials, time and effort. It supplements traditional construction management approaches by requiring the deliberate consideration of material and information flow, and different project and production management paradigms.

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- 1.1.61 LEED: Leadership in Energy and Environmental Design.
- 1.1.62 Limited Notice to Proceed (LNTP): Notification to the Contractor to commence Work on a portion or stage of the Contract. The scope of the portion or stage of the Work is specified in the LNTP.
- 1.1.63 Liquidated Damages: The amount prescribed in the Contract Documents, to be paid to BAHA or to be deducted from any payments due or to become due the Contractor for delay in completing the whole or any specified portion of the Work beyond the time allowed in the contract documents.
- 1.1.64 Notice of Award (NOA): Written notification issued by BAHA awarding the contract. NOA does not signify execution of the contract or Notice to Proceed.
- 1.1.65 Notice to Proceed (NTP): Notification to the contractor to commence Work of the Contract.
- 1.1.66 Official Holidays: Official Holidays are the holidays observed by BAHA. BAHA observes 11 Official Holidays per year.
- 1.1.67 Official Progress Schedule: The Contractor's baseline schedule accepted by BAHA and all updates as prepared in accordance with the Specifications.
- 1.1.68 Or Equal: Refer to "Approved Equal."
- 1.1.69 Overhead: Refer to "General Conditions Cost".
- 1.1.70 Owner: Bay Area Headquarters Authority (BAHA).
- 1.1.71 Owner's Contingency: An amount budgeted outside of the GMP to cover design errors and omissions, owner-directed scope enhancements, force majeure, and regulatory change. Its use is controlled by BAHA.
- 1.1.72 Plans: Refer to "Drawings."
- 1.1.73 Not Used
- 1.1.74 Not Used
- 1.1.75 Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- 1.1.76 Profit: Refer to "Fee".
- 1.1.77 Project: The total construction of which the Work performed under the Contract may be the whole or a part.
- 1.1.78 Project Manual: The Project Specifications and all Sections herein and assembled for the Work, which include the Introductory Information, Bidding Requirements,

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Contracting Requirements, Specifications, and other information as may be listed in the Project Manual, Table of Contents.

- 1.1.79 Property: See "Facility", which sits on the southeast half of the lot bounded by Main, Harrison, Beale and Folsom Streets. The 390 Main property line is 41 feet from its northwest face.
- 1.1.80 Request for Information (RFI): A written request by the Contractor submitted in a BAHA provided format for information regarding Project-specific issues.
- 1.1.81 Retention: A percentage of the Contract Sum held back from progress payments for completion of the Work, or any portion of the Work, to cover outstanding liabilities, contingencies, and the like, as specified in the Contract Documents
- 1.1.82 Samples: Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
- 1.1.83 Schedule of Values: A document furnished by the Contractor to BAHA reflecting the portions of the Contract Sum allotted for the various parts of the Work, and used as the basis for reviewing the Contractor's applications for progress payments.
- 1.1.84 Shop Drawings: Drawings, diagrams, schedules, and other data specially issued for the Work by the Contractor or a Subcontractor, Sub-Subcontractor, and material suppliers to illustrate some portion of the Work.
- 1.1.85 Specifications: That portion of the Contract Documents consisting of the written requirements for materials, standards, equipment, construction systems, and standards of workmanship for the Work, and performance of related services.
- 1.1.86 Subcontractor: An individual, partnership, corporation, association, joint venture, or any combination thereof, who has a direct contract with the Contractor to perform work or labor or render service in or about the Work. The term "Subcontractor" is referred to as if singular in number and means a Subcontractor or a representative of the Subcontractor. The term "Subcontractor" shall not include those who supply materials only or a separate contractor or subcontractors of a separate contractor.
- 1.1.87 Sub-Subcontractor: A person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work. The term "Sub-Subcontractor" is referred to as if singular in number and means a Sub-Subcontractor or a representative of the Sub-Subcontractor.
- 1.1.88 Substantial Completion: The stage in the progress of the Work or designated portion of the Work when it is sufficiently complete in accordance with the Contract Documents. Substantial Completion does not mean Acceptance of the Work.
- 1.1.89 Substitution: A material and/or process offered by the Contractor in lieu of the specified material and/or process, and accepted by BAHA in writing as being equivalent (equal) to the specified material and/or process.

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- 1.1.90 Tenants: Those persons, including but not limited to MTC, BATA, Air District, and BCDC and staff, their consultants, tenants and contractors who occupy, or are expected to occupy, the Facility.
- 1.1.91 Unavoidable Delay: An interruption of the Work beyond the control of Contractor that could not have been avoided by Contractor's exercising care, prudence, foresight, and diligence.
- 1.1.92 Unilateral Contract Change Order: A Unilateral Contract Change Order is a contract modification that is signed only by BAHA. Uses of a Unilateral Contract Change Order include but are not limited to:
- Making administrative changes;
 - Issuing Contract Change Orders without bilateral agreement;
 - Making changes authorized by clauses other than a change clause (e.g. Property clause, Contract Options clause, or Suspension of Work clause); and
 - Issue termination notices
- 1.1.93 Warm Shell: A commercial building space ready to lease and ready for tenant improvements. A warm shell typically has a minimally finished interior, an HVAC system, drop ceilings, plumbing and restrooms, and interior lighting.
- 1.1.94 Warranty: A Contractor's, manufacturer's, or material supplier's assurance that products and services provided meet the requirements of the Contract Documents.
- 1.1.95 Work: The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, includes all other direct, or indirect, or both, labor, materials, equipment, services, conditions, systems, components, items, and the like, provided or to be provided by the Contractor for a complete and finished project, and to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.
- 1.1.96 Working Days: Includes Monday through Friday, exclusive of Official Holidays.

1.2 EXECUTION, CORRELATION AND INTENT

- 1.2.1 The Contract will not be binding on BAHA until appropriately executed by BAHA's Executive Director, or designee.
- 1.2.2 Execution of the Contract by the Contractor is a representation that the Contractor is familiar with the methodology under which the Work is to be performed and has correlated personal observations with requirements of the Contract Documents.
- 1.2.3 The intent of the Contract Documents is to include all items necessary for completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

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1.2.4 Organization of the Specifications into Divisions, Sections and Articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors, nor in establishing the extent of work to be performed by any trade.

1.2.5 When standards of the Federal Government, trade societies, or trade associations are referred to in the Contract Documents by specific date of issue, these shall be considered as part of the Contract Documents. When such references do not bear date of issue, current published edition at the date of the Request for Proposal shall be considered as part of the Contract Documents.

1.2.6 Unless otherwise stated in the Contract Documents, words and terms that have well known or commonly accepted technical or construction industry meanings shall be used in the Contract Documents in accordance with such recognized meanings.

1.2.7 Unless otherwise indicated in the Contract Documents, the Drawings shall not be scaled for dimensions when figured dimensions are given, or when dimensions could be calculated or field measured.

1.2.8 A typical or representative detail on the drawings shall constitute the standard for workmanship and material throughout corresponding parts of the Work. Where necessary, and where reasonably inferable from the drawings, Contractor shall adapt such representative details for application to such corresponding parts of the Work. The details of such adaptation shall be submitted by Contractor to BAHA for approval. Repetitive features shown outlined on the drawings shall be in exact accordance with corresponding features completely shown in detail.

1.2.9 The layout of mechanical and electrical systems, equipment, fixtures, piping, ductwork, conduit, specialty items, and accessories on the drawings is shown in diagrams and symbols to illustrate the relationships existing between the parts of the Work. All variations in alignment, elevation, and detail required to avoid interferences and to satisfy architectural and structural limitations are not necessarily shown.

Actual layout of the Work shall be carried out without affecting the architectural and structural integrity and limitations of the Work; shall be performed in such sequence and manner as to avoid conflicts; shall provide clear access to all control points, including valves, strainers, control devices, and specialty items of every nature related to such systems and equipment; shall obtain maximum headroom; and shall provide adequate clearances as required for operation and maintenance. Clear access shall be defined as within arm's reach without required use of special equipment or the dismantling of building systems or equipment.

1.2.10 Every part of the Work shall be accomplished in workmanship-like manner by workers, laborers, or mechanics especially skilled in the class of work required. Any person BAHA may deem incompetent or disorderly shall be promptly removed from the Project by the Contractor upon written notice from BAHA, and shall not be re-employed for the Project.

1.2.11 The Contract shall be signed by the successful Contractor in the requisite number of counterparts and returned to BAHA together with the Contract bonds and certificates evidencing the required insurance coverage within ten days working days of request from BAHA,

When the Contract has been fully executed, BAHA will issue a Notice to Proceed to the Contractor. The Contractor may not begin work before receiving BAHA's written Notice to

Proceed. Any work performed by the Contractor before receipt of the Notice to Proceed shall be considered as having been done at the Contractor's own risk.

1.2.12 Failure or refusal by the Contractor to execute the Contract within the time set in Article 1.2.11 shall be just cause for the rescission of the award. Failure or refusal to file acceptable bonds and insurance within the time set in Article 1.2.11 constitutes a failure or refusal to execute the Contract.

1.3 USE OF BAHA DRAWINGS, PROJECT MANUAL AND OTHER DOCUMENTS

The Drawings, Project Manual and other documents issued by BAHA, and copies furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-Subcontractor or material or equipment supplier on other projects, nor for additions to this Project outside the scope of the Work without the specific written consent of BAHA. The Contractor, Subcontractors, Sub-Subcontractors and material or equipment suppliers are granted a limited license to use and reproduce applicable portions of the Drawings, Project Manual and other documents issued by BAHA appropriate to, and for use in, the execution of their work under the requirements of the Contract Documents.

1.4 CAPITALIZATION

1.4.1 Terms capitalized in the General Conditions of the Contract for Construction include those that are:

- 1.4.1 Specifically defined;
- 1.4.2 Titles of numbered Articles and Sections;
- 1.4.3 References to Articles, Paragraphs, Subparagraphs and Clauses;
- 1.4.4 Titles of other documents.

1.5 CONFLICTS IN THE CONTRACT DOCUMENTS

1.5.1 In the event of conflict in the Contract Documents, the following priorities shall govern:

- 1.5.1.1 Contract Change Orders shall govern over Addenda.
- 1.5.1.2 Addenda shall govern over Contract Forms and other Sections of the Contract Documents to the extent specifically noted; subsequent Addenda shall govern over prior Addenda only to the extent specified.
- 1.5.1.3 Contract Forms shall govern over General Conditions of the Contract for Construction.
- 1.5.1.4 The General Conditions of the Contract for Construction shall govern over all Drawings and Specifications, except for Addenda.
- 1.5.1.5 In case of conflict between the Drawings and the Specifications, the Specifications shall govern.
- 1.5.1.6 In the case of conflict within the Drawings, the following shall govern:
 - 1.5.1.6.1 Schedules, when identified as such, shall govern over all other portions of the Drawings.
 - 1.5.1.6.2 Specific notes shall govern over all other notes and all other portions of the Drawings, except schedules described in the preceding Clause.
 - 1.5.1.6.3 Larger scale Drawings shall govern over smaller scale Drawings.

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1.5.1.6.4 Detail Drawings shall govern over standard plates bound within the Project Manual.

1.5.1.6.5 Figured or numerical dimensions shall govern over dimensions obtained by scaling.

1.5.1.7 In case of the Specifications, the more specific will govern over the more general. In the case of the specific, the Division covering the work shall govern over the Related Division. In case of conflict with Referenced Codes and Standards, the Specifications shall govern.

1.5.1.8 Referenced Codes and Standards shall govern over Request For Qualifications, and Part 2: Request for Proposal (RFQ/RFP).

1.5.1.9 RFQ/RFP shall govern over Statement of Qualifications and Proposal.

1.5.2 Omissions: If the Contract Documents are not complete as to any minor detail, incidental work, or required construction system or with regard to the manner of combining or installing of parts, materials, or equipment, but there exists accepted trade standard for good and workmanlike construction, such detail shall be deemed to have been implied by the requirements of the Contract Documents in accordance with such standard.

1.5.2.1 Minor detail: shall include the concept of substantially identical components, where price of each such component is small even though aggregate cost or importance may be substantial, and shall include a single component that is incidental, even though its cost or importance may be substantial. Quality and quantity of parts or material so supplied shall conform to trade standards and be compatible with type, composition, strength, size and profile of parts or materials otherwise set forth in the Contract Documents.

1.5.2.2 Incidental work: shall be treated as if fully described in the specifications and shown on drawings, and expense thereof shall be included in the GMP. Incidental work includes but is not limited to tasks required to be preformed under Division 0 and 1 specifications.

1.6 REQUESTS FOR INFORMATION, CLARIFICATIONS OR ADDITIONAL INSTRUCTIONS

1.6.1 Requests for Information (RFI): Should the Contractor discover conflicts, omissions, or errors in the Contract Documents, or have any questions concerning interpretation or need clarification of Contract Documents, the Contractor shall immediately submit to BAHA in writing an RFI that complies with the requirements in Section 012613, Request for Information.

1.6.2 Additional Detailed Instructions: BAHA may furnish additional detailed written and/or graphic instructions to explain the Work more fully, and such instructions shall be a part of the Contract requirements. Should additional detailed instructions, in the opinion of the Contractor, constitute work in excess of the scope of the Work, the Contractor shall submit written notice to BAHA within 14 calendar days following receipt of such instructions, and in any event prior to commencement of the work thereon. BAHA will then consider the notice; and, if in BAHA's judgment it is justified, BAHA's instructions will be revised or the extra work authorized.

END OF ARTICLE

ARTICLE 2 - ADMINISTRATION OF THE CONTRACT

2.1 INFORMATION AND/OR SERVICES REQUIRED OF BAHA

2.1.1 BAHA shall furnish surveys, and reports describing physical characteristics, legal limitations, security requirements and utility locations for the Site within a mutually agreed upon response time so as to avoid delay in the orderly progress of the Work.

2.1.2 BAHA shall apply for and pay all permanent utility service connection fees. All other permits, easements, approvals, temporary utility charges, and other charges required for construction shall be secured and paid for by the Contractor.

2.1.3 The Contractor will be furnished Drawings and Project Manuals as specified in the Contract Documents.

2.2 ADMINISTRATION OF THE CONTRACT

2.2.1 BAHA will provide administration of the Contract as described in the Contract Documents during construction, until final payment is due and during the correction period described in Article 12.2, "Correction of Work," and throughout the warranty period.

2.2.2 BAHA will identify in writing its designees, who will have limited authority to act on behalf of BAHA. At any time during the performance of this Contract BAHA may make changes in the authority of any designees or may identify additional designees as required. These changes will be communicated to the Contractor in writing. Contractor assumes all risks and consequences of performing Work pursuant to any order, including but not limited to instruction, direction, interpretation or determination, of anyone not authorized by BAHA to issue such order.

2.2.3 BAHA will visit the Project site appropriate to the stage of construction to become familiar with the progress and quality of the completed Work and to determine if the Work is in accordance with the Contract Documents. The Contractor shall ensure BAHA has access to all parts of the Work at all times, and shall provide keys/access codes as necessary.

2.2.4 Unless so specified in the Contract Documents, BAHA and its Designees will not have control over construction means, methods, techniques, sequences or procedures, or safety precautions and programs in connection with the Work. BAHA and its Designees will not be responsible for the Contractor's failure to carry out the Work in accordance with the requirements of the Contract Documents. BAHA and its Designees will not be responsible for acts, errors, or omissions of the Contractor, a Subcontractor, or anyone directly or indirectly employed by any of them, or of any other persons performing portions of the Work.

2.2.5 Communications by and with BAHA's consultants shall be through BAHA and its authorized Designees. Communications by and with Subcontractors, Sub-Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through BAHA.

2.2.6 If BAHA observes Work that appears not to comply with the requirements of the Contract Documents, BAHA will have the authority to reject the Work. Whenever BAHA considers it necessary or advisable for implementation of the intent of the Contract Documents, BAHA will require additional inspection or testing of the Work, in accordance with Articles 3.13.2 and 3.13.3, whether or not such Work is fabricated, installed or completed.

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2.2.7 BAHA's designee will review and take action upon the Contractor's submitted Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. BAHA's action will be taken so as to cause no delay in the Work while allowing sufficient time to permit adequate review pursuant to the Specifications, Division 1. Review of submittals is not conducted for the purpose of determining the accuracy and completeness of other details, such as dimensions and quantities, nor for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor.

2.2.8 In the event of dispute as to the cost of added or deleted Work, BAHA shall have the right to examine Contractor's books, estimates, records, contracts, documents, bid documents, bid cost data, subcontracts, job cost reports, and other data when BAHA determines that review of such information is necessary for BAHA to administer the Contract. In the event that Contractor is a joint venture, said right shall apply collaterally to the same extent to the records of the joint venture sponsor and those of each individual joint venture member.

2.2.9 BAHA's Designees will conduct inspections to determine the Contractor's compliance with the Contract Documents and the date of final Completion; will receive, for review and record, written warranties and related documents required by the Contract Documents and assembled by the Contractor; and will issue a final Payment Authorization upon compliance with the requirements of the Contract Documents and Acceptance of the Work.

2.2.10 Stop Work: If for any reason BAHA's Project Manager or his appointed designee directs the Contractor to stop work, be it in verbal or written form, the Contractor and his subcontractors, sub-subcontractors, vendors, and the like shall immediately stop all work. The Project Manager and his appointed designee may stop the work of any part or the whole of the Project. Work on the part or the whole of the Project that has been stopped may not resume until Contractor receives written authorization from the Project Manager or his appointed designee to resume work. Contractor shall redirect his resources to other parts of the Project, as possible, to remain on schedule. Delays due to stoppages of works that are due to the Contractor or his Subcontractors, Sub-subcontractors, vendors, or the like's negligence shall not be cause for the Contractor's filing for claims or an extension of the project schedule.

2.2.11 Stop Work Authorization: Only BAHA's Project Manager and his designee shall be authorized to direct the Contractor to stop work on the Project. Any request to stop work from an unauthorized party shall be transmitted to BAHA's Project Manager or his appointed designee and shall not be fulfilled by the Contractor until Contractor receives notice from the Project Manager or his appointed designee. An exception shall be made for an Emergency, as defined in the General Conditions, in which case the Contractor shall use immediate and reasonable judgment in determining whether or not to stop work.

2.2.12 The right of BAHA to stop the Work shall not give rise to a duty on the part of BAHA to exercise this right for the benefit of the Contractor or any other person or entity.

2.3 BREACHES, DEFAULTS AND TERMINATION FOR CAUSE

2.3.1 BAHA may, by written notice of default to Contractor, terminate Contractor's right to proceed with the Work under the Contract, in whole or with regard to any part, if Contractor does not cure such failure as noted below within a period of seven days (or such

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longer period as BAHA may authorize in writing) after receipt of notice from BAHA specifying such failure.

2.3.1.1 If Contractor fails to supply an adequate working force, or materials of proper quality, or otherwise refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will ensure its completion within the time specified in this Contract, or authorized extension thereof;

2.3.1.2 If Contractor fails to make prompt payment to its Subcontractors or suppliers upon receipt of progress payments from BAHA; or

2.3.1.3 If Contractor persistently disregards laws, ordinances, or instructions of BAHA.

2.3.2 In the event of such termination for default, BAHA may take over the Work and prosecute the same to completion, by contract or otherwise, and may take possession of and use all or any part of Contractor's material, tools, equipment, and appliances as may be on the site of the Work and which are necessary for performance of the Work. Upon completion of such Work, Contractor is entitled to return of all unused materials and its equipment, tools and appliances, except that there shall be no claim on account of usual and ordinary depreciation, loss, or wear and tear.

2.3.3 If Contractor's right to proceed is so terminated, Contractor shall not be entitled to receive any further payment until the Work is completed. Contractor and its surety(s) shall be liable to BAHA for any additional costs of completion of the Work, including compensation for additional managerial and administrative services, plus liquidated damages accruing under the terms of this Contract from the Contract completion date, as extended by authorized time extensions, to the date of final completion.

2.3.4 If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of BAHA.

2.4 TERMINATION BY BAHA FOR CONVENIENCE

2.4.1 BAHA may terminate this Contract in whole or in part at any time by written notice to Contractor if BAHA determines that termination is in the best interest of BAHA. If this Contract is so terminated, Contractor shall be entitled to payment for all Work performed acceptably, all acceptable goods or services ordered by and delivered to Contractor before termination, and all reasonable termination costs, up to the maximum amount payable under this Contract, provided that Contractor provides a final itemized invoice for the above amounts within thirty (30) calendar days after receiving the termination notice.

2.5 SUSPENSION BY BAHA FOR CONVENIENCE

2.5.1 BAHA may, by written notice, order the Contractor to suspend, delay or interrupt the Work, in whole or in part, for such period of time as BAHA may determine.

2.5.2 An adjustment shall be made for increases in the cost of performance of the Work, including profit on the increased cost of performance caused by suspension, delay or interruption. No adjustment shall be made to the extent:

- 2.5.2.1 That performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- 2.5.2.2 That an equitable adjustment is made or denied under another provision of the Contract.

2.6 CONTRACTOR'S DUTIES UPON TERMINATION

2.6.1 After receipt of a Notice of Termination, either for default or convenience, Contractor shall:

- 2.6.1.1 Stop work under the Contract on the date and to the extent specified in the Notice of Termination;
- 2.6.1.2 Place no further orders or subcontracts for materials, services, or facilities, except as may be necessary for completion of such portion of the Work under the Contract as is not terminated;
- 2.6.1.3 Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the Notice of Termination;
- 2.6.1.4 Assign to BAHA in a manner, at the times, and to the extent directed by BAHA, all of the right, title, and interest of Contractor under the orders and subcontracts so terminated.

2.7 BAHA'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

2.7.1 Should construction Work, or Work of any other nature, be indicated elsewhere in the Contract Documents to be performed by other contractors or other forces within or adjacent to the limits of Work, or be underway at the time the Work is advertised for Bids, Contractor shall coordinate and cooperate with all such contractors or forces to avoid any delay or hindrance to their work. The cost of such cooperation shall be considered as included in Contractor's GMP and no direct or additional payment will be made therefore.

2.7.2 BAHA reserves the right to perform work or operations related to the Project with BAHA's own work force, and to award separate contracts in connection with other portions of the Project, and other construction or operations on the Project site or adjacent to the Project. The Contractor shall at all times conduct the Work so as to impose no hardship on BAHA or others engaged in work on the Project, nor to cause any unreasonable delay or hindrance to the Project.

2.7.3 When separate contracts are awarded for different portions of the Project, "the Contractor" in the Contract Documents in each case shall mean the contractor who executes each separate contract.

- 2.7.3.1 BAHA shall not be a party to any of the agreements between multiple contractors, and shall have no liability to any party with regard to the lack of coordination and cooperation or the inability of a party to execute specific work requirements. Contractor agrees to indemnify and hold harmless BAHA for all claims or losses that Contractor or the other contractors may incur as a result of their inability to successfully obtain access to work areas under the control of one of the parties.

2.7.4 The Contractor shall not cause unnecessary hindrance or delay to another contractor working on or near the Project. If the performance of any contract for the Project is likely to be interfered with by the simultaneous execution of some other separate contract or contracts, BAHA will decide which contractor may proceed.

2.7.5 Costs caused by defective or ill-timed Work shall be borne solely by the responsible Contractor.

2.8 MUTUAL RESPONSIBILITY

2.8.1 The Contractor shall cooperate fully with BAHA and all separate contractors with regard to the execution of their work as follows:

2.8.1.1 The Contractor shall cooperate fully with BAHA and all separate contractors with regard to introduction and storage of their materials and equipment.

2.8.1.2 The Contractor shall coordinate with BAHA and all separate contractors with regard to construction scheduling and sequence of operations, all subject to approval of BAHA. Contractor shall make any revisions to the construction schedule deemed necessary by BAHA after a joint review and mutual agreement.

2.8.1.3 Each contractor shall monitor the schedule and progress of each other contractor whose work affects its work, and shall be responsible for giving timely notice to BAHA of potential problems of interface so that BAHA can mitigate the problem.

2.8.1.4 The Contractor shall properly connect the Work to the work of BAHA or the separate contractors.

2.8.1.5 The Contractor shall inspect the work of BAHA or other contractors affecting the Work and promptly report to BAHA in writing irregularities or defects in the separate work, which renders it unsuitable for reception or connection of the Work.

2.8.1.6 Failure of the Contractor to inspect and report any latent defects shall constitute acceptance of the other work as fit and proper to receive the Contractor's Work, except as to defects which may develop in the other Work after execution of the Contractor's Work.

2.8.1.7 If so directed by BAHA, Contractor shall prepare coordination drawings as necessary to satisfactorily coordinate and interface the Work of its Contract with the work of all other contracts thereby avoiding conflicts that may otherwise arise. If such coordination drawings are not required elsewhere in the Contract Documents, then Contractor may submit a Change Request as provided under Article 6.2 for additional costs incurred in preparation of such coordination drawings.

2.8.1.8 At any time during the progress of the Work, BAHA may, by providing reasonable notice, require the Contractor to attend any conference of any or all contractors engaged in work at the site.

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2.8.1.9 If BAHA determines that Contractor is failing to coordinate its Work with the Work of other contractors as directed, BAHA may upon written notice:

2.8.1.9.1 Withhold any payment otherwise owed under the Contract until Contractor complies with BAHA's directions.

2.8.1.9.2 Direct others to perform portions of the Contract and charge the cost of work against the Contract Sum.

2.8.2 Claims Between Separate Contractors:

2.8.2.1 Should the Contractor cause damage to the work or property of any separate contractor on the Project, the Contractor shall, upon due notice, settle with such other contractor by agreement, mediation or arbitration, if they will so settle.

2.8.2.2 If such separate contractor sues BAHA or initiates an arbitration proceeding on account of any damage alleged to have been so sustained, BAHA will notify the Contractor who shall defend such proceedings at the Contractor's sole expense, in accordance with Article 3.19, Indemnification.

2.8.2.3 In accordance with Article 3.19, Indemnification, the Contractor shall pay or satisfy any judgment or award against BAHA, arising therefrom. In addition, the Contractor shall pay BAHA for all attorney's fees, court, arbitration or mediation costs and additional administrative, professional, consultant, inspection, testing and other service costs that BAHA has incurred.

2.8.3 The Contractor shall promptly remedy damage wrongfully caused by the Contractor to any completed or partially completed construction or to any property of BAHA or separate contractors as provided in Article 10.1.6.

2.9 BAHA'S RIGHT TO CLEAN UP

2.9.1 Contractor and other contractors shall each bear responsibility for maintaining their respective work areas on the premises and adjoining area free of waste, rubbish, graffiti, debris, or excess materials and equipment at all times.

2.9.2 If a dispute arises among the Contractor, separate contractors, and/or BAHA as to the responsibility under their respective contracts for maintaining the Project site and surrounding areas free from waste materials and rubbish as described in Article 3.16, "Cleaning Up," and after issuing 24-hour written notice to the contractors involved, BAHA may clean up and allocate the costs among those BAHA determines are responsible.

END OF ARTICLE

ARTICLE 3 - CONTRACTOR

3.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY THE CONTRACTOR

3.1.1 The Contractor shall carefully study and compare the Contract Documents with each other and shall report to BAHA, in writing, any errors, inconsistencies or omissions discovered. If the Contractor performs any work knowing it involves a recognized error, inconsistency or omission in the Contract Documents, without such notice to BAHA the Contractor shall assume responsibility for such performance and shall bear the cost for correction.

3.1.2 The Contractor shall take field measurements and verify field conditions and shall compare such field measurements, conditions and other related information known to the Contractor with the Contract Documents before beginning the Work.

3.2 SUPERVISION AND CONSTRUCTION PROCEDURES

3.2.1 The Contractor shall supervise and direct the Work. The Contractor shall be responsible for, and have control over, construction means, methods, techniques, sequences, procedures, safety precautions and programs in connection with the Work, and for coordinating the Work under the Contract; unless otherwise noted or specified in the Contract Documents.

3.2.2 The Contractor shall be responsible to BAHA for acts and omissions of the Contractor's employees, Subcontractors, Sub-Subcontractors or material suppliers and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor.

3.2.2.1 Subcontractor Responsibility: The Contractor shall be responsible in all respects for the actions or inaction of all Subcontractors, Sub-Subcontractors or material suppliers, at all tiers, regardless of whether they are stipulated suppliers or sole sourced. No claim, request for equitable adjustment, or Change Request shall be submitted to BAHA for any action of any Subcontractor, Sub-Subcontractor or material supplier, at any tier, unless the Contractor can demonstrate that BAHA is the proximate cause of the change or delay alleged in such request. BAHA will not accept any responsibility or liability for any action or inaction of any Subcontractor, Sub-Subcontractor, or material supplier, at any tier, except to the extent that BAHA is the proximate cause of the change or delay.

3.2.2.2 Contractor's supervisors, security guards, safety personnel and employees, as well as those of all subcontractors, who have unescorted access to the Project Site must possess proficiency in the English language in order to understand, receive and carry out oral and written communications or instructions relating to the project, site safety and security requirements.

3.2.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents, either by activities or duties of BAHA, BAHA's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

3.2.4 The Contractor shall inspect all materials, supplies and equipment that are to be used, consumed or incorporated in the Work. In addition, Contractor shall conduct a continuous

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program, satisfactory to BAHA's designee, of construction quality control for all Work performed under this Contract. The Contractor shall have the primary responsibility for inspecting the Work and materials; BAHA's designees' inspections are conducted to verify that the Contractor has performed its inspections. Any observation, verification, inspection, or approval of the Work or materials by BAHA shall not relieve the Contractor of any of Contractor's obligations to fulfill the Contract as prescribed. Work and materials not meeting Contract requirements shall be made acceptable, and unsuitable Work or materials may be rejected, notwithstanding that payment for such Work or materials may have been previously authorized and included in a progress payment. The Contractor shall repair or replace such defective Work at the Contractor's sole expense.

3.2.5 Until Acceptance of the Work by BAHA, the Contractor shall have the charge and care thereof, and shall bear risk of injury or damage to any part of the Work for any reason except:

- 3.2.5.1 Force Majeure;
- 3.2.5.2 Natural disaster as proclaimed by BAHA or the State or Federal Government;
- 3.2.5.3 Such damages as are directly caused by acts of the Federal or State Government, BAHA, or the public enemy; and
- 3.2.5.4 As provided in Article 8.5, "Occupancy by BAHA Prior to Acceptance."

3.3 LABOR AND MATERIALS

3.3.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Materials, articles and equipment furnished by the Contractor for incorporation into the Work shall be new unless otherwise specified in the Contract Documents.

3.3.1.1 Contractor shall employ only competent and skillful persons to perform the Work. Upon BAHA's notification, Contractor shall discharge from the Work and replace at no additional cost to BAHA any employee, subcontractor or supplier used on the Work who, in BAHA's judgment is incompetent or disorderly or is refusing to carry out the provisions of the Contract.

3.3.1.2 Whenever the Contractor intends to perform work outside established regular working hours (7:00 a.m. to 5:00 p.m.) or on Saturday, Sunday, or an Official Holiday, the Contractor shall give written notice to BAHA of such intention at least two working days prior to performing the Work so that BAHA may make necessary arrangements for testing and inspection.

3.3.2 Hours of Labor: Workers are limited and restricted to 8 hours during any one calendar day, and 40 hours during any one calendar week except that pursuant to Labor Code Section 1815, any Work performed in excess of 8 hours per day and 40 hours during any one week shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than 1 - 1/2 times the basic rate of pay. The Contractor shall pay BAHA \$25 as a penalty for each calendar day for each worker worked in violation of the above limitations and restrictions.

3.3.3 The Contractor shall comply with Labor Code, Section 1774 and 1775. In accordance with Section 1775, the Contractor shall forfeit to BAHA up to \$200 for each day, or portion thereof, for each worker paid less than the prevailing wage rates for the work or craft, in which the worker is employed for any Work executed under the Contract by the Contractor or by any

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Subcontractor in violation of the provisions of the Labor Code; and, in particular, Labor Code, Sections 1770 to 1780, inclusive. In addition to such forfeiture, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each day, or portion thereof, shall be paid to each underpaid worker by the Contractor. This provision shall not apply to properly registered apprentices.

3.3.3.1 Pursuant to Labor Code, Section 1770, the Director of the Department of Industrial Relations has ascertained the general prevailing rate of per diem wages and a general prevailing rate for legal holiday and overtime work for each craft needed in execution of the Contract. The Contractor shall submit to BAHA within 14 days of Notice of Award a copy of such prevailing wage rates, which the Contractor shall post at the Project site.

3.3.3.2 Wage rates set forth are the minimum that may be paid by the Contractor. Nothing herein shall be construed as preventing the Contractor from paying more than the minimum rates set. No extra compensation whatsoever will be allowed by BAHA due to the inability of the Contractor to hire labor at minimum rates, nor for necessity for payment by the Contractor of subsistence, travel time, overtime, or other added compensations, all of which possibilities are elements to be considered and ascertained to the Contractor's own satisfaction in preparing the Bid Form.

3.3.3.3 If it becomes necessary to employ crafts other than those listed in the bidding requirements, the Contractor shall notify BAHA immediately, and BAHA will ascertain additional prevailing wage rates. The rates thus determined shall be applicable as minimum from the time of initial employment.

3.3.3.4 The Contractor and each Subcontractor shall keep an accurate payroll record showing the names, addresses, social security numbers, work classifications, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Contractor and/or Subcontractor in connection with the Work. Payroll records shall be certified and shall be on forms provided by the Division of Labor Standards Enforcement, or shall contain the same information as those forms. The Contractor shall submit weekly for each week in which any Contract Work is performed, a certified copy of all payrolls for its employees and a certified copy of all of its subcontractor's payrolls, to BAHA. The Contractor's and Subcontractor's certified payroll records shall be available for inspection at the principal office of the Contractor.

3.3.3.4.1 Develop an Electronic Submittal Process of Certified Payroll Information System: In addition to all other reporting requirements applicable to work subject to prevailing wage laws. Contractor will develop an Electronic Submittal Process of Certified Payroll Information System to be implemented and maintained throughout the life of the Program. While the system will be owned by Contractor, Contractor hereby (a) grants and assigns to BAHA a perpetual, transferable (in whole or in part), non-exclusive royalty-free license to for such system, (b) agrees that BAHA may use such system without charge for any lawful purpose related to this project. The system will incorporate data fields as specified in Section 3.3.3.4 above. As provided in Electronic Submittal of Certified Payroll, Contractor must use the information captured by the data to create monthly reports that show the utilization of workforce by Subcontractor, residency, craft and skill level. Additionally, Contractor must include information in the monthly reports that verifies the payment of prevailing wages and of State sponsored apprenticeship participation where appropriate, statement of benefit

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payments. Contractor will be required to review and maintain the hardcopy of the Certified Weekly Payroll Report

3.3.4 Apprentices: Properly registered apprentices may be employed in the execution of the Work. Every apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which the apprentice is employed, and shall be employed only at the Work of the craft or trade to which the apprentice is registered. The Contractor and each Subcontractor shall comply with the requirements of Labor Code, Section 1777.5, and any related regulations regarding the employment of registered apprentices.

3.3.5 BAHA will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the Contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining the Construction Contingency, and will not under any circumstances be considered as the basis of a claim against BAHA on the Contract.

3.4 NOT USED

3.5 WARRANTY

3.5.1 The Contractor unconditionally warrants the Work will be completed in accordance with the requirements of the Contract Documents, and will remain free of defects in workmanship and materials for a period of 1 year from Acceptance of the Work, unless a longer warranty period is specifically called for in the Contract Documents. The Contractor shall repair or replace any and all Work, together with any adjacent work that may have been damaged or displaced, which was not in accordance with the requirements of the Contract Documents, or that may be defective in its workmanship or material within the warranty period specified in the Contract Documents, without any expense whatsoever to BAHA, ordinary wear and tear and abuse excepted. The Contractor additionally warrants manufacturers' product warranties as may be required by Contract Documents.

3.5.2 The Contractor further agrees, within 14 calendar days after being notified in writing by BAHA, of any Work not in accordance with the requirements of the Contract Documents or any defects in the Work, that the Contractor shall commence and execute, with due diligence, all Work necessary to fulfill the terms of the warranty. If BAHA finds that the Contractor fails to perform any of the Work under the warranty, BAHA will proceed to have the Work completed at the Contractor's expense and the Contractor will pay costs of the Work upon demand. BAHA will be entitled to all costs, including reasonable attorney's fees necessarily incurred upon the Contractor's refusal to pay the above costs. Testing shall not be construed as operational.

3.5.3 Notwithstanding the foregoing Article, in the event of an emergency constituting an immediate hazard to health or safety of BAHA employees, property, or licensees, BAHA may undertake, at the Contractor's expense and without prior notice, all Work necessary to correct such hazardous condition(s) when it is caused by Work of the Contractor not being in accordance with the requirements of the Contract Documents.

3.6 TAXES

3.6.1 The Contractor shall pay all applicable taxes for the Work, or portions thereof provided by the Contractor, that were legally enacted as of the bid dates, whether or not yet effective or merely scheduled to go into effect.

3.7 PERMITS, FEES AND NOTICES

3.7.1 The Contractor shall secure and pay for required permits, governmental fees, licenses and inspections necessary to complete the Work, unless otherwise provided in the Contract Documents.

3.7.2 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on the performance of the Work.

3.7.3 If the Contractor observes that portions of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, or rules and regulations, the Contractor shall promptly notify BAHA in writing. If the Contractor performs work known to be contrary, or should have known to be contrary to laws, statutes, ordinances, building codes, or rules and regulations without prior notice to BAHA, the Contractor shall assume full responsibility for the Work and shall bear the attributable costs.

3.8 ALLOWANCES

3.8.1 The Contractor shall include in the GMP any and all Allowances in accordance with the requirements of the Specifications, Division 1.

3.9 SUPERINTENDENT AND PROJECT MANAGER

3.9.1 Superintendent Qualifications: Contractor shall keep on the Site at all times during the Work a competent Superintendent. Superintendent shall be Contractor's representative at the site and shall have complete authority to act on behalf of the Contractor. All communications to the Superintendent shall be as binding as if given to the Contractor. All communications shall be confirmed in writing by the Contractor. Superintendent shall not be replaced without the express written consent of BAHA.

3.9.2 At any other time when the Superintendent is absent from the Project site because no Work is being performed, the Superintendent shall nevertheless keep BAHA advised of the Superintendent's whereabouts so that the Superintendent may readily be reached and available for consultation at the Project site at any time.

3.9.3 Contractor's Superintendant and Project Manager shall remain on the Project until final Project acceptance, except if removed for cause or otherwise authorized by BAHA.

3.9.4 BAHA reserves the right to cause for removal from the Project any of the Contractor's employees at any time for cause. No less than one week prior to installation, Contractor shall provide BAHA written notice of the Contractor's Superintendant and Project Manager replacement candidate; BAHA will accept or reject the candidate. At no cost to BAHA, Superintendent and Project Manager replaced by the Contractor shall remain at the worksite a minimum of five working days overlapping with their approved replacements, unless otherwise permitted by BAHA.

3.9.5 Not later than 14 days following Notice of Award, Contractor shall inform BAHA in writing of the names, addresses, and telephone numbers of key personnel who are to be contacted in case of emergencies at the Site during non-working hours, including Saturdays, Sundays and holidays. If Contractor is a joint venture, it shall designate only one such list of representatives.

3.10 CONTRACTOR'S PROGRESS SCHEDULE

3.10.1 Within 45 days of the Notice to Proceed, the Contractor shall submit to BAHA a Baseline Schedule prepared in accordance with the Specifications, Division 1, which, once revised as needed and accepted by BAHA, shall become the Official Progress Schedule. The Progress Schedule shall show the order in which the Contractor proposes to execute the Work, dates on which the Contractor will start each major subdivision of the Work, and contemplated dates of completion of each such subdivision in accordance with the requirements of the Contract Documents. The Contractor shall submit adjusted Progress Schedules to reflect changed conditions in accordance with the requirements of the Contract Documents.

3.10.2 Unless specified elsewhere in the Contract Documents, within 10 days of Notice to Proceed, the Contractor shall prepare a preliminary Schedule of Submittals coordinated with the Progress Schedule, listing Shop Drawings, Product Data, Samples, Work descriptions, Subcontractor qualifications, and Field Samples, and indicating therein the times for submitting, reviewing, and processing such submittals.

3.10.3 Unless specified elsewhere in the Contract Documents, within 10 days after submittal, BAHA and the Contractor shall meet to review for acceptability to BAHA the schedules submitted. Contractor shall have an additional 5 days to make corrections and adjustments and to complete and resubmit the schedules.

3.10.4 Work shall be executed to completion in accordance with the specified schedule, subject to adjustment in accordance with the requirements of the Contract Documents.

3.10.5 Contractor shall update its Progress Schedule monthly and as a condition precedent to making a progress payment application as set forth. All updates shall be submitted to BAHA for BAHA's acceptance. If rejected, Contractor shall correct and resubmit updates to the satisfaction of BAHA before any pending application for payment is approved.

3.10.6 Time is of the essence. The Contractor shall provide an adequate work force, materials of proper quality, and equipment to properly execute the Work and to ensure completion of each part in accordance with the Contractor's Progress Schedule and within the Contract Time specified.

3.10.7 BAHA's review and acceptance of the Contractor's Progress Schedule is for compliance with the requirements of the Contract Documents only. Review and acceptance by BAHA of the Contractor's Progress Schedule does not mean approval and does not relieve the Contractor of any of the Contractor's responsibility for the accuracy or feasibility of the Progress Schedule, or of the Contractor's ability to meet the interim Project milestone dates and the date of final completion. BAHA's review and acceptance does not expressly or impliedly warrant, acknowledge or admit the reasonableness of the logic, durations, manpower or equipment loading of the Contractor's Progress Schedule.

3.11 DOCUMENTS AND SAMPLES AT THE PROJECT SITE

3.11.1 The Contractor shall maintain at the Project site one record copy of the Drawings, Project Manual, Addenda, Field Set of Record Drawings, Contract Change Orders and other modifications in good order and marked currently to record changes and selections made during construction; and in addition, Shop Drawings, Product Data, Samples and similar required

submittals. These shall be available to BAHA and its authorized Designee at all times, and shall be delivered to BAHA upon completion of the Work.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES (SUBMITTALS)

3.12.1 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate those portions of the Work for which submittals are required and the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review by BAHA is subject to the limitations of Article 2.2.7.

3.12.2 The Contractor shall review, approve and submit to BAHA's designee all Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents within the number of days set forth in the Specifications, Division 1; except finishes which shall be submitted in a sequence so as to cause no delay in the progress of the Work or in the activities of BAHA or separate contractors. Submittals that are not required by the Contract Documents may be returned to the Contractor without action.

3.12.3 The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been reviewed by BAHA. Such Work shall be in accordance with reviewed submittals. Phase Submittal sequence to cause each Submittal to be submitted in order of criticality to the Work and the Schedule.

3.12.4 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and related field construction criteria, and has checked and coordinated the information contained within the submittal(s) with the requirements of the Contract Documents.

3.12.5 The Contractor shall not be relieved of the responsibility for any deviation from the requirements of the Contract Documents by BAHA review of submittals unless the Contractor has specifically informed BAHA, in writing, of such deviation at the time of submittal, and BAHA has given written consent to the specific deviation. BAHA review shall not relieve the Contractor of responsibility for errors or omissions in submittals.

3.12.6 The Contractor shall respond per requirements of the Contract Documents, in writing or on resubmitted submittals, to revisions other than those requested by BAHA on previous submittals. After the second resubmittal of a specific item that is still not accepted, the Contractor shall be charged all costs of submittal review. The charges shall be deducted from the Contractor's next pay request.

3.12.7 Informational submittals on which BAHA is not expected to take action may be identified in the Contract Documents.

3.12.8 When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, BAHA will be entitled to rely upon the accuracy and completeness of such calculations and certifications.

3.12.9 When descriptive catalog designations, including manufacturer's name, product brand name, or model number(s) are referred to in the Contract Documents, such designations shall be

considered as being those found in industry publications of current issue at date of Request For Proposal.

3.13 TESTS AND INSPECTIONS

3.13.1 The Contractor shall at all times permit BAHA and its authorized designees to inspect the Work, including shops where work is in preparation. This obligation shall include maintaining proper facilities and safe access for such inspection. When the Contract Documents require a portion of the Work to be tested, such portion of work shall not be covered up until inspected and approved by BAHA. The Contractor shall be solely responsible for notifying BAHA where and when the work is ready for inspection and testing, providing no less than three (3) working days advance notice unless otherwise specified. Should any Work be covered without the required testing and approval, such work shall be uncovered and recovered at the Contractor's expense.

3.13.2 If BAHA determines that portions of the Work require additional testing, inspection or approval not included in the Contract Documents, BAHA will instruct the Contractor, in writing, to make arrangements for additional testing, inspection or approval by an entity acceptable to BAHA, and the Contractor shall give two working days written notice to BAHA of where and when tests and inspections will be conducted so that BAHA may observe the procedures. BAHA will bear the costs except as provided in Article 3.13.4.

3.13.3 Neither observation by BAHA, nor inspections, tests, or approvals by BAHA's inspectors or testing agencies and consultants shall relieve Contractor from Contractor's obligation to perform and provide its own quality control to assure that the Work conforms to the requirements of the Contract Documents.

3.13.4 If procedures for testing, inspection or approval identified herein under Articles 3.13.1 and 3.13.2 reveal failure of a portion(s) of the Work to comply with the Contract Documents, the Contractor shall bear all costs made necessary by such failure(s) including those of repeated procedures and compensation for BAHA services and expenses.

3.13.5 Special inspections to be performed by BAHA as specified in the Contract Documents or as required to comply with the Code or other agency having jurisdiction shall be performed at BAHA's expense.

3.13.6 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and delivered to BAHA within 14 days after each test, unless otherwise specified in the Contract Documents.

3.13.7 Inspections on Premium Time: Premium time is defined as work performed in excess of eight hours per day Monday through Friday and any work performed on Saturday, Sunday, or holiday. Whenever the Contractor intends to perform work during premium time, it shall provide a minimum of two working days written notice of such intention before performing such work. If such work during premium time is discretionary and for the sole benefit of the Contractor, the premium cost of independent inspection shall be reimbursed to BAHA.

3.17.3 Additional Inspections. If a fabricator or manufacturer of a material or equipment requiring independent inspection is inefficiently performing or performing at multiple locations, then BAHA may charge the Contractor for the extraordinary costs incurred.

3.14 USE OF PROJECT SITE

3.14.1 The Contractor shall confine operations at the Project site to areas permitted by law, ordinances, permits and the Contract Documents.

3.14.2 The Contractor shall perform no operations of any nature on or beyond the limits of Work, except as such operations are authorized in the Contract Documents, or authorized by BAHA.

3.14.2.1 Notwithstanding the designation of the Contract limits or the indication of temporary fences or barricades, the provisions of the Contract Documents governing certain portions or phases of the Work may require that certain operations be carried out beyond such designated limits, Contractor shall work with BAHA to obtain in advance of said operations all necessary permits, rights-of-way, or easements, and shall give proper notice thereof to owners of affected properties in accordance with California Civil Code. Contractor shall obtain all such permits, etc. at no cost to BAHA.

3.14.2.2 Pumping, draining, and control of surface and ground water and excavating or other earthwork shall be carried out so as to avoid endangering the Work or adjacent facility or property, or interrupting, or otherwise infringing or interfering with the use thereof. Contractor shall conform to the code and applicable laws and regulations and shall obtain all permits necessary to dispose of surface water or excavated materials from the site.

3.14.2.3 Contractor shall not load nor permit a structure to be loaded in a manner that will endanger the structure nor shall Contractor subject part of the Work or adjacent property to stresses or pressures that will endanger it. Contractor shall assume full responsibility and shall promptly settle all claims for damage caused to any area within the contract limits, or to adjoining areas or the owners or occupants thereof, resulting from the performance of the Work.

3.14.3 The Contractor shall ensure the limits of Work to be free of graffiti or other similar defacements during the time of the Contract; if such defacement occurs, then the Contractor shall properly remove, repair, or correct the affected area(s) within 48 hours, or as otherwise directed by BAHA.

3.14.4 Prohibitions: Pursuant to Article 3.2.2, the use or possession of alcohol, weapons, or illegal controlled substances by the Contractor, or others under the Contractor's control, on Project site is not allowed. Residing on site in temporary facilities by the Contractor or others under the Contractor's control is not allowed unless otherwise specified in the Specifications, Division 1.

3.15 CUTTING AND PATCHING

3.15.1 Contractor shall be responsible for performing, in accordance with the requirements of the Specifications, all cutting, fitting, and patching of the Work that may be required to make all parts fit together or to receive the work of the other contractors shown on, or reasonably implied by, the Contractor Documents for the complete Work.

3.15.2 Contractor shall not damage or endanger any portion of the Work, or other fully or partially completed construction of BAHA or separate contractors by excavation, cutting or

patching or otherwise altering such construction. Contractor shall not cut or otherwise alter such construction by BAHA or a separate contractor except with written consent of BAHA. Contractor shall not unreasonably withhold from BAHA the Contractor's consent to cut or otherwise alter the Contractor's completed Work.

3.16 CLEANING UP

3.16.1 The Contractor shall keep the Project site and surrounding areas free from waste materials and/or rubbish caused by operations under the Contract and at other times when directed by BAHA. At all times while finish Work is being accomplished, floors shall be kept clean, free of dust, construction debris and trash. Upon completion of the Work, the Contractor shall remove from the Project site the Contractor's tools, construction equipment, machinery, and any waste materials not previously disposed of, leaving the Project site thoroughly clean, and ready for BAHA's final inspection.

3.16.2 If the Contractor fails to clean up as provided in the Contract Documents, BAHA may do so and the cost thereof charged to the Contractor.

3.17 ACCESS TO WORK

The Contractor shall provide BAHA and its Project Manager and Representatives continuous access to the Work.

3.18 ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees. The Contractor shall indemnify, defend, and hold harmless BAHA and their commissioners, directors, officers, agents, and employees from and against any and all claims, liabilities, losses, damages or expenses (including reasonable attorneys' fees and related costs, whether or not litigation has commenced) arising out of, relating to, or in connection with the possession or use of any intellectual property provided by Contractor pursuant to this Agreement based on any allegation that such possession or use infringes the proprietary and intellectual property rights of any third party in or to any invention, patent, copyright or any other rights, provided that (a) BAHA notifies Contractor in writing promptly but not more than thirty (30) days after BAHA has actual notice of the claim; (b) Contractor has sole control of the defense and all related settlement negotiations unless otherwise agreed by the parties; and (c) BAHA gives Contractor all available information and reasonable assistance for that defense. If Contractor fails or refuses to defend any such claim, BAHA may assume control of the defense, and Contractor shall indemnify and hold BAHA harmless for all fees, costs, and expenses associated with or arising from such defense.

3.19 INDEMNIFICATION

3.19.1 CONSULTANT agrees to indemnify and hold harmless BAHA, MTC, BATA and BAAQMD, and their commissioners, directors, officers, agents, and employees (collectively "BAHA Indemnified Parties") from and against any and all claims, demands, actions, causes of action, damages, liability, obligation, costs and expenses (including attorney's fees and costs) of any kind whatsoever, including (without limitation) those for personal injuries (including, but not limited to death, bodily injuries, emotional or mental distresses and losses of consortium), property damages or pecuniary, financial or economic losses of any kind whatsoever (collectively "Claims and Losses") if the Claims and Losses are caused by CONSULTANT's breach of

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obligations under this Agreement, willful misconduct, or negligent services performed under this Agreement. It is understood and agreed that Consultant has no obligation to indemnify and hold the BAHA Indemnified Parties harmless if the Claims and Losses are caused by the sole active negligence of the BAHA Indemnified Parties.

3.19.2 CONSULTANT further agrees to immediately defend the BAHA Indemnified Parties with respect to any Claims and Losses if such Claims and Losses are alleged to arise out of or relate to any allegations of CONSULTANT's breach of obligations under this Agreement, willful misconduct, or negligent services performed under this Agreement. As part of this defense obligation, CONSULTANT agrees to either retain counsel to defend the BAHA Indemnified Parties or pay charges of the BAHA Indemnified Parties' attorneys with regard to the Claims and Losses. CONSULTANT's duty to defend shall apply and be enforced even if it is alleged that the acts, omissions or failures to act of parties other than CONSULTANT, including the BAHA Indemnified Parties, caused or contributed to the Claims and Losses.

3.19.2 The provisions set forth in this Section are intended to be applied to the fullest extent allowed under the law and, if any portion of it is found to be void or unenforceable, the remainder is to be severable and enforceable. This indemnification shall survive termination or expiration of this Agreement.

3.20 NOT USED

3.21 CONTRACTOR'S DAILY REPORTS

3.21.1 Contractor shall complete and submit to BAHA on the following working day consecutively numbered Daily Construction Reports in accordance with Division 1.

3.22 ADMINISTRATIVE AND PRECONSTRUCTION SERVICES

Refer to Div. 1 for requirements.

END OF ARTICLE

ARTICLE 4 – ARCHITECT/ENGINEER (A/E)

4.1 SCOPE OF WORK

4.1.1 BAHA has retained the services of an Architecture and Engineering firm (A/E) to develop an appropriate design for the Project.

4.1.2 During Contractor’s Pre-Construction Services Contract phase, the A/E’s BIM Manager will maintain the BIM model. After execution of the Guaranteed Maximum Price, the Contractor shall maintain the BIM model.

4.2 RELATIONSHIP OF PARTIES

4.2.1 The A/E will act, under the circumstances and to the extent authorized by BAHA, as a Designated Representative of BAHA. As such, the A/E will work directly with the Contractor in the development of the design and the construction administration of the Project. The A/E will be authorized by BAHA to visit the site, attend meetings, and engage with the Contractor as necessary to expedite the Project.

4.2.2 There shall be no contractual relationship, express or implied, between the A/E and the Contractor.

END OF ARTICLE

ARTICLE 5 - SUBCONTRACTORS

5.1 SUBLETTING AND SUBCONTRACTING

5.1.1 All Subcontractors shall be selected by the Contractor in accordance with following:

5.1.1.1 The Contractor shall develop the logical, competitive, seamless and distinct Trade Subcontractor bid packages for all scopes of work. The Contractor shall include BAHA's standard Contract and General Conditions in the bid packages. The Contractor shall work on an open book basis with BAHA in establishing scopes and procuring the Subcontractors.

5.1.1.1 The Contractor shall be required to prequalify subcontractors in accordance with BAHA's prequalification criteria, which considers financial, legal, criminal, safety, and performance record among other criteria. Contractor shall assume that all subcontracts whose estimated value exceeds two hundred fifty thousand dollars (\$250,000) shall require prequalification of subcontractors.

5.1.1.2 Prior to prequalification of subcontractors, the Contractor shall publicly advertise all work to be subcontracted with a value estimated to be in excess of one half of one percent (0.5%) of the total GMP. In publicly advertising the work, the Contractor must provide fixed dates, times and locations for which prequalification material and bids for such subcontracted Work will be received and opened.

5.1.1.3 The Contractor may advertise work to be subcontracted in one or more phases.

5.1.1.4 The subcontracted Work shall be awarded to the lowest responsive, responsible prequalified bidder.

5.1.1.5 Pursuant to the provisions of Public Contract Code Section 4100 *et seq.*, Contractor shall set forth immediately following award of each subcontract with a value in excess of one half of one percent (0.5%) of the total GMP:

5.1.1.5.1 The name and location of the place of business of each trade contractor who will perform work or labor or render service to Contractor in or about the construction of the work or improvement, or a trade contractor licensed by the state of California who, under contract to Contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent of Contractor's GMP; and

5.1.1.5.2 The portion of the work (trade) which will be done by each such trade contractor under this act.

5.1.1.6 Contractor shall list only one trade contractor for each such portion as defined by Contractor in its GMP. Contractor shall verify all licenses of listed trade contractors with the Contractors State License Board.

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5.1.1.7 Contractor may not substitute a listed subcontractor with another subcontractor unless one or more of the situations referenced in Section 4107 of the Public Contract Code are met and BAHA consents to the substitution.

5.1.1.8 The Contractor shall not be permitted to self-perform any Work except where:

5.1.1.8.1 Contractor has identified in its GMP the trade it intends to self-perform, and Contractor submits with the GMP the cost and a full detailed cost breakdown of that trade work in a manner acceptable to BAHA and at a cost acceptable to BAHA; or

5.1.1.8.2 Bidding produces no responsible, responsive bidder for that portion of the Work and BAHA approves of the Contractor's performance of the Work to perform.

5.1.1.9 Prior to advertising any Work, the Contractor shall submit a written Scope of Work statement to BAHA. BAHA will review the statement to determine that it affords all qualified bidders a fair opportunity to successfully bid the Work. Upon acceptance of the written Scope of Work statement, BAHA will notify the Contractor, and the Contractor shall not advertise prior to receiving such notification.

5.1.1.10 When the Contractor is procuring items of work or supplies from Subcontractors and suppliers where the cost of the item is equal to or less than one half of one percent (0.5%) of the total GMP, the Contractor shall use sound business practices in making those procurement decisions and document the decisions made to BAHA on a monthly basis in an open book format.

5.1.2 The Contractor is responsible for all Work performed pursuant to the requirements of the Contract Documents, including Work subcontracted to others. All persons engaged in the Work of the Project are the responsibility of and subject to the control of the Contractor.

5.1.3 Not Used.

5.1.4 When any Subcontractor fails to execute a portion of the Work in a manner satisfactory to BAHA, the Contractor must remove such Subcontractor immediately upon written notice from BAHA, and the Subcontractor must not again be employed on the Project.

5.1.5 The Contractor is fully responsible for assigning the Work to the various Subcontractors, suppliers and vendors that will be bidding or performing the Work. BAHA will not entertain requests to arbitrate disputes among Subcontractors or between the Contractor and Subcontractor(s) concerning responsibility for performing any part of the Work.

5.1.6 The Contractor shall submit executed copies of all Subcontracts entered into pursuant to this Contract to BAHA within five (5) calendar days of execution of the subcontract, and prior to any request for progress payment for the Subcontractor.

5.1.7 BAHA shall not permit a Contractor or Subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to Sections 1777.1 or 1777.7 of the Labor Code to bid on, be awarded, or perform Work as a Subcontractor on this Project, which is a public works project.

5.1.8 Any contract on a public works project entered into between a Contractor and a debarred Subcontractor is void as a matter of law. A debarred Subcontractor may not receive any public

money for performing Work as a Subcontractor on a public works contract, and any public money that may have been paid to a debarred Subcontractor by a Contractor on the Project shall be returned to BAHA. The Contractor shall be responsible for the payment of wages to workers of a debarred Subcontractor who has been allowed to work on the Project.

5.1.9 Contractor shall warrant that no firm or personnel involved in the design development of the Project shall be under contract or employed by the Contractor, either directly or through any subcontract, to perform any part of the Project, or on any other project where, in the eyes of BAHA, such Work on any other project is or could be construed as a conflict of interest.

5.2 SUBCONTRACTUAL RELATIONS

5.2.1 The Contractor shall, by Subcontractor Agreement, require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract, and to assume toward the Contractor all the obligations and responsibilities that the Contractor, by the Contract, assumes toward BAHA. Each Subcontractor Agreement shall preserve and protect the rights of BAHA under the Contract Documents with respect to the Work to be performed by the Subcontractor. The Subcontractor shall be allowed, unless specifically provided otherwise in the Subcontractor Agreement, the benefits of all rights, remedies and redress against the Contractor that the Contractor, by the Contract, has against BAHA. The Contractor shall require each Subcontractor to enter into similar agreements with Sub-Subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontractor Agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, shall identify to the Subcontractor the terms and conditions of the proposed Subcontractor Agreement that may or may not be at variance with the Contract. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-Subcontractors.

5.2.2 Subcontractor Payments: Contractor shall return all monies withheld in retention from a Subcontractor within 30 days after receiving payment for Work satisfactorily completed and accepted, including incremental acceptances of portions of the Work by BAHA. Any delay or postponement of payment over 30 days may take place only for good cause and with BAHA's prior written approval. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to Contractor or its Subcontractor in the event of a dispute involving late payment, or nonpayment by Contractor, deficient Subcontractor performance, or noncompliance by a Subcontractor. If so requested by BAHA, Contractor shall provide BAHA with copies of any Subcontractor's invoice to Contractor, along with Contractor's proof of payment to Subcontractor.

5.3 CONTRACT ASSIGNMENTS

Performance of the Contract may not be assigned except upon written consent of BAHA. Consent will not be given to an assignment that would relieve the Contractor or the Contractor's Surety of their responsibilities under the Contract.

5.4 CONTROL OF SUBCONTRACTORS

The Contractor shall:

- Schedule and coordinate the Work of all Subcontractors;

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- Instruct all Subcontractors to consult with other Subcontractors to ascertain the locations of their various materials including stored materials and to familiarize themselves with their own material locations, making such changes as required to obtain the best results;
- Instruct all Subcontractors to schedule their Work and cooperate with the other Subcontractors to avoid delays, interferences, and unnecessary work, to conform to the schedule of operations as indicated in the Official Progress Schedule, and make installations when and where directed.
- Make all necessary changes, including removing and reinstalling of materials, at their sole expense if they fail to check with other Subcontractors, and their installed Work is later found to interfere with Work of other Subcontractors.
- Follow up to ensure that all Subcontractors install their Work when and where directed.

END OF ARTICLE

ARTICLE 6 – CHANGES IN THE WORK

6.1 CONTRACT CHANGE ORDERS

6.1.1 The Contractor shall not be entitled to an increase in the Contract Sum or an extension of the Contract Time if Contractor performs Work that is not required by Contract Documents as amended, modified, or supplemented, or as provided or stated herein, except in the case of emergency or in the case of uncovering Work as provided in Article 12.1. No oral instructions by any person whomsoever shall in any manner or degree modify or otherwise affect the terms of this Contract.

6.1.2 Contract Change Orders made pursuant to this Article shall not release any warranties given by the Contractor, nor shall they relieve or release Contractor's sureties of bonds executed pursuant to said provisions. The sureties have expressly agreed to any such Contract Change Orders and to any extensions of time. Contractor is responsible for giving notice to sureties by the provisions of any bond.

6.2 CHANGE NOTICES AND CHANGE REQUESTS

Either BAHA or the Contractor may initiate Contract Change Orders. BAHA may initiate Contract Change Orders by submitting a Change Notice (CN) in accordance with the requirements of Article 6.2.1. The Contractor may initiate Contract Change Orders by submitting a Change Request (CR) in accordance with the requirements of Article 6.2.2.

6.2.1 Change Notice (CN). BAHA may, at any time during performance of the Contract notify Contractor of changes to the Contract by issuing a Change Notice that will include a detailed description of the proposed additions, deletions or variations along with supplementary or revised Drawings and Specifications, and will request from the Contractor a quotation of cost and time for completing the proposed modifications. Contractor shall, within fourteen (14) calendar days after receipt of such Change Notice, provide to BAHA a written response identifying any proposed adjustment in Contract Price, including any adjustment for cumulative impact costs and schedule to perform the changes identified in the Change Notice, unless another time period for response is specified in the Change Notice. BAHA shall then initiate action to issue an appropriate Contract Change Order.

If BAHA directs Contractor to perform additional Work, the basis for compensation for such Work shall be: 1) negotiated lump sum Contract Change Order, 2) Unilateral Contract Change Order, or 3) Force Account, as determined by BAHA. The markups described in Articles 8.8 shall be the maximum allowed for all additional Work directed by BAHA.

If the Contractor and BAHA cannot agree on the appropriate adjustment to the Contract Price or schedule, Contractor may either accept BAHA's determination or identify and submit the matter as a Dispute pursuant to the provisions of Article 9.3, Dispute Resolution. In the event of a Dispute, Contractor shall proceed with the Work without delay as directed by BAHA.

6.2.2 Change Requests (CR). The Contractor may make a written request to BAHA to modify the Contract based upon the receipt of, or the discovery of information that changes the scope, price, schedule, level of performance, or other facet of the Contract.

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6.2.2.1 Contractor shall submit an Initial Change Request to BAHA within five (5) days after receipt or discovery of information (other than receipt of a "Change Notice") that Contractor believes will cause a change to the scope, price, schedule, level of performance, or other facet of the Contract. All Change Requests, and any Claims based thereon, including any request or claim for cumulative impact costs, shall be deemed waived unless a Change Request is delivered to BAHA within the above stated timeframe.

6.2.2.2 The Initial Change Request shall include information necessary to substantiate the effect of the change and any impacts to the Work, including any change in schedule or Contract Price, and shall include all existing documentation or a description of anticipated documentation.

6.2.2.3 Within fifteen (15) days of submitting the Initial Change Request, the Contractor shall submit a Supplemental Change Request containing:

- The complete nature and circumstances of the change;
- The contract provisions that provide the basis of the change;
- The estimated and itemized cost of the change;
- A time impact analysis illustrating the effect of the change on the scheduled completion date of the contract, if requesting a contract time adjustment.

The Contractor must update the cost estimate or the effect on the scheduled date of contract completion as soon as a change is recognized. Contractor shall reference any other provisions of the Contract that will require modification because of the change. All Change Requests, and any Claims based thereon, including any request or claim for cumulative impact costs, shall be deemed waived unless a Change Request is delivered to BAHA within the above stated timeframe.

6.2.2.4 Within thirty (30) days of the receipt or discovery of information that Contractor believes will cause a change to the scope, price, schedule, level of performance, or other facet of the Contract, the Contractor shall submit a Full and Final Change Request, incorporating all revisions, clarifications and understandings reached from discussions with BAHA and BAHA's Designated Representatives.

6.2.2.4.1 Full and Final Change Request: The Full and Final Change Request quantifies all costs after completion of the disputed Work. The Contractor shall provide the full and final documentation of the Change Request within thirty (30) days of completing the dispute-related Work, or as otherwise directed by BAHA. The documents must contain the following:

- A detailed factual narration describing the nature and circumstances that caused the dispute, including, but not limited to, dates, locations, and items of Work affected by the dispute.
- A reference to the specific Contract provisions supporting the Change Request, and the reasons for entitlement of the Change Request.
- Supporting documentation when additional compensation is in dispute, and an itemized breakdown of costs categorized as follows:

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1. Labor – A listing of personnel, classifications, regular hours and overtime hours worked, dates worked, and other pertinent information related to the requested reimbursement of labor costs.
2. Materials – Invoices, purchase orders, location of materials either stored or incorporated into the Work, dates materials were transported to the project or incorporated into the Work, and other pertinent information related to material costs.
3. Equipment – Dates and hours of use, equipment rental rates, and a detailed description including make, model, and serial number. Equipment rental rates are at the applicable rental rates in effect when the Work in dispute was performed.
4. Other categories as specified by the Contractor or BAHA.

- When an adjustment of contract time is requested:

1. The dates the Contractor believes the Work was delayed because of the disputed issues and the reasons for entitlement for a contract time adjustment.
2. The specific contract provisions providing the basis for a contract time adjustment.
3. A detailed time impact analysis showing the effect of changes or disruptions on the scheduled completion date.

- Copies of documents or records, including oral communications, which support the Change Request.

6.2.2.5 If after receipt of Initial, Supplemental, or Full and Final Change Request, the Change Request or portions thereof are acceptable to BAHA, BAHA will issue a Contract Change Order consistent therewith. If the Contractor and BAHA are in mutual agreement on the terms of the Contract Change Order for the whole or a portion, no other documentation is required for the whole or that portion, and that matter shall be considered settled. If a Supplemental or Full and Final Change Request or portions thereof are not acceptable to BAHA, BAHA will notify the Contractor in writing of its objections.

6.2.2.6 Any request by Contractor to modify the contract must first be submitted to BAHA and proceed as a Change Request pursuant to these provisions. The Contractor may submit the matter as a Dispute pursuant to Article 9.3, Dispute Resolution only if i) the Full and Final Change Request has been denied by BAHA in whole or in part, or ii) the Change Request has not been resolved within ninety (90) days, or such longer time as directed by BAHA, after receipt of Initial Notice of Change Request by BAHA.

6.2.3 At any time, BAHA may direct Contractor to proceed with the changed Work on a Force Account basis or issue a Unilateral Contract Change Order instructing Contractor to proceed with the changed Work based on BAHA's estimate of the cost or time adjustments.

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The unavailability of all information necessary to quantify the change shall not excuse the timely submission of the Initial Change Request. Contractor shall supplement the Change Request with additional information or documentation as requested by BAHA and within the timeframes established in Article 6.2.2. If BAHA has not received sufficient substantiating documentation or information within a reasonable time after receipt of the Initial Change Request, such insufficiency may be grounds to deny the Change Request.

If at any time BAHA at its own discretion determines that the work is not a change to the Contract, BAHA may issue a Field Notice to the Contractor directing the Contractor to proceed with the Work, and the Contractor shall comply without delay. The Contractor shall continue to be responsible for the requirements of 6.2.2.

6.2.4 Unilateral Contract Change Orders: When time does not allow for a Contract Change Order to be negotiated through the process, or when BAHA and Contractor are unable to agree on the cost or Contract time extension required to complete the change in the Work described in a Change Notice or Change Request, BAHA may issue a Unilateral Contract Change Order instructing the Contractor to proceed with the change in the Work based on BAHA's estimate of cost and time. Upon receipt of a Unilateral Contract Change Order, Contractor shall proceed with the ordered Work.

Should Contractor disagree with any terms or conditions set forth in a Unilateral Contract Change Order, Contractor shall submit its notice within seven (7) days of receipt, and if not already done, provide a Supplemental and Full and Final Change Request in accordance with Article 6.2.2. If Notice is not submitted as required, Contractor waives all rights to additional compensation for said Work, and payment made as set forth in the Unilateral Contract Change Order shall constitute full compensation for Work included in the Unilateral Contract Change Order.

6.2.5 Limitation of Change Orders During Construction and Use of Construction Contingency

6.2.5.1 Because of Contractor's preconstruction phase services under Section 011150, Contractor shall be charged with knowledge of all existing conditions, constructability and design coordination knowledge that Contractor either knows or should have known as a result of its services under Section 011150. This knowledge shall specifically include, but is not limited to, the knowledge of all above ground differing site conditions, constructability issues, site access, code compliance, security restrictions, restrictions due to continuing building operations, traffic, parking, and design errors or omissions reasonably known as a result of its preconstruction services. This list is included for purpose of illustration only, and is not exhaustive.

6.2.5.2 Contractor accepts fully the risk that Contract Documents, including plans and specifications, may not conform to existing conditions. Differing site conditions will be deemed known by Contractor if they were subject to visual observation in any manner or could reasonably be deduced by a diligent contractor or construction manager based on supplied information.

6.2.5.3 Where BAHA has engaged the A/E: For purposes of claims and/or change orders resulting from Owner's A/E's design errors and omissions, differing site conditions, difficult construction conditions, or other causes subject to Contractor's preconstruction services in Section 011150, Contractor shall not be entitled to a change in the Contract pricing or schedule for such occurrences, unless the cause results from errors in design

and/or engineering calculations that could not have been reasonably discovered by a diligent contractor or construction manager notwithstanding its satisfactory performance of its work under 011150. Otherwise, such causes shall be deemed “preventable,” and shall not form the basis for a change to the Contract pricing or schedule.

1. For example and solely for purposes of illustration, design errors in the form of conflicting details, uncoordinated drawings, or dimensions not fitting existing conditions or dimensions shown in other drawings, shall be deemed “preventable” and shall not be entitled to for a change to the Contract pricing or schedule.

2. For example and solely for purposes of illustration, design errors in the form of an error in the specification of specific equipment, materials or systems, errors in calculations, or architectural/engineering errors not preventable by a thorough constructability and design coordination review by a contractor or construction manager, shall be deemed “not preventable” and may form the basis for a change to the Contract pricing and/or schedule.

6.2.5.4 Where the Contractor has engaged the A/E: The same principles expressed above in 6.2.5.3 shall apply except that design errors in the form of an error in specification of specific equipment, materials or systems, errors in engineering calculations, or architectural/engineering errors, even if not preventable by a thorough constructability and design coordination review by a contractor or construction manager, shall nonetheless be deemed “preventable” and shall not form the basis for a change to the Contract pricing or schedule.

6.2.5.5 Notwithstanding that Contractor is not entitled to receive a change to the Contract pricing or schedule under this section for “preventable” causes, Contractor may be entitled to charge certain “preventable” costs to the Construction Contingency.

6.3 CONTRACT CHANGE ORDER PRICING

6.3.1 Methods used in determining adjustments to the Contract Sum shall be based on one of the following methods:

6.3.1.1 By mutual acceptance of a lump sum increase or decrease in costs. Upon BAHA's written request, the Contractor shall furnish a detailed estimate of increase or decrease in costs, together with cost breakdowns and other support data within the time specified in such request. The Contractor shall be responsible for any additional costs caused by the Contractor's failure to provide the estimate within the time specified.

6.3.1.2 By BAHA, on the basis of BAHA’s estimate of increase or decrease in the costs (Unilateral Contract Change Order).

6.3.1.3 By BAHA, whether or not negotiations are initiated as provided in Article 6.3.1.1, by actual and necessary costs, as determined by BAHA, on the basis of records (Force Account Work). Beginning with the first day and at the end of each day, the Contractor shall furnish to BAHA detailed hourly records for labor, construction equipment, and services; and itemized records of materials and equipment used that day in performance of the changes, in accordance with Article 8.8, Force Account Payment. Such records shall be on a form acceptable to BAHA. Such records shall be signed by the

Contractor and, when agreed to by BAHA, will become the basis for compensation for the changed Work. Such agreement shall not preclude subsequent adjustment based upon later audit by BAHA.

6.4 DIFFERING SITE CONDITIONS AND UTILITIES

6.4.1 Differing Conditions. Contractor shall promptly, and before such conditions are further disturbed, notify BAHA, in writing, of any:

6.4.1.1 Material that the Contractor believes may be material that is hazardous waste as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, II or III disposal site in accordance with the provisions of existing law.

6.4.1.2 Subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents.

6.4.1.3 Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract.

BAHA will, as soon as practicable, investigate or cause to be investigated the items noted by Contractor and, if it is determined that such conditions do materially so differ, or do involve hazardous waste, and cause an increase or decrease in Contractor's cost of or time required for the performance of any part of the Work under the Contract, whether or not changed as a result of such conditions, an equitable adjustment will be made and the Contract modified.

In the event that a dispute arises between BAHA and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by the Contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

All Change Requests involving differing site conditions and any Claims based thereon shall be deemed waived unless the Contractor has given written notice before the conditions are disturbed as specified herein and in any case no later than five (5) days after the discovery of that event.

6.4.2 Utilities

6.4.2.1 If the Contractor discovers utility facilities not identified in the Contract Documents, the Contractor shall immediately notify BAHA, the A/E, and the utility involved, in writing, of such discovery. When the Contractor is required by the plans and specifications to locate, remove, or relocate utility facilities not identified in the Contract Documents with reasonable accuracy, the Contractor shall be compensated for any reasonable actual added cost incurred. The Contractor shall also be compensated for the cost of repairing any damage resulting from the discovery of such unidentified utility facility when such damage does not result from the failure of the Contractor to exercise reasonable care. All such compensation to the Contractor shall be based on an actual cost plus Contractor and Subcontractor mark-up, except that both the Contractor's and the Subcontractor's mark-up shall be reduced by five (5) percent each, when the damage results from the failure of the Contractor or Subcontractor to exercise reasonable care. BAHA or the public utility, where it is the owner of the utility facilities, shall have the

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sole discretion to perform repairs or relocation work, or permit the Contractor to do such repairs or relocation work at a reasonable price, where such work is required to facilitate the project. Provided the Contractor acts without delay under the direction of BAHA, the Contractor shall not be assessed liquidated damages for delay in the completion of the Project which is caused by the failure of BAHA or the owner of the utility to provide for removal or relocation of such unidentified utility facilities.

6.4.2.2 With the exception of the identification of main or trunk line utility facilities in the Contract Documents, the foregoing provisions shall not apply to, and BAHA shall have no obligation to indicate, the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the construction.

6.4.2.3 Except as expressly provided in Article 6.4.2.1 above, the Contractor shall be responsible at its own cost for all work, expense, or special precautions caused by the existence or proximity of utilities encountered at the site or in the performance of the project work including, without limitation, repair of any damage that may result including any damage resulting from hand or exploratory excavation. The Contractor is cautioned that the utilities encountered at the site may include communication cables or electrical cables conducting high voltage. When excavating in the vicinity of the ducts enclosing such cables, special precautions are to be observed by the Contractor at his own cost and shall include the following: all cables and their enclosure ducts shall be exposed by careful hand excavation so as not to damage the ducts or cables nor cause injury to persons, and appropriate warning signs, barricades, and safety devices shall be erected.

6.4.2.4 The Contractor shall provide as-built drawings of all utilities encountered and constructed to BAHA, indicating the size, horizontal location, and vertical location based on the project benchmark or a stable datum.

END OF ARTICLE

ARTICLE 7 – TIME

7.1 NOTICE TO PROCEED

7.1.1 The Contractor will be notified of the official construction Contract start date by a Notice to Proceed (NTP), upon which the Contractor shall start the Work. Notwithstanding other provisions of the Contract, BAHA will not be obligated to accept or to pay for Work furnished by the Contractor prior to delivery of the NTP whether or not BAHA has knowledge of the furnishing of such Work. The Contractor shall not be allowed on the site of the Work until the Contractor's Contract bonds and certificate of insurance comply with requirements of the Contract.

7.1.2 BAHA may issue a series of Limited Notices to Proceed (LNTP) to notify the Contractor to commence work on a portion or stage of the Work. The scope of the portion or stage of the Work will be specified in the LNTP.

7.2 PROSECUTION OF THE WORK

7.2.1 The continuous prosecution of the Work by the Contractor shall be subject only to the delays as defined in Article 7.4.

7.2.2 From and after the official start date established by the written NTP, the Work of this Contract shall be brought to Substantial Completion and Final Completion, as determined by BAHA and in the manner provided for in the Contract Documents, within the limits of Contract Time.

7.2.2.1 Issuance of a Notice of Substantial Completion may not precede the issuance of a Temporary Certificate of Occupancy, if such Temporary Certificate of Occupancy is required by the authority having jurisdiction over the Work.

7.2.2.2 During the time between Substantial Completion and Final Completion, Contractor shall complete the punch list Work, but Contractor shall not unreasonably disrupt BAHA's beneficial occupancy of the Project or materially restrict public use of the Work.

7.2.2.3 Final Completion is a condition precedent to final payment. BAHA will issue final payment to Contractor acknowledging that the Project is complete and the Work is acceptable to BAHA.

7.2.2.4 The specified limits of Contract Time may be changed only by a Contract Change Order. Claims for compensation because of adjustments of the limits of Contract Time shall be made in accordance with the requirements of Article 9.1, Claims.

7.3 CONTRACT TIME

Time is of the essence. Contractor shall commence the Work of the Contract on the start date established in the written NTP and any LNTPs. It is essential that the Project be completed within the time fixed for Completion in the Contract Documents or liquidated damages will be assessed for delay. All portions of the Work shall be completed with necessary labor, equipment, procedures and overtime and shall be ready for full use by BAHA on, or prior to, the official

completion date. BAHA may occupy or utilize portions of the Project upon Substantial Completion of the Work.

7.3.1 **Contract Time:** Contractor shall reach substantial completion of MTC, Air District, BCDC space and related public spaces and receive temporary certificate of occupancy to allow MTC, Air District, and BCDC move-in on or before September 30, 2013. The Contractor shall properly complete the entire Work of the Contract with respect to the Contract Time. Contractor shall complete the Work, including demobilization, final submittals, and final acceptance on or before November 30, 2013.

7.4 TIME EXTENSIONS

7.4.1 **Request for Time Extension:** In the event the Contractor requests an extension of Contract Time for unavoidable delay, the Contractor shall furnish such justification and supporting evidence as BAHA may deem necessary for the determination as to whether the Contractor is entitled to an extension of Contract Time. The Contractor shall submit justification no later than 7 days after the initial occurrence of any delay. The justification shall be based on the Official Progress Schedule as updated at the time of occurrence of the delay or execution of Work related to any changes to the scope of the Work. The justification shall include, but is not limited to the following information:

7.4.1.1 Duration to perform activity(ies) relating to changes in the Work and resources (manpower, equipment, material, etc.) required performing these activities within the stated duration.

7.4.1.2 Logic ties to the Official Progress Schedule for proposed changes or delay showing activity(ies) in the scheduled start or completion dates are affected by the change or delay.

7.4.2 BAHA, upon receipt of such justification and supporting evidence, shall make its finding of fact. BAHA's decision shall be final and conclusive and BAHA will advise the Contractor in writing of such decision. If BAHA finds that the Contractor is entitled to an extension of Contract Time, BAHA's determination as to the total number of extension days shall be based upon the latest updated version of the Official Progress Schedule. Such data shall be included in the next monthly updating of the schedule.

7.4.3 **Time Extensions:** For delays that BAHA agrees are unavoidable, the Contractor shall, pursuant to the Contractor's application, be allowed an extension of time beyond the Contract Time. During such extension of time, neither extra compensation for engineering and inspection nor liquidated damages will be charged to the Contractor. Time extensions will be granted only for delays or changes that extend the completion date, based on the latest updated version of the Official Progress Schedule. Time extensions for delays and changes will not exceed one day for each day that the Contract completion date of the Official Progress Schedule is extended by this change or delay.

7.4.3.1 In the event it is deemed necessary by BAHA to extend the time for completion of the Work to be performed under these Contract Documents beyond the specified limits of Contract Time as set out in the Contract Documents, such in no way shall release any warranties given by Contractor pursuant to the provisions of the Contract Documents, nor shall such extensions of time relieve or release the sureties on the bonds executed pursuant to said provision.

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7.4.3.2 The sureties in executing such bonds shall be deemed to have expressly agreed to any such extension of time.

7.4.3.3 In no event shall such extension of time be granted subsequent to the date of issuance of the Notice of Final Completion.

7.4.3.4 Granting of an extension of time because of Unavoidable Delays shall in no way operate as a waiver on the part of BAHA of the right to collect liquidated damages for other delays or to collect other damages or to pursue other rights and interests to which BAHA is entitled.

7.4.3.5 Should Contractor, any subcontractor of any tier or supplier of any tier seek an extension of time for the completion of the Work, then Contractor shall submit justification for the extension of the time in compliance with all provisions of these Contract Documents.

7.5 DELAYS IN COMPLETION OF THE WORK

7.5.1 Notice of Delays: Whenever the Contractor foresees delay in the continuance and completion of the Work, or immediately upon the occurrence of any delay which the Contractor regards as unavoidable; the Contractor shall notify BAHA in writing. The Contractor's notice shall include the probability of the occurrences of such delay and its cause in order that BAHA may take immediate steps to prevent the occurrence or continuance of the delay. If the delay cannot be prevented, BAHA will determine whether the delay is unavoidable and to what extent continuance and completion of the Work is anticipated to be delayed.

7.5.1.1 The Contractor shall make no claim for delay not called to the attention of BAHA in writing at the time of its occurrence.

7.5.1.2 Delay in the continuance of parts of the Work that may in themselves be unavoidable but do not necessarily prevent or delay the continuance of other parts of the Work nor the completion of the whole Work within the time specified, shall not constitute an unavoidable delay within the meaning of the Contract.

7.5.1.3 Whenever Contractor has knowledge of an actual or potential labor dispute that will or could delay the performance of its Contract, Contractor shall notify BAHA. In addition, Contractor shall take all appropriate measures to eliminate or minimize the effect of such labor dispute on the currently accepted progress schedule, including but not limited to such measures as: promptly seeking appropriate injunctive relief; filing appropriate charges with the National Labor Relations Board under the applicable provisions of the Labor Management Relations Act of 1947, as amended; filing appropriate damage actions; taking such measures as establishing a reserved gate, as appropriate; if reasonably feasible, seeking other sources of supply or service; or any other measures that may be appropriately utilized as deemed by BAHA to limit or eliminate the effect of the labor dispute on the Work.

7.5.1.4 To the extent Contractor fails to initiate measures that are appropriate, it is not entitled to an extension of time. In addition, any delay impact on any other contractor's schedule or on the progress schedule will be considered as a Contractor-caused delay under any and all applicable provisions of the Contract.

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7.5.2 Justified Delay: Justified delays in the continuance or completion of the Work shall include all delays that result from causes beyond the control of the Contractor and that could not have been avoided by the exercise of due care and diligence on the part of the Contractor or the Contractor's Subcontractors. Delay in completion of the Work due to Contract modifications ordered by BAHA and unforeseeable delays in continuance or completion of the Work of other contractors employed by BAHA may be considered justified delays insofar as they interfere with the Contractor's completion of the Work. Delays due to normal weather conditions that prevent the Contractor from proceeding with the controlling item on the accepted critical path schedule will not be regarded as a justified delay.

7.5.3 Adverse weather shall not be a prima facie reason for the granting of a non-compensable time extension, and Contractor shall make every effort to continue work under prevailing conditions. Such efforts by Contractor shall include, but are not limited to, providing temporary gravel roads; installing a rain dewatering system; protection of interior and exterior areas exposed to rain, wind, and providing temporary heat where required for Work to proceed without delay. BAHA may classify an adverse weather day as a non-compensable Unavoidable Delay, provided Contractor has made efforts to work during adverse weather and to avoid the impacts of adverse weather to its schedule. Regardless of the type and severity of the adverse weather, Contractor shall be responsible for all costs of its efforts to mitigate the impacts of adverse weather to its schedule during the Contract Time.

BAHA will not be responsible for additional costs of the Contractor caused by weather delays, including, but not limited to costs of extended overhead.

7.5.4 No extension of time will be granted for a delay caused by a shortage of materials unless the Contractor furnishes to BAHA's designee documentary proof that the Contractor has made every effort to obtain the materials from all known sources within reasonable reach of the work in a diligent and timely manner, and further proof in the form of revised official progress schedules, as required in Div. 1, Section 013200, "Work Schedules," that the inability to obtain the materials when originally planned, did in fact cause a delay in final completion of the entire Work which could not be compensated for by revising the sequence of the Contractor's operations. The term "shortage of materials," as used in this section, shall apply only to materials, articles, parts or equipment which are standard items and are to be incorporated in the Work. The term "shortage of materials," shall not apply to materials, parts, articles or equipment which are processed, made, constructed, fabricated or manufactured to meet the specific requirements of the contract. Only the physical shortage of material will be considered under these provisions as a cause for extension of time. Delays in obtaining materials due to priority in filling orders will not constitute a shortage of materials.

7.5.5 Right of Way Delays: If, through the failure of BAHA to acquire or clear right of way, Contractor sustains loss which could not have been avoided by the judicious handling of forces, equipment and plant, there shall be paid to the Contractor that amount that BAHA's may find to be a fair and reasonable compensation for that part of the Contractor's actual loss, that, in the opinion of BAHA, was unavoidable, determined as follows:

7.5.5.1 Compensation for idle time of equipment will be determined in the same manner as determinations are made for equipment used in the performance of extra Work paid for on a force account basis, as provided in Article 8.8.9.3, "Equipment Rental," with the following exceptions:

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(1) The right of way delay factor for each classification of equipment shown in the Department of Transportation publication entitled Labor Surcharge and Equipment Rental Rates, which is a part of the contract, will be applied to that equipment rental rate.

(2) The time for which the compensation will be paid will be the actual normal working time during which the delay condition exists, but in no case will exceed 8 hours in any one day.

(3) The days for which compensation will be paid will be the calendar days, excluding Saturdays, Sundays and legal holidays, during the existence of the delay, except that when rental of equipment is paid for under the provisions in Article 8.8.11, "Equipment not at the Site of the Work," no payment will be made for right of way delays in conformance with the provisions in this Article 7.5.5.

7.5.5.2 Actual loss shall be understood to include no items of expense other than idle time of equipment and necessary payments for idle time of workers, cost of extra moving of equipment and cost of longer hauls. Compensation for idle time of equipment will be determined as provided in this Article 7.5.5 and compensation for idle time of workers will be determined as provided in Article 8.8.9.1, "Labor," and no markup will be added in either case for overhead and profit. The cost of extra moving of equipment and the cost of longer hauls will be paid for as extra Work to be completed via Contract Change Order or Force Account.

7.5.5.3 If performance of the Contractor's Work is delayed as the result of the failure of BAHA to acquire or clear right of way, an extension of time determined pursuant to the provisions in Article 7.4, Time Extensions will be granted.

7.5.6 Except for the additional compensation provided for in Article 7.5.5, "Right of Way Delays," and except as provided in Public Contract Code Section 7102, the Contractor shall have no claim for damage or compensation for any delay or hindrance.

7.6 ACCELERATION

7.6.1 BAHA reserves the right to accelerate the Work of the Contract. In the event that BAHA directs acceleration, such directive will be only in written form. The Contractor shall keep cost and other Project records related to the acceleration directive separately from normal Project costs and records, and shall provide a written record of acceleration cost to BAHA on a daily basis.

7.6.2 In the event that the Contractor believes that some action or inaction on the part of BAHA constitutes an acceleration directive, the Contractor shall immediately notify BAHA in writing that the Contractor considers the actions an acceleration directive. This written notification shall detail the circumstances of the acceleration directive. The Contractor shall not accelerate work efforts until BAHA responds to the written notification. If acceleration is then directed or required by BAHA, all cost records referred to above shall be maintained by the Contractor and provided to BAHA on a daily basis.

7.6.3 In order to recover additional costs due to acceleration, the Contractor must document that additional expenses were incurred and paid by the Contractor. Labor costs recoverable will be only overtime or shift premium costs or the cost of additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will be only the cost of added equipment mobilized to the site to accomplish the accelerated work effort.

7.7 LIQUIDATED DAMAGES

7.7.1 For Every Day that the Work remains unfinished after the time fixed for Completion as set out in the Contract Documents, as modified by any approved extension of time, damage will be sustained by BAHA. Because of the difficulty in computing actual material loss and disadvantages to BAHA, it is determined in advance that the Contractor will pay BAHA the amount of damages set forth in the Agreement, as representing a reasonable forecast of actual damages which BAHA will suffer by failure of Contractor to complete the Work within the time fixed for Completion in the Contract. Execution of the Agreement shall constitute acknowledgment by the Contractor that the Contractor agrees that BAHA will actually suffer damages in the amount fixed for every day during which Completion of the Work is avoidably delayed beyond the time fixed for Completion in the Contract.

7.7.2 Liquidated damages shall be considered not as a penalty but as agreed monetary damages sustained by BAHA for increased project administration expenses, including extra inspection, construction management and architectural and engineering expenses related to this Contract because Contractor failed to perform and complete Work within time fixed for completion or extensions of time as have been allowed pursuant to provisions hereof. Liquidated damages shall not be deemed to include within their scope additional damages arising from defective Work, cost of completion of the contract, or damages suffered by other or other forms of liability claimed against BAHA as a result of delay (e.g., delay or delay related claims of other contractors, subcontractors or BAHA tenants) or defense costs thereof; Contractor shall be responsible for the actual amount of any such damages.

7.7.3 Should Contractor fall behind the approved Work Schedule, BAHA reserves right to deduct liquidated damages based on the estimated period of late completion. BAHA need not wait until Contract completion to withhold liquidated damages from the Contractor’s progress payments.

7.7.4 The Contractor shall not be relieved of liability for liquidated damages for any period of delay in completion of the Work in excess of that expressly provided for in this Article 7, Time.

7.7.5 The schedule of liquidated damages shall be as follows:

<u>Event</u>	<u>Liquidated Damages</u>
Contractor shall reach substantial completion of MTC, Air District, BCDC space and related public spaces and receive temporary certificate of occupancy to allow MTC, Air District, and BCDC move-in on or before September 30, 2013.	\$3,000 per calendar day
Contractor shall complete the Work, including demobilization, final submittals, and final acceptance on or before November 30, 2013.	\$3,000 per calendar day.

END OF ARTICLE

ARTICLE 8 – PAYMENTS AND COMPLETION

8.1 CONTRACT SUM

Contract Sum: Payment to Contractor of the Contract Sum shall be full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to the completed Work and for performing all Work contemplated and embraced under the Contract; also for loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the Work until the acceptance by BAHA, and for all risks of every description connected with the prosecution of the Work, also for all expenses incurred in consequence of the suspension or discontinuance of the Work as provided in the contract; and for completing the Work according to the plans and specifications. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective Work or material. No compensation will be made in any case for loss of anticipated profits.

8.1.1 Schedule of Values. Within 21 calendars days of receipt of the Notice to Proceed, but not less than 10 days prior to the Contractor's application for its first progress payment, Contractor shall submit a detailed breakdown of its the Guaranteed Maximum Price, to be adjusted as Direct Costs are determined, with supportive data that shall include but not be limited to the total amount of Work done and acceptable materials furnished as listed in the schedule along with coordination responsibilities and project record document responsibilities, plus any amounts payable for mobilization, and/or such supportive data to substantiate accuracy as BAHA may require. This breakdown shall be referred to as the Schedule of Values and included with the Contractor's Progress Schedule, and will be used as a basis for progress payments. No progress payments will be made on account of lump sum items until BAHA has reviewed and accepted Contractor's Schedule of Values.

8.1.1.1 The specified format and detail of the Schedule of Values shall be as specified in Division 1 or as directed by BAHA to facilitate and clarify progress payments to Contractor for completed Work.

8.1.1.2 The sum of the individual costs listed in the Schedule of Values for each lump sum item shall equal the Guaranteed Maximum Price.

8.1.2 Mobilization

8.1.2.1 Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; for preparation of initial product submittals; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site. Mobilization costs are included in the Contractor's General Conditions Costs.

8.1.2.2 Demobilization shall consist of Work necessary: to complete removal of plant and equipment assembled to construct the Work; to administer completion of punch list Work; to perform final general cleanup; and to assemble and submit all documentation required to close out the project. Demobilization costs are included in the Contractor's General Conditions Cost.

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8.1.2.3 The payments for mobilization and demobilization shall be included within the breakdown of the Schedule of Values and not in addition to the Contract Sum. Payments made for mobilization and demobilization shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the Work as specified herein.

8.1.2.4 When other contract items are adjusted as provided in Article 6.2, Change Request and Change Notices, if the costs applicable to an item of Work include mobilization costs, these mobilization costs will be deemed to have been recovered by the Contractor by the payments made for mobilization, and will be excluded from consideration in determining compensation under Article 6.1.

8.2 TIMELINESS OF PROGRESS PAYMENTS

8.2.1 Upon receipt of a Payment Request with updated Progress Schedule from the Contractor, BAHA will review same to determine if it is a proper Payment Request based on the approved Schedule of Values. Any Payment Request determined by BAHA not to be suitable for payment shall be modified and processed in accordance with the BAHA's assessment. The reason(s) the Payment Request was deemed unsuitable will be stated in writing.

8.2.2 Actual progress payment submittal date will be established by BAHA. Thereafter, the progress payment submittal date shall be monthly on the same date.

8.2.3 Contractor's submitted applications for progress payments or final payments shall warrant title to all Work covered by each application for payment.

8.2.4 BAHA will make the progress payment within 30 days of receipt of an acceptable invoice, approved by the Project Manager. See Article 8.2, Timliness of Progress Payments.

8.2.5 Payment will not be made more frequently than monthly. All Payment Requests shall be made in writing and delivered or mailed to BAHA's Designee.

8.3 RETENTIONS

8.3.1 Upon submittal and receipt of a monthly progress payment request in accordance with Article 8.2, the following shall apply:

8.3.1.1 The Contractor's Payment Request shall include the total amount of Work completed to date, including materials furnished and delivered on the Project site, not used, or in a secure bonded warehouse, and the value of the materials to date. The Contractor shall furnish evidence showing the value of such materials.

8.3.1.2 BAHA shall deduct as retention five percent (5%) of the estimated value of Work completed, except as permitted below.

8.3.1.3 As soon as practicable after approval of each request for progress payment, BAHA will pay to Contractor in manner provided by law, an amount equal to the value minus the amount retained per Article 8.3.1.2, based upon Contract prices of labor and materials incorporated in the Work at the Site until the agreed upon stipulated close of the current monthly progress payment period, less the aggregate of the amount of previous

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payments. Payments, however, may be withheld at any time that the Work, in BAHA's estimation, is not proceeding in accordance with the Contract, or as otherwise provided.

8.3.1.4 Not Used

8.3.1.5 At any time after Substantial Completion of the Work has satisfactorily been achieved, BAHA, at its sole option and discretion, may reduce funds withheld to an amount not less than 125 percent of the estimated value of the Work yet to be completed, plus any additional protections needed as determined by BAHA. The reduction must be approved in writing by the Surety on the Performance and Payment Bonds.

8.3.2 Securities in Lieu of Retention: At the request and expense of the Contractor, and in accordance with Public Contract Code, Section 22,300, the Contractor may provide securities in lieu of retention.

8.4 ASSIGNMENT OF CONTRACT FUNDS

The Contractor may assign moneys due or to become due under the Contract, through an amendment to the Contract. Any assignment of moneys earned by the Contractor shall be subject to proper retention in favor of BAHA and to all deductions provided for in the Contract. All monies withheld, whether assigned or not, are subject to being used by BAHA to the extent permitted by law, for the Completion of the Work in the event that the Contractor is in default of the Contract. Consent of surety shall be required for any assignment requested.

8.5 OCCUPANCY BY BAHA PRIOR TO ACCEPTANCE

8.5.1 BAHA reserves the right to occupy all or any part of the Project prior to completion of the Work, upon written notice. In this event, the Contractor shall be relieved of responsibility to BAHA for injury or damage that results from occupancy and use by BAHA. If, by reason of BAHA's occupancy, the premium for the Contractor's bodily injury and property damage insurance is increased, BAHA will reimburse the Contractor for the additional amount necessarily incurred allocable to the area and the period of BAHA's occupancy up to the date of Acceptance of the Work.

8.5.2 BAHA's occupancy does not constitute Acceptance of the Work by BAHA, or any portion of the Work, nor will it relieve the Contractor of responsibility for correcting defective Work or materials found at any time before Acceptance of the Work, as set forth in Article 3.5, or during the Guarantee period after BAHA's acceptance, as set forth herein in Article 8.6.1. However, when the Project includes separate buildings, and one or more of the buildings is entirely occupied by BAHA, then upon written request by the Contractor and by written consent from BAHA, the Warranty period will commence to run from the date of BAHA's occupancy of such building or buildings.

8.6 ACCEPTANCE OF THE WORK AND FINAL PAYMENT

8.6.1 When the Work is complete, the Contractor shall request a final inspection by BAHA.

8.6.1.1 BAHA will conduct a final inspection within 14 days of receipt of written request from the Contractor for final inspection.

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8.6.1.2 If, after the inspection, BAHA determines that the Work is complete, BAHA will recommend that the Executive Director or his designee formally accept the Work within 30 days after the date of Completion of the Work.

8.6.1.3 Immediately upon Acceptance of the Work by the Executive Director or his designee:

- a) The Contractor will be relieved of the duty of maintaining and protecting the Work, and the Contractor will not be required to perform any further work thereon;
- b) The Contractor shall be relieved of the responsibility for injury to persons or property damage to the work that occurs after Acceptance; and
- c) The Retention held by BAHA will be released thirty days after the recording of a Notice of Completion, less any monies owed to BAHA for damages or withheld by BAHA for stop notices.

8.6.1.4 If BAHA determines that the Work is not complete, the Contractor shall be notified in writing of deficiencies. After correcting all deficiencies the Contractor shall again initiate the procedures for final inspection as set forth above.

8.6.1.5 Determination by BAHA that the Work is complete or Acceptance of the Work will not bar any Claim against the Contractor pursuant to Article 3.5, Warranty.

8.6.2 Upon Acceptance of the Work, BAHA will submit a final statement to the Contractor:

8.6.2.1 The final statement shall take into account the Contract Sum as adjusted by any Contract Change Orders, amounts already paid to the Contractor, sums to be withheld for incomplete Work, liquidated damages, stop notices, and for any other cause under the Contract.

8.6.2.2 A warrant in the amount of the sum due the Contractor, if any, will be issued.

8.6.2.3 If the Contractor owes any amount to BAHA, the final statement shall serve as an invoice to the Contractor.

8.6.3 The Contractor is required to pay Subcontractors from which Retention has been withheld within 7 days of receipt from BAHA of Retention proceeds.

8.6.4 The Contractor has 30 days after receipt of the final statement to file a Claim with BAHA.

8.6.4.1 All Claims shall comply with the requirements of Article 9.1, Claim Procedure.

8.6.4.2 Failure to file a Claim within the 30 day period constitutes a failure to diligently pursue and exhaust the required administrative procedures set forth in the Contract. Such failure shall constitute waiver of additional rights to compensation under the Contract or the right to request Equitable Adjustment.

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8.6.4.3 If the Contractor does not file a Claim within the 30 day period, the final warrant shall be made by BAHA within 30 days thereafter, which will become a complete and final settlement between BAHA and the Contractor.

8.7 INTEREST

Retention payments due and unpaid under the Contract shall earn interest pursuant to Public Contract Code, Section 7107, or Section 22,300, if applicable.

8.8 FORCE ACCOUNT PAYMENT

If it is impracticable because of the nature of Work, or for any other reason, to fix an increase or decrease in price in advance of performing the Work, such extra Work shall be paid for at actual necessary cost as determined by BAHA, which cost shall be determined pursuant to Article 8.8 and shall be known as Force Account Work. Any scope of Work included in a fully executed fixed price Contract Change Order shall not be considered Force Account Work.

If Work is directed by BAHA to be performed on a force account basis, compensation shall be made as set forth in this provision. Such payment shall constitute full compensation to Contractor for Work directed to be performed on force account and no additional compensation will be allowed therefore.

8.8.1 BAHA will direct Contractor to proceed with the Work on a force account basis, and BAHA will establish a “not to exceed” budget.

8.8.2 As all requirements regarding direct costs and markup for overhead and profit are provided in Article 8.8.7.1 for pricing of Force Account Work, BAHA will pay only actual necessary costs verified in the field by BAHA on a daily basis.

8.8.3 Contractor shall be responsible for all costs related to the documentation, data preparation, and administration of Force Account Work. Compensation for such costs shall be fully covered by the markup for overhead and profit markup as provided in Article 8.8.7.1.

8.8.4 Whenever any Force Account Work is in progress, Contractor shall report to BAHA in writing in detail the amount and cost of labor and material used, and any other expense incurred in Force Account Work on the following work day, and no claim for compensation for Force Account Work will be allowed unless a report shall have been made. Such records shall be maintained in such a manner so as to be completely discernible from records associated with the basic Contract scope. In addition, Contractor shall notify BAHA when the cumulative costs incurred by the Contractor for Force Account Work equals 80 percent of the “not-to-exceed” budget pre-established by BAHA. Contractor may not be compensated for Force Account Work exceeding the “not to exceed” budget amount if Contractor fails to provide the required notice before exceeding 80 percent of the force account budget.

8.8.5 Prices for Work that are already established in the contract shall be used for Force Account Work when applicable.

8.8.6 If Contractor and BAHA reach a negotiated, signed agreement on the cost of a Contract Change Order while the Work is proceeding on a force account basis, Contractor’s signed written reports shall be discontinued and all previously signed reports shall become invalid.

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8.8.7 Cost Determination: Total direct cost for Force Account Work is the sum of labor costs, material cost, equipment rental costs, and Special Forces cost, plus overhead and profit as allowed herein. Special Forces costs are defined in Article 8.8.12. No other costs, including special damages of any type, arising out of or connected with the performance of Force Account Work, of any nature, may be recovered by the Contractor.

8.8.7.1 Contractor's markup for overhead and profit are defined by the following limitations and shall apply to Force Account Work and any Contract Modification:

8.8.7.1.1 For Work performed by the Contractor, to the total of the direct costs computed as provided in Articles 8.8.9.1, Labor, 8.8.9.2, Materials, and 8.8.9.3, Equipment Rental, there will be added a markup not to exceed 20 percent to the cost of labor, 15 percent to the cost of materials, and 15 percent to the cost of equipment rental.

8.8.7.1.2 For Work performed by a first level subcontractor, to the total of the direct costs as provided herein, there will be added a markup not to exceed 20 percent to the cost of labor, 15 percent to the cost of materials and 15 percent to the cost of equipment rental. Contractor shall receive a maximum 5 percent markup on the Subcontractor's total direct cost.

8.8.7.1.3 For Work performed by a lower tier subcontractor or supplier, to the total of the direct costs as provided herein, there will be added a markup not to exceed 20 percent to the cost of labor, 15 percent to the cost of materials and 15 percent to the cost of equipment rental. In no case shall the sum of the individual markups applied to a Force Account exceed 25 percent, regardless of the number of Subcontractor tiers involved in performing the Work.

8.8.7.1.4 For Deleted Work: When BAHA is entitled to a credit for deleted Work, the credit shall include direct labor, materials, and supervision plus overhead of the Contractor or Subcontractor, as applicable for the deleted Work. Deleted overhead shall be computed as 5 percent of the direct labor, materials, and supervision.

8.8.7.1.5 When both additions and credits are involved in any one Force Account, Contractor's markup shall be applied to its direct costs for the net change in cost of the Work.

8.8.7.1.6 The Contractor and subcontractors are permitted to add their cost of insurance and bonds to the costs determined above, not to exceed 2% of the total direct cost. Insurance and bonds costs must be supported by backup documentation.

8.8.7.2 Cost Included as Part of Markup for Overhead and Profit:
Certain costs are included as part of markup for overhead and profit for Force Account Work shall be included in the markup. No separate allowance or itemization for overhead costs shall be allowed. The following is a list, not intended to be comprehensive, of types of costs that are included in the markup for overhead and profit for all Force Account Work:

8.8.7.2.1 Field and home office personnel including, but not limited to, principals, project managers, superintendents, supervisory foreperson, estimators,

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project engineers, detailers, draftspersons, schedulers, consultants, watch persons, payroll clerks, administrative assistants, and secretaries.

8.8.7.2.2 All field and home office expenses including, but not limited to, field trailers, parking, storage sheds, office equipment and supplies, telephone service at the Site, long-distance telephone calls, fax machines, computers and software, temporary utilities, sanitary facilities and services, janitorial services, small tools and equipment with a cost under \$1,000 each, portable scaffolding, blocking, shores appliances, job vehicles, security and fencing, conformance to all regulatory requirements including compliance to safety regulations, safety programs and meetings, cartage, warranties, record documents, and related maintenance costs.

8.8.7.2.3 Administrative functions including, but not limited to, reviewing, coordinating, distributing, processing, posting, recording, estimating, negotiating, scheduling, schedule updating and revising, expediting, surveying, engineering, drawing, detailing, revising shop drawings, preparing record drawings, carting, cleaning, protecting the Work, and other incidental Work related to Force Account Work or other Contract Modifications.

8.8.7.2.4 All other costs and taxes required to be paid but not included under direct costs as defined in Article 8.8.7.1.

8.8.7.3 Cost Disallowance: Costs that shall not be allowed or paid in Contract Change Orders or Claim settlements under this Contract include, but are not limited to, interest cost of any type other than those mandated by statute; Claim preparation or filing costs; legal expenses; the costs of preparing or reviewing proposed Contract Change Orders or Contract Change Order proposals concerning Contract Change Orders that are not issued by BAHA; lost revenues; lost profits; lost income or earnings; rescheduling costs; costs of idled equipment when such equipment is not yet at the site or has not yet been employed on the Work; lost earnings or interest in unpaid retainage; Claims consulting costs; the costs of corporate officers or staff visiting the site or participating in meetings with BAHA; any compensation due to the fluctuation of foreign currency conversions or exchange rates; or loss of other business.

8.8.8 OWNER-OPERATED EQUIPMENT

When "Owner-Operated Equipment" is used to perform Work to be paid on a force account basis, Contractor will be paid for the equipment and operator, as follows:

Payment for the Equipment will be made in accordance with Article 8.8.9.3, Equipment Rental.

- Payment for the cost of labor will be made at the rates paid by Contractor to other workmen operating similar equipment already on the project or, in the absence of such other workmen, at the rates for such labor established by collective bargaining agreements for the type of workmen and location of the Work, whether or not the "Owner-Operator" is actually covered by such an agreement. A labor surcharge will be added to the cost of labor described herein, in accordance with the provisions of Article 8.8.9.1, Labor. Prior to the start of any Work, BAHA shall have final approval of any subsistence or a travel budget if necessary in the discharge of Work performed by "Owner-Operator".

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- In addition to the direct cost of equipment rental and labor, computed as provided herein, a markup for overhead and profit will be applied as defined in Article 8.8.7 Cost Determination.

8.8.9 COST OF THE WORK

Direct Cost Defined: Direct cost shall mean the sum of the following directly required for the performance of the Force Account Work.

8.8.9.1 LABOR

Contractor will be paid the cost of labor for the workers (including foremen when authorized by BAHA) used in the actual and direct performance of Force Account Work or any other extra Work. The cost of labor, whether the employer is Contractor, subcontractor, or other forces, will be the sum of the following:

Actual Wages: The actual wages paid shall include any employer payments to or on behalf of the workmen for health and welfare, pension, vacation, insurance, overtime, plus other additives in accordance with collective bargaining agreements.

Labor Surcharge: The Labor Surcharge shall be as set forth in the California Department of Transportation's Labor Surcharge & Equipment Rental Rate Book in effect on the date upon which the extra Work is accomplished, incorporated by reference as though set fully herein. As stated: "The labor surcharge compensates the contractor for statutory payroll items stipulated by various governmental agencies. The six items included are Workers' Compensation, Social Security, Medicare, Federal Unemployment, State Unemployment, and State Training taxes."

8.8.9.2 MATERIALS

BAHA reserves the right to furnish such materials as it deems advisable, and Contractor shall have no claims for costs and markup on such materials.

Only materials furnished by Contractor and necessary to be used in the performance of the Work will be paid for. Accordingly, BAHA will pay Contractor only for those materials furnished by Contractor and directly required for performing any Force Account Work. The cost of such materials shall be the direct cost, including sales tax, to the purchaser, whether Contractor, subcontractor or other forces, from the supplier thereof, except as the following are applicable:

8.8.9.2.1 If a cash or trade discount by the actual supplier is offered or available to the purchaser, it shall be credited to BAHA notwithstanding the fact that such discount may not have been taken.

8.8.9.2.2 If materials are procured by the Contractor and/or subcontractor by any method that is not a direct purchase from and a direct billing by the actual supplier to such purchaser, the cost of such materials shall be deemed to be the price paid to an actual supplier as determined by BAHA. No markup except for actual costs incurred in the handling of such materials will be permitted. Delivery

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charges will not be allowed unless delivery is specifically required for Force Account Work.

8.8.9.2.3 If the materials are obtained from a supply or source owned wholly or in part by the purchaser, payment therefore will not exceed the price paid by the purchaser for similar materials furnished from said source on contract items or the current wholesale price for such materials delivered to the jobsite, whichever price is lower.

8.8.9.2.4 If the cost of such materials is, in the opinion of BAHA, excessive, then the cost of such material shall be deemed to be the lowest current wholesale price at which such materials are available in the quantities delivered to the jobsite, less any discounts as provided above.

8.8.9.3 EQUIPMENT RENTAL

For Contractor or Subcontractor-owned equipment, payment will be made at the lesser of the rental rates specified for equipment in California Department of Transportation's Labor Surcharge & Equipment Rental Rate Book in effect on the date which Force Account Work is accomplished.

For rental equipment, payment will be made based on actual rental invoices for which either daily, weekly, or monthly rates shall be used, whichever is lowest. Such rental rates shall be used to compute payments for equipment, regardless of whether the equipment is under Contractor's control through direct ownership, leasing, renting, other method of acquisition. If, however, equipment of unwarranted size or type is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals.

Unless otherwise specified, manufacturer's ratings and manufacturer-approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment that has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

Individual pieces of equipment or tools having a replacement value of \$1,000 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included as part of Contractor's markup for overhead and profit as defined in Article 8.8.7.

Operators of rental equipment will be paid for as provided in Article 8.8.9.1, Labor. All equipment shall, in the opinion of BAHA, be in good working condition and suitable for the purpose for which the equipment is to be used.

Rental time will not be allowed while equipment is inoperative due to breakdowns.

8.8.10 EQUIPMENT AT THE SITE OF THE WORK

The rental time to be paid for equipment on the Work shall be the time the equipment is in operation on the Work being performed or standby as approved by BAHA, and in addition, shall

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include the time required to move the equipment to the location of the Work and return it to the original location or to another location requiring no more time than that required to return it to its original location, except that moving time will not be paid for if the equipment is used at the site of the Work on other than such Work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made if the equipment is used at the site of the Work on other than such Work. The following shall be used in computing the rental time of equipment on the Work:

- When hourly rates are listed, less than 30 minutes of operation shall be considered to be one-half hour of operation.
- When daily rates are listed, less than 4 hours of operation shall be considered to be one-half day of operation.
- When operation of equipment is greater than 4 hours but less than 8 hours, this will constitute a full day.

8.8.11 EQUIPMENT NOT AT THE SITE OF THE WORK

For the use of equipment moved onto the site of the Work and used exclusively for Work paid for on a force account basis Contractor will be paid the rental rates as determined in the Article entitled "Equipment Rental" and for the cost of transporting the equipment to the location of the Work and its return to its original location, all in accordance with the following provisions. The original location of the equipment to be hauled to the location of the Work shall be agreed to by BAHA in advance.

- BAHA will pay the cost of loading and unloading such equipment.
- Payment for transporting, and loading and unloading equipment as above provided will not be made if equipment is used on Work in any other way than upon the Force Account Work.
- The rental period shall begin at the time the equipment is unloaded at the site of the Work, shall include each day that the equipment is at the site of the Work, excluding Saturdays, Sundays, and Official Holidays unless the equipment is used to perform the Work on such days, and shall terminate at the end of the day on which the Force Account Work is completed or the equipment is no longer needed for this specific scope of Force Account Work.
- The hours to be paid for equipment that is operated less than 8 hours due to breakdowns shall not exceed 8 less the number of hours the equipment is inoperative due to breakdowns.

Should Contractor desire the return of the equipment to a location other than its original location, BAHA will pay the cost of transportation in accordance with the above provisions, provided such payment shall not exceed the cost of moving the equipment to the Work.

When Work, other than Work specifically designated as Work in the Contract Documents, is to be paid for on a force account basis and BAHA determines that such Work requires Contractor to move equipment to the site which could not reasonably have been expected to be needed in the

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performance of the Contract, payment for the use of such equipment at equipment rental rates in excess of those listed as applicable for the use of such equipment will be made subject to the following additional conditions:

- BAHA shall specifically approve, in advance, the necessity for the use of particular equipment on such Work.
- Contractor shall establish to the satisfaction of BAHA that such equipment cannot be obtained from its normal equipment source or sources and those of its subcontractors.
- Contractor shall establish to the satisfaction of BAHA that the proposed equipment rental rate for such equipment from its proposed source is reasonable and appropriate for the expected period of use.
- BAHA shall approve, in advance, the equipment source and the equipment rental rate to be paid by BAHA before Contractor obtains equipment or begins Work involving the use of said equipment.

8.8.12 WORK PERFORMED BY SPECIAL FORCES OR OTHER SPECIAL SERVICES

When BAHA and Contractor, by mutual agreement in advance of starting the Work, determine that a special service or an item or Work cannot be performed by the forces of Contractor, or those of any of its subcontractors, such service or Work item may be performed by a specialist. Invoices for such service or item of Work, performed by a specialist on the basis of the current market price thereof, may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with the established practice of the special service industry to provide such complete itemization.

In those instances wherein a Contractor is required to perform Work necessitating a fabrication or machining process in a fabrication or machine shop facility away from the jobsite, the charges for that portion of the Work performed in such a facility, may by mutual agreement, be accepted as a specialist billing. BAHA must be notified in advance of all off-site Work.

In lieu of the percent markups provided above in Article 8.8.7, Cost Determination, a 10 percent markup will be added to the specialist price, less a credit to BAHA for any cash or trade discount offered or available, whether or not such discount may have been taken.

8.9 GUARANTEED MAXIMUM PRICE

8.9.1 As part of the Contractor's Preconstruction Services, during the development of the Construction Documents, at a point where the potential for scope change is minimized, BAHA will direct the Contractor to submit its proposed Guaranteed Maximum Price (GMP) to construct the Project. The GMP submittal shall provide cost estimates for the Work in sufficient detail to clearly identify the component phases and stages of the Work packaging plan.

8.9.2 The Contractor and all Subcontractors shall adopt an "open book" form of cost accounting that provides BAHA the opportunity to examine the underlying bases and details for all cost estimates. The open book approach is intended to encourage a level of collaboration characterized by sharing project cost information openly, defining risk and profit appropriately, and creating a high level of trust among all the parties.

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8.9.3 Upon BAHA's acceptance of the GMP, the Contractor warrants that the cost of the Work to BAHA may be less than the GMP, but will in no case exceed the GMP. The GMP may be adjusted from time to time during the course of the Project by Contract Change Order to account for substantial changes in scope.

8.9.4 The contract amount for the Project is guaranteed by the Contractor not to exceed the GMP, as set forth in the Agreement. The GMP shall be supported by a line item cost breakdown for each subcontractor, including Contractor contingency on overall cost of the Work, and based on multiple trade subcontractor bids for each trade contract obtained as provided in these General Conditions. The GMP shall be subject to additions and deductions by Contract Change Order as provided in this Article 6, Changes in the Work.

8.9.5 By signing the Construction Amendment for the Guaranteed Maximum Price, the Contractor agrees that he has reviewed and accepted the Contract Documents, including plans and specifications, as complete and that he has no right for Contract Change Orders due to conflicts, ambiguities or omissions in the Contract Documents or in the subcontractor bid packages. The cost of Contract Change Orders or extra Work due to conflicts, ambiguities or omissions in the Contract Documents or in the subcontractor bid packages and for any construction phase Contract Change Orders arising from subcontractors' performance, as determined by BAHA, shall be paid by the Contractor from the Construction Contingency, as set forth in the Agreement.

8.9.6 If the cost of the Work, excluding BAHA-requested changes and unforeseen conditions, exceeds the GMP, adjusted from time to time by Contract Change Order, the Contractor shall pay the overrun without reimbursement by BAHA. If the actual cost of the Work, excluding BAHA-requested changes, is less than the GMP, adjusted from time to time by Contract Change Order, then the Contractor shall return the Direct Cost savings and BAHA's portion of Construction Contingency to BAHA in the final Contract Change Order. Contractor agrees to use all reasonable efforts to maximize cost savings for the benefit of BAHA.

8.9.7 The GMP shall consist of the following components:

- 8.9.7.1 Contractor's Direct Cost
 - 8.9.7.1.1 Labor, material, equipment for self-performed work packages, if any
 - 8.9.7.1.2 Subcontract work packages
- 8.9.7.2 Contractor's General Conditions Cost
- 8.9.7.3 Contractor's Fee
- 8.9.7.4 Construction Contingency

The Contractor shall present the proposed GMP and associated back-up documentation to BAHA, subdivided per the components shown above. The Contractor's proposed GMP will be reviewed by BAHA, and BAHA may require the Contractor to make clarifications, adjustments and revisions as deemed necessary prior to approval by BAHA.

8.9.8 Progressive GMPs: As the time phasing of the Contractor's Work packaging plan is developed, BAHA may require the Contractor to generate individual GMPs for certain phases or packages as the design nears completion. Under this arrangement, the final GMP becomes the sum of the individual GMPs.

8.9.9 All costs, expenses and charges necessary to complete the Work shall be paid and reimbursed from the GMP up to (but under no circumstances exceeding) the GMP

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amount and interim GMPs as negotiated. Unused amounts and allowances within the GMP will revert to BAHA. Contractor shall have no right to any of the "savings" between the GMP and the actual approved/spent costs for the Work, nor shall Contractor have any right to any unearned amounts.

8.10 CONSTRUCTION CONTINGENCY

8.10.1 Construction Contingency: The Contractor and BAHA shall set a mutually agreed upon Construction Contingency within the Guaranteed Maximum Price.

8.10.2 The Contractor may, with BAHA approval, charge costs up to but not over the amount of the mutually agreed upon Construction Contingency for changes and direct construction costs that Subparagraph 6.2.5 deems "preventable" and/or otherwise not a basis to increase the Contract Sum, provided such costs meet one of the following criteria:

8.10.2.1 The costs were incurred as a consequence of errors or omissions in the plans and specifications of the designs prepared by the Contractor's Architect/Engineer, engaged by Contractor to prepare underlying designs, so long as such costs do not result from Contractor's gross negligence or willful misconduct.

8.10.2.2 The costs were incurred as a consequence of Contractor's errors or omissions in performing Contractor's Pre-Construction Phase or Construction Phase Services, so long as costs do not result from Contractor's gross negligence or willful misconduct.

8.10.2.3 Any of the above mentioned costs that exceed the amount of the Construction Contingency, however shall no be reimbursed.

The Contractor shall not include mark-up for overhead and profit on changes necessitated by such "preventable" causes. The Construction Contingency shall include material price and labor escalation.

8.10.3 Contractor may not charge against contingency the costs of rework of defective work. Contractor may, however, charge against contingency the costs of acceleration and other types of unforeseeable subcontractor cost overruns.

8.10.4 Upon Project completion, Contractor shall receive thirty percent (30%) of remaining unused portion of the Construction Contingency applicable to the Project, and all remaining unused portions shall revert to BAHA. Contract Sum shall be adjusted accordingly with the following exception:

8.10.4.1 Should the Construction Contingency exceed three percent (3%) of the Direct Cost of the Work at the time of creation of the GMP, the Contractor shall not be eligible for shared savings for that portion of the Contract Contingency greater than 3% of the Direct Cost of the Work. The portion of the Contract Contingency greater than 3% shall be the last part of the Construction Contingency that is used for the Work.

8.10.5 Prior to final payment, an appropriate Change Order will be issued to reflect actual amounts due Contractor on account of costs properly charged against this Construction Contingency, and the Contract Sum will be correspondingly adjusted.

8.10.6 BAHA shall determine in its sole discretion which, if any, costs it will authorize to be paid from the Construction Contingency. If Contractor disagrees with any BAHA determination

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in this regard, Contractor may pursue a claim under Article 9.

8.11 With each monthly payment request, the Contractor shall submit an accounting of the Contractor's use of its contingency, along with documentation of BAHA's approval. This accounting shall be presented to BAHA as a draw against the Construction Contingency.

END OF ARTICLE

ARTICLE 9 – DISPUTES AND CLAIMS

9.1 CLAIM PROCEDURES

9.1.2 Claim Requirements:

9.1.2.1 Any submittal intended by the Contractor to be evaluated by BAHA as a Claim shall be entitled “Claim.”

9.1.2.2 Claims shall be in writing and must be submitted with all documents necessary to substantiate the Claim. A Claim must state in as much detail as possible the basis for the Claim and the additional compensation or extra time to which Contractor believes it is entitled. If the Claim is silent regarding entitlement to extra time, Contractor shall be entitled to no extra time in connection with the Claim. If the Claim is silent regarding additional compensation, Contractor shall be entitled to no additional compensation in connection with the Claim.

9.1.2.3 Contractor must notify BAHA promptly in writing of any changes in its estimates of additional compensation or extra time, and the notification must state the reasons for the changes.

9.1.2.4 All Claims and any amendments thereto shall include the fully executed certification set forth below. Any Claim submitted without a fully executed certification shall be rejected by BAHA and returned to the Contractor.

I, _____, BEING THE _____ (MUST BE AN OFFICER) OF _____ (CONTRACTOR), DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA, AND DO PERSONALLY CERTIFY AND ATTEST THAT I HAVE THOROUGHLY REVIEWED THE ATTACHED CLAIM FOR ADDITIONAL COMPENSATION AND/OR EXTENSION OF TIME, AND KNOW ITS CONTENTS, AND SAID CLAIM IS MADE IN GOOD FAITH; THE SUPPORTING DATA IS TRUTHFUL AND ACCURATE; THAT THE AMOUNT REQUESTED ACCURATELY REFLECTS THE CONTRACT ADJUSTMENT FOR WHICH THE CONTRACTOR BELIEVES BAHA IS LIABLE; AND, FURTHER, THAT I AM FAMILIAR WITH CALIFORNIA PENAL CODE SECTION 72 AND CALIFORNIA GOVERNMENT CODE 12650, ET SEQ, PERTAINING TO FALSE CLAIMS, AND FURTHER KNOW AND UNDERSTAND THAT SUBMISSION OR CERTIFICATION OF A FALSE CLAIM MAY LEAD TO FINES, IMPRISONMENT, AND/OR OTHER SEVERE LEGAL CONSEQUENCES.

By _____

9.1.2.5 No Claims shall be filed later than 30 days after receipt of the final statement, as described in Section 8.6.4.

9.1.3 Claims Review:

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9.1.3.1 For Claims of less than \$50,000, BAHA shall respond in writing to Contractor's Claim within forty-five (45) calendar days after BAHA's receipt of the Claim or BAHA may request in writing, within thirty (30) days of receipt of the Claim, any additional information or documentation supporting the Claim or relating to defenses to the Claim BAHA may have against the Contractor. If additional information is thereafter required, it shall be requested and provided upon mutual agreement of BAHA and the Contractor.

BAHA's written response to the Claim, as further documented, shall be submitted to Contractor within fifteen (15) days after receipt of the further information or documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

9.1.3.2 For Claims of over \$50,000 and less than or equal to \$375,000, BAHA shall respond in writing to Contractor's Claim within sixty (60) days of receipt of the Claim, or may request, in writing, within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim BAHA may have against the Contractor. If additional information is thereafter required, it shall be requested and provided upon mutual agreement of BAHA and the Contractor. BAHA's written response to the Claim, as further documented, shall be submitted to the claimant within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater

9.1.3.3 For Claims exceeding \$375,000, BAHA may, at its option, notify the Contractor of extended time periods for review and response.

9.1.4 Meet and Confer:

9.1.4.1 If Contractor disputes BAHA's written response, or if BAHA fails to respond within the time prescribed, Contractor may so notify BAHA, in writing, either within fifteen (15) days of receipt of BAHA's response or within fifteen (15) days of BAHA's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, BAHA shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

9.1.4.2 Following the meet and confer conference, if the Claim or any portion remains in dispute, Contractor may file a Government Code claim as provided in Chapter 1 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a Government Code claim must be filed shall be tolled from the time Contractor submits its written Claim pursuant to the above provisions until the time the Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

9.1.4.3 The above procedures do not apply to Government Code claims for tort damages and are not intended, and shall not be construed, to change the time for filing such claims actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with section 910) of Part 3 of Division 3.6 Title 1 of the Government Code.

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9.1.5 Procedures for Civil Actions: Public Contract Code Section 20104.4, set forth below, establishes the following procedures for all civil actions filed to resolve claims of \$375,000 or less under this Contract:

- (a) *Within 60 days, but no earlier than 30 days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.*
- (b)
 - (1) *If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.*
 - (2) *Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.*
 - (3) *In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.*
- (c) *The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.*

The above claims procedures are also subject to Public Contract Code § 20104.6, which provides:

- (a) *No local agency shall fail to pay money as to any portion of a claim that is undisputed except as otherwise provided in the contract.*
- (b) *In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.*

9.2 AUDITS AND ACCESS TO RECORDS

9.2.1 RECORDS

Contractor shall maintain full and adequate books, records, and accounts in accordance with generally accepted accounting practices. All such books, records, accounts, and any and all work products, materials, and other data relevant to its performance under this Agreement shall be retained by Contractor for a minimum of four (4) years following the fiscal year of the last expenditure under this agreement.

9.2.2 AUDITS

Contractor shall permit BAHA and its authorized representatives to have access to Contractor's books, records, accounts, and any and all work products, materials, and other data relevant to this Agreement, for the purpose of making an audit, examination, excerpt and transcription during the term of this Agreement and for the period specified in Article 9.2.1, Records, above. Contractor shall in no event dispose of, destroy, alter, or mutilate said books, records, accounts, work products, materials and data for that period of time.

Contractor further agrees to include in all its subcontracts hereunder a provision to the effect that the subcontractor agrees that BAHA or any of its/their duly authorized representatives shall have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor for the term specified above. The term "subcontract" as used in this clause excludes agreements not exceeding \$25,000.

9.3 DISPUTE RESOLUTION

9.3.1 To assist in the resolution of Disputes arising out of the Work of this project, a Dispute Review Board, hereinafter referred to as the "DRB", shall be established by BAHA and Contractor cooperatively upon approval of the Contract. The DRB shall not be considered to serve as a substitute for any requirements in the specifications in regard to filing of Change Requests. The requirements and procedures established in this special provision shall be considered as an essential prerequisite to filing a Claim, for arbitration or for litigation prior or subsequent to Project completion. The DRB shall be utilized when resolution of Disputes at the job level are unsuccessful.

9.3.2 The DRB shall function until the day of acceptance of the Contract, at which time the work of the DRB will cease except for completion of unfinished Dispute hearings and reports. After acceptance of the Contract any Disputes that the Contractor wants to pursue that have not been settled, shall be stated or restated, by the Contractor, in response to the proposed final payment and submitted as a Claim.

9.3.3 Disputes, as used in this section, shall include all differences of opinion, properly noticed as provided hereinafter, between BAHA and Contractor on matters related to the Work and other subjects considered by BAHA or Contractor, or by both, to be of concern to the DRB on this project, except matters relating to Contractor, subcontractor or supplier claims not actionable against BAHA.

9.3.4 The DRB shall serve as an advisory body to assist in the resolution of Disputes between BAHA and the Contractor, hereinafter referred to as the "parties". The DRB shall consider Disputes referred to it, and furnish written reports containing findings and recommendations

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pertaining to those Disputes, to the parties to aid in resolution of the differences between them. DRB findings and recommendations are not binding on the parties.

9.3.5 The DRB shall consist of one member selected by BAHA, one member selected by the Contractor, and a third member selected by the first two members and approved by both BAHA and the Contractor. The third member shall act as DRB Chairperson.

9.3.6 The first two DRB members shall select a third DRB member subject to the mutual approval of the parties, or may mutually concur on a list of potentially acceptable third DRB members and submit the list to the parties for final selection and approval of the third member. The goal in selection of the third member is to complement the professional experience of the first two members, and to provide leadership for the DRB's activities.

9.3.7 No DRB member shall have prior direct involvement in this Contract, and no member shall have a financial interest in this Contract or the parties thereto, within a period of 6 months prior to award of this Contract, or during the Contract, except as follows:

1. Compensation for services on this DRB.
2. Ownership interest in a party or parties, documented by the prospective DRB member, that has been reviewed and determined in writing by BAHA to be sufficiently insignificant to render the prospective member acceptable to BAHA.
3. Service as a member of other Dispute Review Boards on other contracts.
4. Retirement payments or pensions received from a party that are not tied to, dependent on or affected by the net worth of the party.
5. The above provisions apply to any party having a financial interest in this Contract; including but not limited to contractors, subcontractors, suppliers, consultants, and legal and business services.

9.3.8 DRB members shall be especially knowledgeable in the type of construction and contract documents potentially anticipated by the Contract, and shall discharge their responsibilities impartially and as an independent body considering the facts and circumstances related to the matters under consideration, applicable laws and regulations, and the pertinent provisions of the Contract.

9.3.9 BAHA and the Contractor shall select their respective DRB members, in accordance with the terms and conditions of the Dispute Review Board Agreement and these general conditions, within 45 days of the approval of the Contract. Each party shall provide written notification to the other of the name of their selected DRB member along with the prospective member's written disclosure statement.

9.3.10 Before their appointments are final, the first two prospective DRB members shall submit complete disclosure statements to both BAHA and the Contractor. The statement shall include a resume of the prospective member's experience, together with a declaration describing all past, present and anticipated or planned future relationships, including indirect relationships through the prospective member's primary or full-time employer, to this project and with all parties involved in this construction Contract; including, but not limited to, any relevant subcontractors or suppliers to the parties, the parties principals or the parties' counsel. The DRB members shall also include a full disclosure of close professional or personal relationships with all key members of all parties to the Contract. Either the Contractor or BAHA may object to the other's nominee and that person will not be selected for the DRB. No reason need be given for the first objection. Objections to subsequent nominees must be based on a specific breach or violation of nominee

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responsibilities under this specification. A different person shall then be nominated within 14 days. The third DRB member shall supply a full disclosure statement to the first two DRB members and to the parties prior to appointment. Either party may reject any of the three prospective DRB members who fail to fully comply with all required employment and financial disclosure conditions of DRB membership as described in the Disputes Review Board Agreement and elsewhere herein..

9.3.11 The first duty of BAHA and Contractor selected members of the DRB is to select and recommend prospective third member(s) to the parties for final selection and approval. The first two DRB members shall proceed with the selection of the third DRB member immediately upon receiving written notification from BAHA of their selection, and shall provide their recommendation simultaneously to the parties within 21 days of the notification.

9.3.12 An impasse shall be considered to have been reached if the parties are unable to approve a third member within 14 days of receipt of the recommendation of the first two DRB members, or if the first two members are unable to agree upon a recommendation within the 14 day time limit allowed in the preceding paragraph. In the event of an impasse in selection of the third DRB member, BAHA and the Contractor shall each propose three candidates for the third position. The parties shall select all candidates proposed under this paragraph from the current list of arbitrators certified by the Public Works Contract Arbitration Committee created by Article 7.2 (commencing with Section 10245) of the State Contract Act. The first two DRB members shall then select one of the 6 proposed candidates in a blind draw.

9.3.13 All three members of the DRB shall complete and adhere to the Dispute Review Board Agreement in administration of this DRB within 14 days of the parties' concurrence in the selection of the third member. BAHA will execute and administer the terms of the Agreement. The person(s) designated by the Contractor as authorized to execute Contract Change Orders shall be authorized to execute and administer the terms of this agreement, or to delegate the authority in writing. The operation of the DRB shall be in conformance with the terms of the Dispute Review Board Agreement.

9.3.14 BAHA and the Contractor shall bear the costs and expenses of the DRB equally. Each DRB board member shall be compensated at an agreed rate of \$1,000.00 per day if time spent per meeting, including all on-site time plus one hour of travel time, is greater than four hours. Each DRB board member shall be compensated at an agreed rate of \$600.00 per day if time spent per meeting, including all on-site time plus one hour of travel time, is less than or equal to four hours. The agreed rates shall be considered full compensation for on-site time, travel expenses, transportation, lodging, time for travel and incidentals for each day, or portion thereof, that the DRB member is at an authorized DRB meeting. No additional compensation will be made for time spent by DRB members in review and research activities outside the official DRB meetings unless that time, (such as time spent evaluating and preparing recommendations on specific issues presented to the DRB), has been specifically agreed to in advance by BAHA and Contractor. Time away from the project, that has been specifically agreed to in advance by the parties, will be compensated at an agreed rate of \$100.00 per hour. The agreed amount of \$100.00 per hour shall include all incidentals including any expenses for telephone, fax and computer services. Members serving on more than one DRB, regardless of the number of meetings per day, shall not be paid more than the all inclusive rate per day or rate per hour for an individual project. BAHA will provide, at no cost to the Contractor, administrative services such as conference facilities and secretarial services to the DRB. All DRB members shall be compensated at the same daily and hourly rate. The Contractor shall make direct payments to each DRB member for their participation in authorized meetings and approved hourly rate charges from invoices submitted by

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each DRB member. BAHA will reimburse the Contractor for its share of the costs. There will be no markups applied to any expenses connected with the DRB, either by the DRB members or by the Contractor when requesting payment of BAHA's share of DRB expenses.

9.3.15 Service of a DRB member may be terminated at any time with not less than 14 days notice as follows:

1. BAHA may terminate service of BAHA-appointed member.
2. The Contractor may terminate service of the Contractor-appointed member.
3. Upon the written recommendation of BAHA and Contractor members for the removal of the third member.
4. Upon resignation of a member.

9.3.16 When a member of the DRB is replaced, the replacement member shall be appointed in the same manner as the replaced member was appointed. The appointment of a replacement DRB member will begin promptly upon determination of the need for replacement and shall be completed within 14 days. Changes in either of the DRB members chosen by the two parties will not require re-selection of the third member, unless both parties agree to such re-selection in writing. The Dispute Review Board Agreement shall be amended to reflect the change of a DRB member.

9.3.17 The following procedure shall be used for Dispute resolution:

1. Following the Contractor's objection to BAHA's decision as in Article 6.2.2.6 or as otherwise permitted in the sole discretion of BAHA, the Contractor shall refer the Dispute to the DRB if the Contractor wishes to further pursue the objection to BAHA's decision. The Contractor shall make the referral in writing to the DRB, simultaneously copied to BAHA, within 21 days after receipt of the written reply from BAHA. The written Dispute referral shall describe the disputed matter in individual discrete segments so that it will be clear to both parties and the DRB what discrete elements of the Dispute have been resolved, and which remain unresolved.
2. The Contractor, by failing to submit the written notice of referral of the matter to the DRB, within 21 days after receipt of BAHA's written reply, waives any future claims on the matter in contention.
3. The Contractor and BAHA shall each be afforded an opportunity to be present and to be heard by the DRB, and to offer evidence. Either party furnishing any written evidence or documentation to the DRB must furnish copies of such information to the other party a minimum of 14 days prior to the date the DRB is scheduled to convene the hearing for the Dispute. Either party shall produce such additional evidence as the DRB may deem necessary to reach an understanding and determination of the Dispute. The party furnishing additional evidence shall furnish copies of such additional evidence to the other party at the same time the evidence is provided to the DRB. The DRB will not consider any evidence not furnished in accordance with the terms specified herein.
4. The DRB shall furnish a report, containing findings and recommendations as described in the Disputes Review Board Agreement, in writing to both BAHA and the Contractor. The DRB shall complete its reports, including minority opinion if any, and submit them to the parties within 30 days of the DRB hearing, except that time extensions may be granted at the request of the DRB with the written

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concurrence of both parties. The report shall include the facts and circumstances related to the matters under consideration, applicable laws and regulations, the pertinent provisions of the Contract and the actual costs and time incurred as shown on the Contractor's cost accounting records.

5. Within 30 days after receiving the DRB's report, both BAHA and the Contractor shall respond to the DRB in writing signifying that the Dispute is either resolved or remains unresolved. Failure to provide the written response within the time specified, or a written rejection of the DRB's recommendation presented in the report by either party, shall conclusively indicate that the party(s) failing to respond accepts the DRB recommendation. Immediately after responses have been received by both parties, the DRB will provide copies of both responses to the parties simultaneously. Either party may request clarification of elements of the DRB's report from the DRB prior to responding to the report. The DRB will consider any clarification request only if submitted within 10 days of receipt of the DRB's report, and if submitted simultaneously in writing to both the DRB and the other party. Each party may submit only one request for clarification for any individual DRB report. The DRB shall respond, in writing, to requests for clarification within 10 days of receipt of such requests.
6. The DRB's recommendations, stated in the DRB's reports, are not binding on either party. Either party may seek a reconsideration of a recommendation of the DRB. The DRB shall only grant a reconsideration based upon submission of new evidence and if the request is submitted within the 30 day time limit specified for response to the DRB's written report. Each party may submit only one request for reconsideration regarding any individual DRB recommendation.
7. If BAHA and the Contractor are able to resolve their Dispute with the aid of the DRB's report, BAHA and Contractor shall promptly accept and implement the recommendations of the DRB.
8. BAHA or the Contractor shall not call members who served on the DRB for this Contract as witnesses in arbitration proceedings which may arise from this Contract, and all documents created by the DRB shall be inadmissible as evidence in subsequent arbitration proceedings, except the DRB's final written reports on each issue brought before it.
9. BAHA and Contractor shall jointly indemnify and hold harmless the DRB members from and against all claims, damages, losses, and expenses, including but not limited to attorney's fees, arising out of and resulting from the findings and recommendations of the DRB.
10. The DRB members shall have no claim against BAHA or the Contractor, or both, from any claimed harm arising out of the parties' evaluations of the DRB's report.
11. If a Dispute remains unresolved after completion of the procedure discussed in this Section 9.3.17, Contractor shall have the right to pursue a Claim with respect to the Dispute.

9.3.18 Disputes Involving Subcontractor Claims. For purposes of this section, a "subcontractor claim" shall include any claim by a subcontractor (including also any pass through claims by a lower tier subcontractor or supplier) against the Contractor that is actionable by the Contractor against BAHA which arises from the Work, services, or materials provided or to be provided in connection with the Contract. If the Contractor determines to pursue a Dispute against BAHA

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that includes a subcontractor claim, the Dispute shall be processed and resolved in accordance with these special provisions and in accordance with the following:

1. The Contractor shall identify clearly in all submissions pursuant to this section, that portion of the Dispute that involves a subcontractor claim or claims.
2. The Contractor shall include, as part of its submission pursuant to Step 4 above, a certification (False Claims Act Certification) by the subcontractor's or supplier's officer, partner, or authorized representative with authority to bind the subcontractor and with direct knowledge of the facts underlying the subcontractor claim. The Contractor also shall submit a certification that the subcontractor claim is acknowledged and forwarded by the Contractor. The form for these certifications are available from BAHA.
3. At any DRB meeting on a Dispute that includes one or more subcontractor claims, the Contractor shall require that each subcontractor that is involved in the Dispute have present an authorized representative with actual knowledge of the facts underlying the subcontractor claim to assist in presenting the subcontractor claim and to answer questions raised by the DRB members or BAHA's representatives.
4. Failure by the Contractor to declare a subcontractor claim on behalf of its subcontractor (including lower tier subcontractors' and suppliers' pass through claims) at the time of submission of the Contractor's claims, as provided hereunder, shall constitute a release of BAHA by the Contractor on account of such subcontractor claim.
5. The Contractor shall include in all subcontracts under this Contract that subcontractors and suppliers of any tier (a) agree to submit subcontractor claims to the Contractor in a proper form and in sufficient time to allow processing by the Contractor in accordance with the Dispute Review Board resolution specifications; (b) agree to be bound by the terms of the Dispute Review Board provisions to the extent applicable to subcontractor claims; (c) agree that, to the extent a subcontractor claim is involved, completion of all steps required under these Dispute Review Board general conditions shall be a condition precedent to pursuit by the subcontractor of any other remedies permitted by law, including without limitation of a lawsuit against the Contractor; and (d) agree that the existence of a dispute resolution process for disputes involving subcontractor claims shall not be deemed to create any claim, right, or cause of action by any subcontractor or supplier against BAHA.

9.3.19 Notwithstanding the foregoing, this Dispute Review Board general condition shall not apply to, and the DRB shall not have the authority to consider, any subcontractor claim between the subcontractor(s) or supplier(s) and the Contractor that is not actionable by the Contractor against BAHA.

END OF ARTICLE

ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY OF PERSONS AND PROPERTY

10.1.1 The Contractor shall initiate, maintain and supervise all safety precautions and programs in connection with the performance of the Work.

10.1.2 The Contractor shall take precautions for safety and provide protection to prevent damage, injury, or loss, to:

10.1.2.1 Employees working under the Contract and other persons who may be affected thereby, including but not limited to BAHA consultants, employees of nearby facilities, and the general public;

10.1.2.2 The Work and materials and equipment to be incorporated therein, whether in storage on or off the Project site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-Subcontractors; and

10.1.2.3 Other property at the Project site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities, except as otherwise noted or specified.

10.1.3 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on the safety of persons or property, or their protection from damage, injury, or loss.

10.1.4 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying BAHA, other Owners (other than BAHA) and users of adjacent sites and utilities.

10.1.5 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and lawful orders of public authorities regarding the storage and/or use of explosives or other hazardous materials or equipment necessary for execution of Work. The Contractor shall employ properly qualified personnel for supervision of same.

10.1.6 The Contractor shall remedy damage and loss to property referred to in Articles 10.1.2.2 and 10.1.2.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Articles 10.1.2.2 and 10.1.2.3. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Article 3.19, Indemnification.

10.1.7 The Contractor shall not permit any part of the Work or Project site to be loaded so as to endanger its safety.

10.1.8 When conditions of the Work, in the judgment of BAHA, present unreasonable risk of injury or death to persons or property damage, BAHA may direct the Contractor, at the Contractor's sole expense, to close down the Work and not commence work again until all dangerous conditions are eliminated.

10.1.9 The Contractor, at the Contractor's own cost, shall rebuild, repair, restore and make good any and all damages to any portion of the Work affected by such causes before its acceptance.

10.2 EMERGENCIES

In an Emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's sole discretion, to prevent any threatened damage, injury or loss. Additional compensation or extension of Contract Time claimed by the Contractor because of an emergency will be reviewed as provided in Article 6, Changes in the Work.

10.3 DRUG-FREE WORKPLACE

10.3.1 By signing the Contract, the Contractor certifies, under penalty of perjury under the laws of California, that the Contractor will comply with the requirements of the Drug-Free Workplace Act of 1990 (Government Code, Section 8350 et seq.), and will provide a drug-free workplace by taking the following actions:

10.3.1.1 Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations.

10.3.1.2 Establish a Drug-Free Awareness Program to inform employees about:

10.3.1.2.1 The dangers of drug abuse in the workplace;

10.3.1.2.2 The person's or company's policy of maintaining a drug-free workplace;

10.3.1.2.3 Any available counseling, rehabilitation, and employee assistance programs; and,

10.3.1.2.4 Penalties that may be imposed upon employees for drug abuse violations.

10.3.1.3 Provide, as required by Government Code, Section 8355(c), that every employee who works under the Contract will:

10.3.1.3.1 Receive a copy of the company's drug-free workplace policy statement; and

10.3.1.3.2 Agree to abide by the terms of the company's statement as a condition of employment.

END OF ARTICLE

ARTICLE 11 -INSURANCE AND BONDS

11.1 CONTRACTOR'S INSURANCE

11.1.1 Insurance Requirements:

11.1.1.1 Minimum Coverages. The insurance requirements specified in this section shall cover Contractor's own liability and the liability arising out of work or services performed under this Agreement by any subconsultants, subcontractors, suppliers, temporary workers, independent contractors, leased employees, or any other persons, firms or corporations that Contractor authorizes to work under this Agreement (hereinafter referred to as "Agents.") Contractor shall, at its own expense, obtain and maintain in effect at all times during the life of this Agreement the following types of insurance against claims, damages and losses due to injuries to persons or damage to property or other losses that may arise in connection with the performance of work under this Agreement.

Contractor is also required to assess the risks associated with work to be performed by Agents under subcontract and to include in every subcontract the requirement that the Agent maintain adequate insurance coverage with appropriate limits and endorsements to cover such risks; the limit for the commercial general liability insurance in each subcontract shall not be less than \$1 million. To the extent that an Agent does not procure and maintain such insurance coverage, Contractor shall be responsible for said coverage and assume any and all costs and expenses that may be incurred in securing said coverage or in fulfilling Contractor's indemnity obligation as to itself or any of its Agents in the absence of coverage. In the event Contractor or its Agents procure excess or umbrella coverage to maintain certain requirements outlined below, these policies shall also satisfy all specified endorsements and stipulations, including provisions that the Contractor's insurance be primary without right of contribution from BAHA. Prior to beginning work under this contract, Contractor shall provide BAHA with satisfactory evidence of compliance with the insurance requirements of this section.

(i). Workers' Compensation Insurance in the amount required by the applicable laws, and Employer's Liability insurance with a limit of not less than \$5,000,000 per employee and \$5,000,000 per accident, and any and all other coverage of Contractor's employees as may be required by applicable law. Such policy shall contain a Waiver of Subrogation in favor of BAHA.

(ii). Commercial General Liability Insurance for Bodily Injury and Property Damage liability, covering the operations of Contractor and Contractor's officers, agents, and employees and with limits of liability which shall not be less than \$15,000,000 combined single limit per occurrence with a general aggregate liability of not less than \$15,000,000, and Personal & Advertising Injury liability with a limit of not less than \$15,000,000. BAHA, MTC, BATA, BAAQMD, and their commissioners, directors, officers, representatives, agents and employees are to be named as additional insureds ("Additional Insureds"). Such insurance shall be primary as respects any claims, losses or liability arising directly or indirectly from Contractor's operations. Such policy shall contain a Waiver of Subrogation in favor of the Additional Insureds.

(iii). Business Automobile Insurance for all automobiles owned, used or maintained by Contractor and Contractor's officers, agents and employees, including but not limited to

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owned, leased, non-owned and hired automobiles, with limits of liability which shall not be less than \$5,000,000 combined single limit per accident.

(iv). Errors and Omissions Professional Liability Insurance for errors and omissions and the resulting damages, including, but not limited to, economic loss to BAHA and having minimum limits of \$5,000,000 per claim.

The policy shall provide coverage for all work performed by the Contractor and any work performed or conducted by any subcontractor/Contractor working for or performing services on behalf of the Contractor. No contract or agreement between the Contractor and any subcontractor/consultant shall relieve the Contractor of the responsibility for providing this Errors & Omissions or Professional Liability coverage for all work performed by the Contractor and any subcontractor/consultant working on behalf of the Contractor on the project.

(v). Property Insurance. Property Insurance covering Contractor's own business personal property, tools, equipment, and other property to be used in performance of this Agreement and not intended to become a permanent part of the structure. Coverage shall be written on a "Special Form" that includes theft, but excludes earthquake, with limits at least equal to the replacement cost of the property. Such policy shall contain a Waiver of Subrogation in favor of BAHA.

(vi). Employee Dishonesty/Crime Insurance. An Employee Theft insurance policy covering Contractor's employees for loss of or damage to money, securities or other property resulting from theft. The following limits of liability should apply:

- (a) Employee Dishonesty - \$250,000; and
- (b) Client Property Blanket Bond - \$250,000.

Contractor shall reimburse BAHA for any and all losses within the deductible and for insured losses, the cost to prove the loss, accountants' fees, defense costs including attorneys and any other fees associated with a claim. In lieu of a Client Property Blanket Bond, the policy shall contain a Joint Loss Payee endorsement or other Third Party coverage naming BAHA.

(vii). Contractors' Pollution Liability Insurance. Contractors' Pollution Liability insurance for bodily injury and property damage coverage with a combined single limit for bodily injury and property damage of at least \$5,000,000 per occurrence or claim and a general aggregate limit of at least \$5,000,000. This insurance shall include coverage for, but not be limited to sudden and accidental discharges; gradual discharges, clean-up of pollutants and disposal thereof; and, mold, asbestos or lead, if an abatement contract. If Contractor disposes of Hazardous Materials under this Agreement, Contractor shall designate the disposal site and provide a certificate of insurance from the disposal facility to BAHA. BAHA, MTC, BATA, and BAAQMD are to be named as additional insureds. Such insurance shall be primary as respects any claims, losses or liability arising directly or indirectly from Contractor's operations.

Contractor's Business Automobile Liability coverage shall also be extended to cover pollution liability during loading; unloading and while in transit including, but not limited to, the perils of collision and upset. Coverage may be provided by endorsement to the general liability and automobile policies or by a separate policy.

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11.1.1.2 Acceptable Insurers. All policies will be issued by insurers acceptable to BAHA, generally with a Best's Rating of A-VIII or better.

11.1.1.3 Self-Insurance. Contractor's obligation hereunder may be satisfied in whole or in part by adequately funded self-insurance, upon evidence of financial capacity satisfactory to BAHA.

11.1.1.4 Deductibles and Retentions. Contractor shall be responsible for payment of any deductible or retention on Contractor's policies without right of contribution from BAHA. Deductible and retention provisions shall not contain any restrictions as to how or by whom the deductible or retention is paid. Any deductible or retention provision limiting payment to the Named Insured is unacceptable.

In the event that BAHA seeks coverage as an additional insured under any Contractor insurance policy that contains a deductible or self-insured retention, Contractor shall satisfy such deductible or self-insured retention to the extent of loss covered by such policy, for any lawsuit arising from or connected with any alleged act of Contractor, subconsultant, subcontractor, or any of their employees, officers or directors, even if Contractor or subconsultant is not a named defendant in the lawsuit.

11.1.1.5 Claims Made Coverage. If any insurance specified above is written on a "Claims-Made" (rather than an "occurrence") basis, then in addition to the coverage requirements above, then Contractor shall:

- (1) Ensure that the Retroactive Date is shown on the policy, and such date must be before the date of this Agreement or the beginning of any work under this Agreement;
- (2) Maintain and provide evidence of similar insurance for at least three (3) years following project completion, including the requirement of adding all additional insureds; and
- (3) If coverage is cancelled or non-renewed, and not replaced with another claims made policy form with a Retroactive Date prior to the Agreement effective date, Contractor shall purchase "extended reporting" coverage for a minimum of three (3) years after completion of work.

11.1.1.6 Failure to Maintain Insurance. All insurance specified above shall remain in force until all work or services to be performed are satisfactorily completed, all of Contractor's personnel, subcontractors, and equipment have been removed from BAHA's property, and the work or services have been formally accepted. Contractor must notify BAHA if any of the above required coverages are non-renewed or cancelled for any reason. The failure to procure or maintain required insurance and/or an adequately funded self-insurance program will constitute a material breach of this Agreement.

11.1.1.7 Certificates of Insurance. Prior to commencement of any work hereunder, Contractor shall deliver to BAHA Certificates of Insurance verifying the aforementioned coverages. Such certificates shall make reference to all provisions and endorsements referred to above and shall be signed on behalf of the insurer by an authorized representative thereof.

11.1.1.8 Disclaimer. The foregoing requirements as to the types and limits of insurance coverage to be maintained by Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by

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Contractor pursuant hereto, including, but not limited to, liability assumed pursuant to Article 3.19, Indemnification.

11.2 NO PERSONAL LIABILITY

Neither BAHA, nor any other officer or employee of BAHA, will be personally responsible for liabilities arising under the Contract.

11.3 PERFORMANCE BOND AND PAYMENT BOND

11.3.1 Contract Bonds: Within 10 days of Notice of Award and prior to performing any Preconstruction or Construction work under this Agreement, the Contractor shall file with BAHA on the forms provided herein, two surety bonds in the amounts and for the purposes noted below, duly executed by a reputable surety company satisfactory to BAHA. Contractor shall pay all premiums and costs relating to the required bonds.

11.3.1.1 Performance Bond: Performance Bond in the amount of 100% of the Preconstruction Contract to guarantee faithful performance of the work under this Agreement, including the replacing of or making acceptable, any defective materials or faulty workmanship.

See Consultant Form #3, Section 006113.13 Performance Bond.

11.3.1.2 Payment Bond: Payment Bond in the amount of 100% of the Preconstruction Contract to inure to the benefit of persons performing labor or furnishing materials in connection with the work of the proposed contract. This bond shall be maintained in full force and effect until all work under this Agreement is completed and accepted by BAHA, and until all claims for materials and labor have been paid.

See Consultant Form #4, Section 006113.16 Payment Bond.

11.3.2 After the trade packages are awarded, all alterations, time extensions, extra work, additional work or any other changes authorized in the Contract, may be made without notice to, or securing the prior consent of, the surety or sureties on the Performance or Payment Bonds.

11.3.3 As trade packages are awarded and incorporated into the Contract, Contractor will within ten days secure a "Consent of Surety" to increase the performance and payment bond amount to reflect the revised contract amount.

See Contract Form #2, Section 006113.10 Consent of Surety; Contract Form #3, Section 006113.13 Performance Bond; and Contract Form #4, Section 006113.16 Payment Bond.

11.3.4 Surety Requirements. Both the Performance Bond and the Payment Bond shall be issued by a surety company(ies) acceptable to BAHA with a Best Guide Rating of A-, IX or better, listed in Circular 570: Federal Treasury Listing of Qualified Sureties with a bond amount within the underwriting limitation, and authorized to execute such in the State of California. Should any surety or sureties be deemed unsatisfactory at any time by BAHA, notice will be given Contractor to that effect, and Contractor shall forthwith substitute a new surety or sureties satisfactory to BAHA. The direct and indirect costs for replacement bonds shall be the sole responsibility of the Contractor.

END OF ARTICLE

ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING AND CORRECTION OF WORK

12.1.1 If a portion of the Work is covered prior to BAHA's review, it shall, if requested in writing by BAHA, be uncovered for BAHA's observation and replaced at the Contractor's expense without change in the Contract Time.

12.1.2 The Contractor shall notify BAHA at least three (3) working days prior to covering any Work.

12.1.3 Re-examination of questioned Work may be ordered by the Project Manager or designee at any time before Acceptance. If so ordered, the Work shall be uncovered by the Contractor. If such Work is found to be in accordance with the Contract Documents, BAHA will pay for the cost of testing and of uncovering or removing and replacing for the covering or making good of the parts removed. If such Work so exposed or examined is not in accordance with the Contract Documents, the testing and uncovering or removal, replacement, and recovering shall be at the Contractor's expense.

12.2 CORRECTION OF WORK

12.2.1 Removal of Rejected and Unauthorized Work. The Contractor shall promptly correct Work rejected by BAHA or Work failing to conform to the requirements of the Contract Documents, whether or not fabricated, installed or completed. The Contractor shall bear the costs of correcting such rejected Work, including additional testing and inspections required and compensation for BAHA's services and expenses made necessary thereby.

12.2.1.1 Unauthorized Work. All Work done beyond the lines and grades shown on the Project Plans or established by the Project Manager or designee, and all extra Work done without written authorization will be considered as unauthorized Work. Upon order of the Project Manager or designee, unauthorized Work shall be remedied, removed, or replaced at the Contractor's expense.

12.2.1.2 Failure to Remedy. Upon failure of the Contractor to remedy, to remove, or to replace rejected or unauthorized Work, or to comply promptly with any order of the Project Manager or designee made under Article 12.2.1, the Project Manager or designee may cause rejected or unauthorized Work to be remedied, removed, or replaced by others and deduct the costs thereof from any monies due or to become due the Contractor.

12.2.2 In the event of an emergency constituting an immediate hazard to the health or safety of BAHA employees, property, or licensees, BAHA may undertake, at the Contractor's expense and without prior notice, all Work necessary to correct such hazardous condition(s) when it was caused by Work of the Contractor not being in accordance with requirements of the Contract Documents.

12.2.3 The Contractor shall remove from the Project site portions of the Work that are not in accordance with the requirements of the Contract Documents, and, are neither corrected by the Contractor nor accepted by BAHA.

12.2.4 If the Contractor fails to correct nonconforming Work, BAHA may correct the nonconforming Work. If the Contractor does not proceed with correction of such nonconforming

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Work, within such time fixed by written notice from BAHA, BAHA may remove and store the salvable materials articles and/or equipment at the Contractor's expense. If the Contractor does not pay all costs of such removal and storage within 14 days after written notice, BAHA may, upon 14 additional days written notice, sell such materials articles and/or equipment at an auction or private sale, and shall account for the proceeds thereof, after deducting costs and damages that would have been borne by the Contractor, including compensation for BAHA's services and expenses made necessary thereby. If the proceeds of a sale do not cover all costs that the Contractor would have borne, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to BAHA.

12.2.5 The Contractor shall bear the cost of correcting destroyed or damaged Work executed by BAHA or separate contractors, whether fully completed or partially completed, which is caused by the Contractor's correction or removal of Work that is not in accordance with requirements of the Contract Documents.

12.2.6 Nothing contained in this Article 12.2 shall be construed to establish a period of limitation with respect to other obligations that the Contractor might have in the Contract Documents. Establishment of the time period of 1 year, as described in Article 3.5.1, relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with requirements of the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

12.3 ACCEPTANCE OF NONCONFORMING WORK

If BAHA prefers to accept any or all of the Work that is not in accordance with requirements of the Contract Documents, BAHA may do so instead of requiring its correction and/or removal, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment to the Contractor has been made.

END OF ARTICLE

ARTICLE 13 - MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

The Contract, and the relationship of BAHA and the Contractor arising out of or relating to the Contract, shall be governed by and construed in accordance with the laws of the State of California that would apply to contracts made and performed entirely within the State of California by parties located entirely within the State of California.

13.2 SUCCESSORS AND ASSIGNS

The Contractor binds the Contractor, the Contractor's partners, successors, assigns and legal representatives to BAHA in respect to covenants, agreements and obligations contained in the Contract Documents.

13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual; or a member of the firm or entity; or to an officer of the corporation for which it was intended; or if delivered to or sent by US mail to the last business address known to the party giving notice.

13.4 ASSIGNMENT

The parties shall not assign or delegate all or any part of their obligations under the Contract to any other person(s), without the prior written approval of BAHA, except that Contractor may assign monies due or to become due under the Contract and such assignment will be recognized by BAHA, if given proper notice thereof, to the extent permitted by law, but any assignment of monies shall be subject to all proper set-offs in favor of BAHA and to all deductions provided for in the Contract. Contractor's assignment or delegation of any of its Work under the Contract, authorized or unauthorized, shall be ineffective to relieve Contractor of its responsibility for the Work assigned or delegated, unless BAHA, in its sole discretion, has approved such relief from responsibility in writing.

13.5 SEVERABILITY

Whenever possible, each provision of the Contract shall be interpreted in a manner as to be effective and valid under applicable law. However, if any provision, or part of any provision, should be prohibited or invalid under applicable law, such provision, or part of such provision, shall be ineffective to the extent of such prohibition or invalidity without invalidating the remainder of such provision or the remaining provisions of the Contract.

END OF ARTICLE

ARTICLE 14 – ADMINISTRATIVE SUBMITTALS

DESCRIPTION		REFERENCE	DUE DATE/FREQUENCY
1.	Construction Agreement	005213	Not Later Than (NLT) ten (10) days from BAHA’s Request.
2.	Performance Bond	006113.13	NLT ten (10) days following Notice of Award (NOA).
3.	Payment Bond	006113.16	NLT ten (10) days following NOA.
4.	Certificate of Insurance	002113.16.1	NLT ten (10) days following NOA.
5.	Alternate IRS Form W-9	002113.16.1	NLT ten (10) days following NOA.
6.	Prevailing Wages List	007000.3.3.3.1	NLT fourteen (14) days following NOA.
7.	Certified Payrolls	007000.3.3.3.4	Weekly.
8.	Emergency Contact List	007000.3.9.5	NLT fourteen (14) days following NOA.
9.	List of proposed Subcontractors	007000.5.1.1.5	NLT award of any subcontract.
10.	Executed Subcontractor Agreements	007000.5.1.6	NLT five (5) days following subcontract execution, and prior to any request for payment by Subcontractor.
11.	Scheduler Qualifications	013200.3.1.A	NLT seven (7) days prior to Schedule Orientation Meeting.
12.	Baseline Schedule	013200.3.10.1	NLT forty-five (45) days following Construction Notice to Proceed (NTP).
13.	Safety Engineer and On-Site Supervisor Qualifications	013523.3.1.A.1	NLT fourteen (14) days following NOA.
14.			

This list is intended to summarize the requirements for submittal of documents as specified in the Contract Documents. If conflicts exist between the list and the referenced paragraph, the referenced paragraph will take precedence. Additional submittals not appearing on this list may also be found in the Contract Documents.

END OF ARTICLE

SECTION 011100 – SUMMARY OF WORK

PART 1 – GENERAL

1.1. SUMMARY

- A. The work of this Contract consists of furnishing all labor, materials, tools, equipment, permits, services and incidentals required for the timely construction of the Work summarized in this section and detailed in the Contract Documents, unless specifically excluded elsewhere in the Contract Documents. The descriptions provided in this section are general in nature and are not intended to detail all work required by the Contract Documents.
- B. All materials furnished by the Contractor under this Contract shall become the property of BAHA. Owner furnished or existing operating system materials shall remain the property of BAHA, unless otherwise designated to be disposed of by the Contractor.

1.2 PROJECT DESCRIPTION – The Project Description is provided in Part 1: Request for Qualifications and Part 2: Request for Proposals (RFQ/RFP).

1.3 SCOPE OF WORK

A. General

- 1. The Scope of Work includes Preconstruction Services and Construction Services. These services are described in the RFQ/RFP. Additional requirements related to how these services are provided are included in other Division 1 Sections.

1.4 CONTRACT TYPES

- A. The Preconstruction Contract is a professional services contract. A sample contract was provided in Part 1: RFQ.
- B. The Construction Contract covers the construction of the Project and was provided in Section 005213, Construction Agreement. The value of the Construction Contract will increase as Work Packages are awarded.

1.5 PROJECT SCHEDULE – The current Project Schedule is provided in the Part 1: RFQ, Appendix A. There is an overlap of the Preconstruction and Construction service periods.

1.6 CONTRACT TIME AND LIQUIDATED DAMAGES – Contract Time and Liquidated Damages are included in Document 007000, General Conditions.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SUMMARY OF WORK

SECTION 011150 – PRECONSTRUCTION SERVICES

PART 1 - GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** This Section establishes the requirements for the services to be provided by the Contractor during the Preconstruction Phase of the Project. Preconstruction Services requirements are also specified in the Part 1: RFQ, Section III – CMAR Scope of Work.

- B. **RELATED REQUIREMENTS:**
 - 1. Section 011100, Summary of Work
 - 2. Part 1: RFQ, Section III. – CMAR Scope of Work
 - 3. Part 2: RFP, Section VII.J – Packaging Plan, Schedule and Budget

- C. **RELATED DOCUMENTS:**
 - 1. Section 007000, General Conditions of the Contract for Construction
 - 2. Part 1: RFQ, Section III – CMAR Scope of Work
 - 3. Part 2: RFP, Section VII.J – Packaging Plan, Schedule and Budget

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 CONTRACTOR PRECONSTRUCTION SERVICES

- 3.1.1 **PROJECT MANAGEMENT PLAN:** The Contractor shall prepare and submit to BAHA a Project Management Plan that identifies at a minimum the following:
 - 3.1.1.1 Contractor’s organization plan, identifying Contractor’s personnel and their roles and responsibilities.
 - 3.1.1.2 The tasks and deliverables the Contractor shall complete during the Preconstruction Phase, in accordance with the Contract, and the schedule for their completion.
 - 3.1.1.3 Contractor’s Lean management plan
 - 3.1.1.4 Contractor’s review process for all tasks and deliverables Contractor is responsible for.
 - 3.1.1.5 Contractor’s communication plan
 - 3.1.1.6 Decision and conflict resolution processes during Preconstruction.

- 3.1.2 **COST ESTIMATES:** The Contractor shall prepare and submit to BAHA a detailed Construction Cost Estimate in UNIFORMAT at 100% Schematic Design (SD) and 100% Design Development (DD). The Contractor will then convert the estimate to CSI/MASTERFORMAT 2011 and prepare Cost Estimates at 50% Construction Documents (CD), and use the same format at 95% CD. Each of these estimates is due within 3 weeks of the date the A/E Submittal are available. The Contractor shall meet with BAHA and the A/E and the A/E’s Cost Consultant to reconcile discrepancies on a line item basis between its estimates, BAHA’s estimates and the A/E’s estimates. The estimates shall be based on detailed quantity takeoffs of the design Drawings and Specifications. The Contractor shall obtain written approval from BAHA of a

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proposed estimate format and structure prior to proceeding with these estimates.

- 3.1.2 **CONTINUOUS ESTIMATING SUPPORT:** The Contractor shall provide continuous estimating support during the design phase (referred to as Total Cost Management), by estimating design proposals and alternatives as they are developed by the A/E team. The Contractor, the A/E and BAHA will first develop a Cost Model which establishes a target cost for each system or component of construction. As design proposals are presented in progress meetings, the Contractor estimates each proposal and compares it to the relevant cost within the Cost Model to confirm that the cost of the proposal is within the cost budgeted.
- 3.1.3 **CONSTRUCTABILITY AND BIDABILITY REVIEWS:** At the same time the Contractor performs the SD, DD, and 50% CD cost estimates, Contractor shall conduct thorough Constructability reviews. The purpose of these reviews is to identify ways to improve the ease of construction, thereby reducing cost and/or improving the schedule. At the 95% CD Phase, the Contractor shall conduct a thorough Bidability Review to identify items that the Contractor assesses in its professional opinion could lead to a higher cost of bids for the Bid Packages; and/or excessive RFIs or Change Orders resulting from ambiguities, coordination of Design Work for various trades, errors, and/or omissions in the Contract Documents. The Contractor will review all drawings and specifications to confirm that they can be bid without excessive RFIs and Change Orders. For design submittals prepared by the Contractor, an independent team will be provided by BAHA for these reviews. The Contractor shall present its review comments in a written report to BAHA; and meet with both BAHA and the A/E to present and explain its findings. The Contractor will assist BAHA in confirming corrections are made in response to identified problems by tracking each issue separately in a weekly-updated status report until the issues has been adequately resolved to the satisfaction of BAHA in the final Contract Documents.
- 3.1.4 **REVIEW OF ALTERNATES:** At the 50% complete Construction Documents, the Contractor shall review the list of alternates proposed by the A/E and BAHA for each Bid Package. The Contractor shall provide a written recommendation for any changes to the scope of these alternates comparing all benefits of the proposed changes, e.g., cost, constructability, schedule impact, procurement issues, etc.
- 3.1.5 **BIDDING CONTINGENCY:** Prior to bidding and based on projected bid market conditions, the Contractor shall develop and recommend in writing to BAHA the percentage of bid contingency to carry for each Bid Package in BAHA's budget. The recommendation shall include all costs, assumptions and calculations used in the creation of contingency.
- 3.1.6 **VALUE ENGINEERING:** Contractor shall participate in a one day Value Engineering (VE) session at the end of the DD Phase to review alternative systems, recommend cost savings strategies, and estimate their value. The Contractor shall provide a Certified Value Specialist to lead the VE Work Session and prepare the VE Report. The A/E and BAHA will participate in the VE Work Session. During the Session, VE ideas will be analyzed and discussed. BAHA will determine if they will be implemented.
- 3.1.7 **DESIGN BUILD SYSTEMS:** Contractor may be required to develop design-build delivery options for systems including, mechanical, electrical, plumbing, and fire protection systems for BAHA's approval. If BAHA elects to have these systems designed by the Contractor, the Contractor shall prequalify Subcontractors for these systems that have proven Design Build expertise and manage procurement of these Design Build Systems.

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- 3.1.8 LEED: At the end of the DD Phase, the Contractor shall identify and recommend to BAHA in writing, alternate equipment, material, and systems for LEED-Certification. The recommendation shall include all benefits, assumptions, costs, and calculations used to evaluate alternates.
- 3.1.9 EARLY OCCUPANCY PLAN: Contractor shall be responsible for updating and maintaining the Packaging Plan specified in Proposal, Section VII.J – Packaging Plan, Schedule and Budget. The packaging plan will establish a strategy for achieving the occupancy requirements for existing and future tenants of the facility within the time frame of the Contractor's Preconstruction and Construction Services. The initial baseline assumptions for occupancy requirements are shown in the RFP, Section VII.J. The Contractor shall coordinate with BAHA and the A/E to keep the plan current, reflecting any changes to the tenant requirements, constraints or timing of occupancies, departures, and movements within the facility. The Contractor shall evaluate options for achieving the requirements at the lowest cost. At all times, the Contractor shall keep the Work Schedule consistent with the current Packaging Plan and implement the approach selected by BAHA.
- 3.2 CONTRACTOR BID PHASE SERVICES
- 3.2.1 BID PACKAGE PREPARATION: The Contractor shall be responsible, with input from the A/E and BAHA, for sequencing, assembly, scope definition and preparation of Bid Packages and all other information needed to assure that all items as indicated in Contract Documents, including coordination of details and Subcontractor required General Conditions Work are included with bid documents. The Contractor shall not create or permit duplication of work between Bid Packages and/or General Conditions through scope descriptions, or by any other means. Prior to issuing Bid Packages, the Contractor must obtain BAHA's written approval of the bidding documents. The Contractor shall analyze the Bid Packages, identify elements of uncertainty or risk prior to bidding to eliminate conflicts, duplications and omissions and to mitigate BAHA's exposure to bidding errors.
- 3.2.2 PRE-QUALIFICATION: The Contractor will develop a prequalification process for all trade subcontractors with input from BAHA. The Contractor shall develop lists of possible bidders to solicit bids for the Bid Package(s), provide pre-bid Subcontractor prequalification criteria, conduct prequalification of Subcontractors, and present the results to BAHA. The Contractor shall contact potential bidders and conduct an outreach effort to attract broad interest and develop a sufficient pool of qualified bidders. The Contractor shall secure the commitment to bid from a minimum of 3 bidders for each Bid Package. Contractor shall bid the Bid Packages as required by the General Conditions, after BAHA reviews Bid Package and issues Letter of Bid Package Review. Such review will confirm that Contractor has complied with the provisions of this Section. Contractor shall make changes to Bid Packages as directed by BAHA in its sole discretion.
- 3.2.3 BID PACKAGE ASSEMBLY: The Contractor shall assemble Bid Packages in a complete, coordinated and most cost-effective manner for BAHA. Contractor shall obtain all necessary design documents from the A/E and arrange for printing, binding, wrapping and delivery to the bidders, and shall maintain a list of prequalified bidders receiving the Bid Documents. BAHA will be responsible for all postage, delivery and printing costs; such cost shall be added to the Contract Sum by Contract Change Order.
- 3.2.4 BID PACKAGE PRICING: Prior to bidding, the Contractor shall develop and recommend in writing to BAHA estimate allowances, alternates, unit prices, contingencies, and other

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requirements for inclusion in the Bid Packages. The written recommendation shall include all costs, assumptions and calculations used in the creation of the Bid Package pricing.

- 3.2.5 **BIDDING QUESTIONS:** The Contractor shall prepare responses to Subcontractor questions during the bid period and at pre-bid conferences, pre-construction conferences and walk-throughs. All responses shall be in writing and shall be distributed to all potential bidders concurrently in the time required by law. The Contractor shall present to BAHA a complete list of all Subcontractor questions and proposed responses for each Bid Package prior to issuing the responses.
- 3.2.6 **BID EVALUATION:** The Contractor shall evaluate the bids received for each bid package in detail for technical deficiencies. The Contractor shall record bids received and prepare and present to BAHA a spreadsheet analysis comparing the lowest responsible bids with the cost estimate for that Bid Package. The Contractor shall analyze the bid results for potential errors, review the apparent low bids for responsiveness and compliance with the Contract, and shall recommend award or other action. The Contractor shall determine if potential bidder(s) are not responsible or if bid(s) are non-responsive; Contractor shall provide a debriefing of its recommendation regarding bidder(s)/bid(s) and provide Bid Package Certification to BAHA. The Contractor shall notify all bidders of the bid results at the same time Contractor submits Bid Package Certification to BAHA. The Contractor shall review the bid results for such bidding climate issues as bid responsiveness, adequacy in the number of bidders and the spreading or grouping of bid results. Contractor shall make written recommendations as to which Additive Alternatives or Deductive Alternates to award.

END OF SECTION

SECTION 011160 – ADMINISTRATIVE SERVICES

PART 1 - GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** This Section establishes the requirements for services to be provided by the Contractor during the Preconstruction and Construction Phases of the Project.
- B. **RELATED REQUIREMENTS:**
 - 1. Section 011100 “Summary of Work”
- C. **RELATED DOCUMENTS:**
 - 1. Document 007000 “General Conditions of the Contract for Construction”

PART 2 – PRODUCTS (NOT USED)

PART 3 – CONTRACTOR PROJECT ADMINISTRATIVE SERVICES

3.1 **PROJECT MANAGEMENT INFORMATION SYSTEM:** The Contractor shall provide and maintain a Prolog Project Management Information System for Project communication between Contractor, BAHA and the A/E during the Project. The system will include all the Prolog modules and serve as the Project database for Cost Control, Document Control, and Field Administration. The system will support and maintain records of the following types of Project communications:

- Project Communications including E-mail
- Meeting Notes
- Cost Reports
- Project Directory
- Submittal Logs
- RFI Logs
- Change Order Logs
- Daily Inspection Reports
- Inspection and Test Reports
- Punch Lists
- Safety Notices
- Project Photos/Video

The CONTRACTOR shall provide six (6) system licenses for Prolog Project Management Information Systems for BAHA’s exclusive use for a two-year duration.

3.2 **DOCUMENT CONTROL SYSTEM:** The Contractor shall be responsible for maintaining the Project Document Control System. The Contractor Document Control staff must receive and process all Project documents. There will be two forms of generated documents: (1) from the Project Management Information System and (2) from other sources. The Project Management Information System will be used as a primary means of communication and storage for incoming and outgoing correspondence, RFIs, Submittals, transmittals, meeting minutes and issues. Documents generated by other means are filed and stored electronically and in hard copy in the

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Document Control center. At weekly intervals, all electronic files will be updated to submit to BAHA.

- 3.3 PRECONSTRUCTION PHASE CASH FLOW ANALYSIS: The Contractor shall prepare and submit to BAHA a Cash Flow analysis for the Contractor's Preconstruction Phase showing planned monthly billings and will include expected use of allowances and contingencies. Submit monthly updates with each Application for Payment.
- 3.4 CONSTRUCTION PHASE CASH FLOW ANALYSIS: The Contractor shall prepare and submit to BAHA a Cash Flow analysis for the Contractor's Construction Phase costs showing planned monthly billings, construction costs and will include expected use of allowances and contingencies. The Contractor shall submit an updated Cash Flow analysis monthly with the Application for Payment.
- 3.5 PROGRESS REPORTS: The Contractor shall provide monthly Progress Reports to BAHA in narrative form including updated information on Project Cost, Schedule, Critical Issues, Quality and Safety. The Progress Reports will provide:
- Current cost information including, actual costs, cost forecasts, potential change orders, cash flow projections, and potential demands on contingencies.
 - Current Progress Schedule status including, current and planned work, actual vs. planned progress, future planned work, and current or potential impacts to critical activities.
 - Descriptions of critical issues facing the Project including critical quality and safety issues. Include recommended actions to resolve critical issues and tracking log.

The Contractor shall obtain written approval from BAHA of a proposed reporting format and structure prior submission.

- 3.6 LEAN CONSTRUCTION: The Contractor shall prepare and submit to BAHA a Lean Construction Practices plan describing how the Contractor will utilize Lean Construction ideas and tools during the Design and Construction phases of the Project. The Plan shall include how the Contractor will: 1) Bring trade contractors into design and construction phase, and 2) Participate in performance evaluations, lifecycle cost analysis, 3) Utilize Pull Scheduling at core subcontractor level, and 4) Utilize other Lean Construction Practices. This Plan is submitted in draft as part of the Contractor's Proposal, and revised to respond to BAHA comments within 21 days after receipt of these comments.
- 3.7 REGULATORY TRACKING: The Contractor shall prepare and update weekly a Regulatory Approval Tracking Worksheet monitoring all regulatory approvals needed during each phase of the Project and recording all issues, and identified individual action-commitments and decisions.
- 3.8 FURNISHING COORDINATION: The Contractor shall review furniture equipment design with BAHA to assist with proper coordination with Bid Packages during construction. Provide assistance and field coordination as necessary with separate Contractors for installation of built-in furnishings and equipment to coordinate with building occupancy.

END OF SECTION

SECTION 012500 – PRODUCT SUBSTITUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. **WORK INCLUDED:** The work in this Section consists of administrative and procedural requirements for handling requests for substitutions.
- B. **RELATED SECTIONS**
 - 1. Section 011100 Summary of Work
 - 2. Section 012600 Modification Procedures
 - 3. Section 012973 Schedule of Values
 - 4. Section 013300 Submittal Procedures
- C. **RELATED DOCUMENTS**
 - 1. Document 007000 General Conditions of the Contract for Construction
- D. **DEFINITIONS:** Definitions in this Section do not change or modify the meaning of other terms used in the Contract Documents.
 - 1. “Substitutions” - Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Construction Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:
 - a. Revisions to the Contract Documents requested by BAHA.
 - b. Specified options of products and construction methods included in the Contract Documents.
 - c. The Contractor’s determination of and compliance with governing regulations and orders issued by authorities having jurisdiction.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1. SUBSTITUTIONS

- A. **CONTRACT DOCUMENTS**
 - 1. When a definite specification is used, it is to the quality standard or the article desired.
 - 2. When the name of a certain brand, make, or manufacturer is listed and the words “accepted equal” or similar language is absent, provide only the named product or products.
 - 3. For products specified by naming one (1) or more products, or manufacturers, and “or accepted equal,” “or equal,” or “approved equal,” or similar language, Contractor shall provide all documentation requested by BAHA to demonstrate that any submitted product not named in the specification is equal or better in nature in all salient characteristic to the named products.

B. AVAILABILITY OF SPECIFIED ITEMS

1. Within 21 days after the Contract Documents for a Bid Package are issued by the A/E, verify that all specified items shall be available in time for installation during orderly and timely progress of the Work. Notify BAHA of any items that will not be available.
2. Costs of delays because of non-availability of specified items, when the Contractor could have avoided such delays, shall be deducted from the Contract as necessary and shall not be borne by BAHA.

C. CONDITIONS FOR SUBSTITUTION:

1. Time Limit on Request for Substitution
 - a. After Award of Bid Package: Request for substitution shall be considered provided that the written request together with all the required supportive data is received by BATA no later than thirty (30) days after Notice to Proceed. No substitutions will be permitted after this date.
2. Substitution is not allowed except when:
 - a. Substitution is required for compliance with subsequent interpretations of code insurance requirements.
 - b. Specified product cannot be provided within Contract time or is unavailable through no fault of the Contractor.
 - c. Manufacturer or fabricator refuses to certify or warrant the specified product as required.
 - d. Subsequent information reveals that the specified product is unable to perform properly or to fit in the designated space.
 - e. In BAHA's designee's sole judgment, the substitution would be in BAHA's best interest.
3. Limit on Consideration: request for substitution shall be considered only when in BATA's designee's judgment the proposed substitution:
 - a. Is in BAHA's best interest.
 - b. Is equal to the specified product.
 - c. Does not require substantial revisions to Contract Documents.
4. Submission of Supportive Data: Requests for Substitution shall be submitted in writing together with the following supportive data. Submit data in triplicate to BAHA .
 - a. Certification by the manufacturer that the substitute is equal in quality and utility to the specified product, is suitable for the Work and conforms to the Contract Documents. The certification shall be signed by the principal, officer, or manager of the manufacturer.
 - b. Submittals required for the specified product.
 - c. Additional technical data including drawings, specifications, test reports, calculations, and descriptions which illustrate the equal or better quality and utility of the substitute.
 - d. Samples where required to illustrate the appearance or quality of the substitute.
 - e. List of other trades, if any, which may be affected by the substitution.

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- f. Indicate the amount, if any, to be changed from the Contract Sum if the proposed substitution is accepted.
5. Contractor's Responsibilities:
- a. The acceptance of a substituted product shall not relieve the Contractor from complying with the requirements of the Contract Documents.
 - b. The Contractor shall be responsible at its own expense for any changes in the work resulting from the substitution.
 - c. Substitution may require tests to determine its quality and utility. All handling, testing, and inspection costs pertaining thereto shall be paid by the Contractor. All tests shall be made upon the requests of BAHA .
 - d. The Contractor shall be solely responsible for scheduling of proposed substitutions and the work. The process of evaluating proposed substitutions may be time-consuming, and not all proposed substitutions shall necessarily be granted. No extension of Contract time shall be granted owing to untimely submission, review, or rejection of proposed substitution.
 - e. If any proposed substitution is judged by BAHA as unacceptable, the specified material, product, or service shall be provided; further submission shall not be allowed.
 - f. Any proposed substitution which requires BAHA to redesign any portion of the Project or to perform any additional services shall be rejected, unless BAHA is fully compensated for the redesign and additional services as required.

D. REVIEW OF REQUESTS FOR SUBSTITUTION

1. Substitutions that are equal in quality and utility to those specified shall be acceptable, subject to the following provisions and those included in the Contract Documents:
 - a. Drawings or Specifications do not specifically prohibit substitutions with language similar to "no substitutions."
 - b. Substitutions shall not impact the construction schedule in any way.
 - c. Sufficient data, drawings, samples, test, literature, unit cost credit, or other detailed information that demonstrates that the proposed substitute is not less than equal in quality and utility to the items or material specified, are provided to BAHA.
2. Substitution requests submitted by the Contractor for any material, product, or equipment specified may be subject to such tests as shall be needed to determine the quality, performance and features of the proposed substitution.
3. All handling, testing, and inspection costs pertaining thereto shall be paid by the Contractor.
4. All such tests shall be made if requested by BAHA.
5. The Contractor shall pay for any added costs resulting from the approval of a substitution.
6. Guarantees and warranties for substituted items must be equivalent to those for the specified items.
7. Substitution shall not adversely affect the assembly to which it shall be applied or installed.
8. Substitutions or alternate products shall not be considered because of the Contractor's tardiness in preparing and forwarding required submittals for BAHA's review.

END OF SECTION

SECTION 012600 - MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1. SUMMARY

A. **WORK INCLUDED:** This Section consists of administrative and procedural requirements for the following:

1. Clarifications, minor changes, and supplemental instructions
2. Proposal requests
3. Requests for modification
4. Construction change directives
5. Contract Change Orders
6. Correlation of Submittals
7. Work during disputes
8. Allowance adjustments

B. **RELATED REQUIREMENTS:**

1. Section 011100 Summary of Work
2. Section 012500 Product Substitution and Variation Procedures
3. Section 012613 Request for Information
4. Section 012900 Payment Procedures
5. Section 012973 Schedule of Values
6. Section 013200 Work Schedules
7. Section 013300 Submittal Procedures
8. Section 017700 Closeout Procedures

C. **RELATED DOCUMENTS:**

1. Document 007000 General Conditions of the Contract for Construction

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 GENERAL

A. **CHANGE IN WORK:** Any change in scope of Work or deviation from the Drawings or Specifications shall be accomplished only when authorized in writing by BAHA .

B. **INITIATION OF A CHANGE IN THE WORK:** Changes in the scope of Work or deviation from the Drawings or Specifications may be initiated by BAHA or the Contractor:

1. Contractor may initiate changes by submitting Requests for Information, Change Requests, Requests for Substitution, Notice of Concealed or Unknown Conditions, or Notice of Hazardous Waste Conditions.

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- a. Refer to Section 012613, Request for Information, for procedures for requesting information or clarifications on Contract Documents.
2. Upon written approval by BAHA, A/E may initiate changes by issuing supplemental instructions in a Field Order to provide information, clarify, or authorize minor change in the Work that do not modify the Contract Sum or Contract Time.
 - a. Within 5 days after receipt of the Field Order, Contractor shall submit an Initial Change Request, if in their interpretation the Field Order alters the terms of the contract.

3.2. MODIFICATION REQUESTS

- A. **BAHA PROPOSAL REQUESTS:** Proposed changes in the Work shall be issued by BAHA as a Change Notice. These detailed descriptions of proposed changes in the Work may require modifications to the Contract Sum and/or the Contract Time or both.
 1. Change Notices issued by BAHA are for information only. Do not consider them instructions to either stop Work in progress or to execute the proposed change.
 2. Within 14 days after receipt of the Change Notice, Contractor shall submit a quotation, within the time specified in the Change Notice, estimating the cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 3. The Contractor shall include the following information in its proposal:
 - a. List of quantities of products required and/or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Breakdown of unit cost of all work by labor hours, plant, material and equipment. The labor breakdown shall be by trade. Include costs of all labor and supervision directly attributable to the change. Lump sum estimates without proper cost breakdown shall be considered non-compliant and shall be rejected.
 - d. Updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract time.
 4. If the proposal is accepted, a Contract Change Order or other form of written authorization shall be issued by BAHA.
 5. If the proposal is rejected, submit a revised proposal or additional information as requested.
- B. **FORCE ACCOUNT DIRECTIVE:** A Force Account Directive authorizes the Contractor to execute a modification before the effects on the Contract sum and time are determined.

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1. Force Account charges shall be recorded daily on Cost Breakdown forms as approved by BAHA. Contractor's authorized representative shall complete and sign the form at the end of each shift. BAHA shall sign form for approval. Form shall provide names and classifications of workers plus hours worked by each; itemize materials used; list size, type, and identification number of equipment, list hours operated; and indicate work done by others.
2. No payment for Force Account Work shall be made until Contractor submits original invoices substantiating materials and work by others.
3. BAHA shall have the right to audit, all records in Contractor's possession relating to activities covered by Contractor's claims for modification of Contract, including field order work.

3.3 MODIFICATIONS

A. CONTRACT CHANGE ORDERS:

BAHA shall issue Contract Change Orders for approved Contract modifications.

1. The Contractor may propose a change by submitting a Change Request (CR) to BAHA describing the proposed changes and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract sum and Contract time with full documentation and a statement describing the effect on the work schedule and operations.
 - a. Document any requested substitutions in accordance with Section 012500, Product Substitution Procedures.
 - b. Contractor's RFI submittal shall not constitute a request for change.
2. Contractor shall notify BAHA of all anticipated delays resulting from proposed time extensions included with a CR.
3. Contractor shall immediately notify BAHA via email of the CR. Failure to do so may result in delay of response to the CR.
4. Following receipt of the Contractor's proposal, BAHA shall negotiate with the Contractor to establish an equitable agreement for completion of the proposal work.
5. On approval of a proposal, BAHA shall issue a Contract Change Order for signatures of the Contractor and BAHA.

B. FORCE ACCOUNT WORK DIRECTIVES:

1. In the event the Contractor and BAHA are unable to reach early agreement on the cost and time impact of a Contract change and, in the judgment of BAHA, the work must proceed to avoid irrecoverable time delay or damage, BAHA may issue an initial Contract Change Order in a lump sum Not-to-Exceed amount to authorize proceeding with the work.
2. The work is to be monitored under the provisions of the Contract Force Account procedures. The Contractor shall notify BAHA when 80% of the authorized amount has been spent and shall not proceed beyond the authorized amount without further action by BAHA.
3. At the time of Contract closeout, reconciliation of the final amount due under this change shall be determined and included in the Closeout Contract Change Order.

C. UNILATERAL CONTRACT CHANGE ORDERS:

1. When time does not allow for a Contract Change Order to be negotiated through the Change Notice process, or when BAHA and the Contractor are unable to agree on the cost or Contract time extension required to complete the change in the Work described in a Change Notice, BAHA may issue a Unilateral Contract Change Order instructing the Contractor to proceed with the change in the Work based on BAHA's estimate of cost and time. Upon receipt of a Unilateral Contract Change Order, Contractor shall proceed with the ordered Work.
2. Contractor waives all costs and time exceeding BAHA's estimate for the Unilateral Change Order Work unless Contractor submits a written notice of intent to submit a Claim in accordance with the requirements or provisions of Article 9.4. Said notice shall be submitted no later than 7 days after whichever occurs first: Contractor submits an invoice for completion of that Work; or upon Contractor's receipt of written notice from BAHA that BAHA considers that Work completed.

D. NOT USED

E. CORRELATION OF CONTRACTOR SUBMITTALS:

1. Contractor shall promptly revise the Schedule of Values and Application for Payment forms to record each authorized Contract Change Order as a separate line item and adjust the Contract sum and resubmit for approval.
2. Contractor shall promptly revise the Official Progress Schedule to reflect any approved change in Contract Time, revise items of work affected by an authorized Contract Change Order and include modifications in the monthly update.
3. Contractor shall promptly enter authorized Contract Change Orders in Project Record Documents.

F. CONTINUING WORK DURING DISPUTES:

1. Contractor shall carry on and prosecute the work and maintain the progress schedule during all disputes and disagreements with BAHA. Time is of the essence. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as BAHA and Contractor may otherwise agree in writing.
2. Contractor shall notify BAHA at the beginning of each single day, shift or phase before performing the disputed work and document the disputed work in the Contractor's Daily Report. Failure to notify BAHA at the beginning of each day, shift or phase may result in no verification of work performed under dispute or disagreement and the Contractor shall be due no compensation for the work performed without notice. Contractor and BAHA shall agree upon the number of hours of manpower, equipment, and materials for documentation at the end of every day, shift or phase until resolution or completion of the disputed work.

3.4 ALLOWANCES

A. CONTRACT ALLOWANCE ADJUSTMENTS:

1. Obtain an executed allowance authorization from BAHA prior to executing work under the terms of Contract Allowances.
2. Allowance work shall be done as Contract Change Orders:
 - a. Detailed Force Account reports shall be prepared for work performed related to allowances.
 - b. Allowances shall be adjusted by executed Contract Change Orders following verification of work results.
 - 1) Contract Change Orders which do not increase Contract Sum or Contract Time shall be paid for from monies currently authorized in the Contract.
 - 2.) Contract Change Orders which increase Contract Sum or Contract Time shall be included in next Contract Modification, signed by BAHA, and accepted by the Contractor prior to any payment.
 - 3) If the cost of the work done under any Allowance is less than the amount established in the GMP for that Allowance Item, the Contract Sum shall be reduced by the difference between the amount established in the GMP and the actual cost of the work. This reduction in Contract Sum shall be done under the final Modification of Contract.
 - c. When applicable, the unit prices established shall be used to calculate payment for Allowances.

END OF SECTION

SECTION 012613 - REQUEST FOR INFORMATION

PART 1 – GENERAL

1.1 SUMMARY

- A. **WORK INCLUDED:** This Section includes procedures for preparation and submittal of a Request for Information (RFI).
- B. **RELATED SECTIONS:** It is the Contractor's responsibility to review Contract Documents at a minimum of 30 days in advance of the work to be executed, and to request information so that BAHA shall have sufficient time to respond to Requests for Information prior to the start of actual construction of that part of the work to which the RFI relates.
- C. **RELATED DOCUMENTS:** Applicable provisions of other Division 1 Sections apply to this Section as well as the following:
 - 1. Document 007000 General Conditions of the Contract for Construction

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 RFI PROCESS

- A. **FORM:** When an interpretation or clarification of the Contract Documents is required, the Contractor shall make the request in Prolog using BAHA's approved form or template:
 - 1. Fill in all applicable information on the form.
 - 2. Create a separate RFI for each request unless the same problem occurs in multiple locations. Limit the subject to one design discipline. Attach supplementary information where necessary.
 - 3. Each RFI must be limited to one issue requiring response from BAHA.
 - 5. The Contractor must clearly and concisely set forth the issue for which interpretation or clarification is sought and reference appropriate specifications, drawings, and provided details.
 - 6. If RFI has the potential to delay critical activities, the Contractor shall reference all potentially impacted critical activities based upon most recent BAHA approved Official Progress Schedule update.
 - 7. Do not use any other RFI form or type of correspondence to request information on this Project.
 - 8. Number all RFIs sequentially.

The completed form shall be the written record of each RFI.

B. SUBMISSION:

- 1. Submit the RFI with supporting documentation electronically.

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C. USE:

1. The RFI's shall be used for interpretation or clarification of the Contract Documents only.
2. Do not use the RFI process for the following as BAHA will not reply and will reject the RFI:
 - a. Product or material substitutions.
 - b. Questions relating to construction means, methods, techniques, sequences, procedures or safety precautions. (These are Contractor's responsibility exclusively.)
 - c. Questions relating to construction schedule, coordination between trades, or division of work among subcontractors. (These are Contractor's responsibilities exclusively.)
 - d. Questions on contract administration procedural matters, unless they require interpretation or clarifications of the Contract Documents.
 - e. Dimensions or quantities which are shown on the Contract Documents, or which can be measured from the building, or calculated from the information contained in the Contract Documents.
 - f. Confirmation of interpretations or clarifications previously provided by BAHA.
 - g. Requests for interpretations or clarifications of the Contract Documents which can be derived from a review of the Contract Documents.

3.2 REPLY

- A. Review and responses to Contractor's RFIs are covered in the following:
 1. BAHA's designee will reply to RFIs within 21 days from the date is the RFI is received as tracked by Prolog, except as noted in 3.2.A.2.
 2. When an RFI involves a complex subject, extensive research or development, or substantial input from another governmental agency, BAHA shall inform the Contractor and request additional time to prepare the reply. Contractor shall cooperate and agree to a reasonable time extension.
 3. The reply shall be a clarification or interpretation of the Contract Documents; the reply is not an authorization of Change in the Contract sum or time.

END OF SECTION

SECTION 012900 – PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. **WORK INCLUDED:** This Section describes requirements and procedures for the Application for Payment.
- B. **RELATED SECTIONS:**
 - 1. Section 011100 Summary of Work
 - 2. Section 012600 Modifications Procedures
 - 3. Section 012973 Schedule of Values
 - 4. Section 013200 Work Schedules
 - 5. Section 013300 Submittal Procedures
 - 6. Section 017700 Closeout Procedures
 - 7. Section 017419 Site Waste Management Program
 - 8. Section 018113 Sustainable Design Requirements
- C. **RELATED DOCUMENTS:** Applicable provisions of other Division 1 sections apply to this Section as well as the following:
 - 1. Document 007000 – General Conditions of the Contract for Construction
 - 2. Public Contract Code
- D. **SUBMITTALS:** The specific format and detail of Application and Certificate for Payment shall be as referenced in General Conditions of the Contract or as acceptable to BAHA.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 APPLICATION FOR PAYMENT PRECONSTRUCTION SERVICES

- A. **DELIVERABLE SCHEDULE** – Payments for Preconstruction services will be based on the completion of the Contractor’s deliverables established in the Contractors Cost Proposal, Form B as accepted by BAHA.

3.2 APPLICATION FOR PAYMENT CONSTRUCTION SERVICES

- A. Payments for Construction Phase services, including the Contractor’s General Conditions Costs related to construction and the Cost of the Work (Subcontractor cost to the Contractor) shall be based on the BAHA accepted Schedule of Values.
- B. **PRELIMINARY REQUIREMENTS:** By the time of the submittal of the Contractor’s first Payment Application associated with the Construction Phase Contract shall be submitted when the following items shall have been submitted and accepted:

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1. Preliminary Contract Schedule in accordance with Section 013200, Work Schedules.
2. Schedule of Values in accordance with Section 012973, Schedule of Values.
3. Contractor's Quality Control Plan in accordance with Section 014500, Contractor Quality Control Plan.
4. Storm Water Pollution Prevention Plan in accordance with Section 015713, Temporary Erosion and Sedimentation Control.
5. Site Waste Management Plan in accordance with Section 017419, Site Waste Management Program.

B. MONTHLY PAYMENT APPLICATIONS

1. The following conditions shall be precedent to the Contractor making application for monthly progress payments. Failure by the Contractor to perform any of the following requirements will result in the refusal of the request for payment and may incur liquidated damages as allowed by the Contract Conditions.
 - a. Submittal of Preconstruction Schedule in accordance with Section 013200, Work Schedules.
 - b. Submittal of Baseline Construction Schedule in accordance with Section 013200, Work Schedules.
 - c. Submittal of monthly schedule update in accordance with Section 013200, Work Schedules.
 - d. Monthly updated Approval of Schedule of Values in accordance with Section 012973, Schedule of Values.
 - e. Ongoing implementation of Storm Water Pollution Prevention Plan in accordance with Section 015713, Temporary Erosion and Sedimentation Control.
 - f. Updates to the progress record drawings and documents in accordance with Section, 017700, Closeout Procedures.
 - g. LEED Action Plan and Progress Reports in accordance with Section 018113, Sustainable Design Requirements.

C. PREPARATION OF MONTHLY PAYMENT APPLICATIONS

1. Monthly payment requests shall be based upon information developed at a monthly Application for Payment meeting and shall be prepared by Contractor. The approved Schedule of Values shall be the basis for Contractor's payment requests for payments related to Construction.
2. On or before the 25th day of each month, the Contractor shall submit to BAHA an executed Applications for Payment with original signatures for the cost of the work put in place during the previous one-month period. If Contractor is late submitting its payment request, that payment request may be processed after all other prime contractors' payment are processed, resulting in processing of Contractor's payment request being delayed for more than a day-for-day basis. The Contractor shall include as Attachments:
 - a. Certified payroll reports for payment period.

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3. The quantity of Work to be paid is for work satisfactorily completed in accordance with the Contract Documents and for services rendered directly pursuant to the Contract Documents. Unless otherwise provided, determination of number of units of work so completed will be based upon progress estimates by Contractor and verified by BAHA utilizing the approved Preconstruction or Baseline Construction Schedule and the Schedule of Values or by methods as BAHA may consider appropriate for class of work measured. No payment will be made for work done outside of limits.
4. No payment shall be made for materials or equipment not yet incorporated into the work except as noted in Article 8 Paragraph 8.3.1.1 of the General Conditions. At its sole discretion, BAHA may approve payment of materials stored in a secured bonded warehouse.

3.2 CERTIFICATE OF PAYMENT

- A. A Certificate for Payment will be issued by BAHA, based on BAHA's representation of their observations at the site and the data comprising the Application for Payment that the work has progressed to the point stated in the Application for Payment and the quality of work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of work for conformance with the Contract Documents, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion, and to specific qualifications expressed to BAHA by its designee. The issuance of Certificate for Payment will further constitute a representation that Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that BAHA or A/E has:
 1. Made exhaustive or continuous on-site inspections to check the quality or quantity of work;
 2. Reviewed construction means, methods, techniques, sequences or procedures; or
 3. Reviewed copies of requisitions received from subcontractors and material suppliers and other data requested by BAHA to substantiate Contractor's right to payment or made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum.

END OF SECTION

SECTION 012973 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 SUMMARY

- A. **WORK INCLUDED:** This Section describes requirements and procedures for providing a breakdown of Lump Sum Bid Amounts to allow a means of providing periodic progress payments for completed work.

- B. **RELATED SECTIONS**
 - 1. Section 011100 Summary of Work
 - 2. Section 012600 Modification Procedures
 - 3. Section 012900 Payment Procedures
 - 4. Section 013200 Work Schedules
 - 5. Section 013300 Submittal Procedures
 - 6. Section 017700 Closeout Procedures

- C. **RELATED DOCUMENTS:** Applicable provisions of other Division 1 Sections apply to this Section as well as the following:
 - 1. Document 007000 – General Conditions of the Contract for Construction
 - 2. Public Contract Code

- D. **SUBMITTALS:** The specific format and detail of the Schedule of Values shall be acceptable to BAHA for estimating and evaluating progress payments.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 DESCRIPTION OF WORK

- A. **SCHEDULE OF VALUES:** A Schedule of Values covering all items with a Bid Package shall be submitted with the GMP for that Bid Package, but in no event later than ten (10) days before Contractor's initial Application for Payment for the same Bid Package.

- B. **FORMAT:** The Schedule of Values shall consist of a well balanced and detailed cost breakdown of the Contractor's Bid covering the lump sum items of work identified by classifications in accordance with the Construction Specifications Institute (CSI) MasterFormat (2011 Edition) for Divisions 02 through 33, and the Construction related portion of the Contractor General Conditions Cost and Fee.

- C. **CONTENT:** For purposes of the Schedule of Values, each Bid Item shall be broken down into definable and measurable categories which reflect each Technical Specification Section involved in the work of that Bid Item. Subcategories of work also shall be provided to allow for reasonable assessment of monthly progress by type and location to accurately and adequately provide for progress payment for work completed.

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3.2 COORDINATION WITH GMP

- A. The sum of the individual costs listed in the Schedule of Values for each lump sum item shall equal the Guaranteed Maximum Price.
- B. An unbalanced Schedule of Values providing for overpayment of Contractor on items of work which would be performed first will not be accepted.

3.3 CONTRACTOR'S APPLICATION FOR PAYMENT: The Contractor shall coordinate the preparation of the Schedule of Values with Contractor's Application for Payment.

- A. Show the total cost of each item of work including all labor, material, equipment, fixed cost elements, incidental expenses, and overhead and profit.
- B. Identify and provide for separate line items for temporary items, mobilization, final cleaning, operations and maintenance manuals, and start-up, adjusting and testing, and demobilization.

3.4 REVIEW AND APPROVAL

- A. REVIEW PROCEDURES: BAHA will review and return Contractor's Schedule of Values with comments within seven (7) days of its receipt. Contractor shall make corrections requested by BAHA and resubmit for approval within three (3) days.
- B. FINAL APPROVAL: When the Schedule of Values for a Bid Package is acceptable to BAHA, BAHA will issue a written formal acceptance of the Schedule of Values. Final acceptance by BAHA indicates only consent to the Schedule of Values as a basis for preparation of Applications for Payments, and does not constitute an agreement as to the exact value of each indicted item.
- C. RESTRICTIONS OF PAYMENT: No payments for any bid item will be made nor will BAHA accept any construction submittals or Change Order requests until the Schedule of Values is submitted and accepted as required herein.

END OF SECTION

SECTION 013102 – CONTRACTOR STAFF

PART 1 - GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** This Section establishes the minimum staffing requirements to be provided by the Contractor.

- B. **RELATED REQUIREMENTS:**
 - 1. Section 012613 Request for Information
 - 2. Section 013119 Project Meetings
 - 3. Section 013200 Work Schedule
 - 4. Section 013250 BIM Requirements
 - 5. Section 013330 Submittal Procedures
 - 6. Section 013523 Accident Prevention, Health and Safety
 - 7. Section 014500 Quality Control
 - 8. Section 015000 Temporary Facilities And Controls
 - 9. Section 017323 Field Engineering
 - 10. Section 017419 Site Waste Management Program
 - 11. Section 017800 Closeout Submittals

- C. **RELATED DOCUMENTS:**
 - 1. Document 007000 General Conditions of the Contract for Construction

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 CONTRACTOR’S ON-SITE PERSONNEL

The Contractor shall provide all staff needed to manage the project. At a minimum, this includes the following Key Personnel: Project Executive, Project Manager, General Superintendent, Safety Manager, QC Manager, Project Scheduler, General Construction Estimator, BIM Manager, and MEPF Coordinator. Additionally, Contractor shall provide supporting staff in management, supervision, engineering, and administrative roles. The supporting staff shall include Field Superintendent(s), Project Engineer(s), QC Manager, and Administrative Assistant. The Contractor shall submit a Staffing Plan with the Proposal which indicates staffing levels for Key Personnel and support staff for the duration of the Project.

The Contractor is required to deliver the staff proposed in Contractor’s original Proposal once accepted by the BAHA and to maintain the assignments of those Key Personnel identified to the Project throughout the course of the Project. If Contractor proposes a replacement Key Personnel, prior to replacement, BAHA has the right to review the new candidate and reject the proposed candidate. Contractor shall have a minimum of ten (10) working days overlap with existing and new Key Personnel. BAHA realizes staff may specialize in certain areas of work, such as concrete, structural steel, etc. and these personnel shall be designated during the proposal stage.

Key Personnel assigned to the project are expected to remain on the project. Any change in Key Personnel of the project team as provided in the Proposal is subject to prior written approval of BAHA. **Removal of any Key Personnel identified in the Proposal without written consent of BAHA’s Project Manager may be**

considered a material breach of contract and may result in Termination for Cause or the assessment of a maximum penalty of \$50,000.

3.2 MINIMUM STAFFING LEVELS

Contractor shall be expected to include in its Proposal and provide the following minimum staffing levels, except that where the Contractor expects that additional staffing is required to perform the Work, Contractor shall be required to include such costs in its Proposal or provide such levels of staffing at no additional cost to BAHA.

During Preconstruction Services, the Contractor shall provide Preconstruction Services, including estimating, prequalification of subcontractors and bidding all Work Packages. See 011150, Preconstruction Services.

PRECONSTRUCTION SERVICES (8 Months)

Quantity	Title/Function	Level of Effort
1	Project Executive	320 Hours
1	Project Manager	1,280 Hours
1	Project Engineer	1,280 Hours
1	General Superintendent	640 Hours
1	MEPF Coordinator	450 Hours
1	General Construction Estimator	450 Hours
1	Mechanical (HVAC) Estimator	220 Hours
1	Plumbing Estimator	220 Hours
1	Electrical Estimator	220 Hours
1	Scheduling Engineer	240 Hours
1	BIM Manager	600 Hours
1	Administrative Staff	600 Hours

During Early Construction Services, the Contractor shall manage abatement, demolition and seismic retrofit of the building. The Contractor will require fewer construction staff than will be needed for the remaining construction period.

EARLY CONSTRUCTION SERVICES (7 Months; concurrent with the Preconstruction Phase)

Quantity	Title/Function	Level of Effort
1	General Superintendent	560 Hours
1	QC Manager	1,200 Hours
1	Project Engineer	1,200 Hours
1	Administrative Staff	600 Hours

During Construction Services, the Contractor shall manage the balance of Work.

CONSTRUCTION SERVICES (10 Months)

Quantity	Title/Function	Level of Effort
1	Project Executive	400 Hours
1	Project Manager	1,600 Hours
1	General Superintendent	1,600 Hours
1	Tenant Improvement Superintendent	1,600 Hours
1	MEPF Coordinator (4 Months)	640 Hours
1	BIM Manager (5 Months)	400 Hours
1	Safety Manager/Project Engineer	1,600 Hours
1	QC Manager	1,600 Hours

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1	Project Scheduler/Project Engineer	1,600 Hours
2	Project Engineer	1,600 Hours Each
2	Administrative Staff	1,600 Hours Each

During Close Out, the Contractor will have reduced staffing to a level appropriate to complete the remaining administrative requirements of the Work.

CLOSE-OUT SERVICES (2 Months)

Quantity	Title/Function	Level of Effort
1	Project Manager	160 Hours
1	Project Engineer	320 Hours
1	Administrative Staff	320 Hours

3.3 QUALIFICATIONS OF CONTRACTOR'S STAFF

- A. **Contractor's Project Executive** shall be responsible for all the Contractor's personnel and will have overall responsibility to manage and administer the Contract. The Contractor's Project Executive will have the authority to legally bind the Contractor. Contractor's Project Executive shall be the same individual included and accepted by the BAHA in the Contractor's Proposal for this role.
- B. **Contractor's Project Manager** shall be responsible for assisting the Project Executive with the overall responsibility to manage and administer the Contract. Contractor's Project Manager shall be the same individual included and accepted by the BAHA in the Contractor's Proposal for this role.
- C. **Contractor's General Superintendent** is responsible for administration of the Contractor's Work and the coordination of the Work of the Contractor, Subcontractors and suppliers. The Superintendent must be on-site at all times work is being performed. The Contractor's Superintendent shall be the same individual included and accepted by BAHA in the Contractor's Proposal for this role. No Work may proceed on the site without the presence of the Superintendent or his BAHA-accepted Alternate. The Superintendent may not be absent from the project site for more than five consecutive work days and/or 15 total work days in the course of any 12-month period. Any absence beyond these periods may be cause for the BAHA to direct the removal as the Superintendent, and may be considered equal to removal without BAHA's consent.

Duties will include, but not be limited to:

- a. Be on the Work site at all times during performance of Work, with complete authority to take any action necessary to ensure conformance with the requirements of the Contract Documents.
- b. Confer with BAHA, Contractor's personnel and subcontractors to discuss and resolve matters such as work procedures and construction problems.
- c. Plan, organize and direct activities concerned with the construction and maintenance of the project.
- d. Immediately stop any work that does not comply with requirements of the Contract Documents, and direct removal and replacement of any defective Work.
- e. Supervise, coordinate, direct, and lead workers engaged in construction activities.
- f. Work with the project scheduler to prepare the preliminary, baseline, and short interval project schedules in a logical sequence of activities to meet the project milestones.
- g. Review and monitor the activities of all trades to assure compliance with safety plans, building codes and regulatory agency requirements.
- h. Investigate damages, accidents, or delays. Take necessary action to prevent recurrences and take corrective action as warranted.

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- i. Take actions to deal with the results of delays, bad weather, and emergencies on the site.
 - j. Coordinate the scheduling of work activities to facilitate inspection by Contractor's Quality Control Manager, Special Inspections and Testing Labs.
 - k. Assist, prepare and oversee the preparation of all submittals required by Section 015000 "Temporary Facilities and Controls".
 - l. Assure that work areas and project site is cleaned and maintained per Section 017419 "Site Waste Management Program".
 - m. Attend all key Project Meetings including, but not limited to, Preconstruction Conference, Schedule Orientation Meeting, Progress Meetings, Commissioning Meetings, Demonstration and Training Meetings, and Closeout Conference.
- D. **Contractor's Safety Manager** shall function as the Responsible Person for accident prevention, pursuant to Section 007000, and as the Contractor's Authorized Representative, pursuant to Section 007000. No Work may proceed on the site without the presence of the Safety Manger or his BAHA-accepted Alternate references. The Contractor's Safety Manager shall be the same individual included and accepted by BAHA in the Contractor's proposal for this role.
- E. **Contractor's Quality Control Manager** - See Section 014500 "Quality Control". The Contractor's Quality Control Manager shall be the same individual included and accepted by the BAHA in the Contractor's proposal for this role.
- Qualifications:
- a. As per Section 014500, Quality Control
- F. **Contractor's Project Scheduler** – See Section 013200 "Work Schedules". The Contractor's Project Scheduler shall be the same individual included and accepted by the BAHA in the Contractor's proposal for this role.
- G. **Contractor's BIM Manager** will have overall responsibility to lead, manage, and coordinate the development, submittal, and acceptance of all deliverables required by Section 013340 "BIM Requirements". The Contractor's BIM Manager shall be the same individual included and accepted by the BAHA in the Contractor's proposal for this role.
- Qualifications:
- a. A minimum of 5 years experience as a MEPF coordinator on similar size and type of construction projects that included the major trades involved with this Project and recent major project experience using BIM for the mechanical, plumbing, and electrical systems coordination at a shop drawing level of detail.
 - b. A Bachelor's Degree from an accredited university in Architecture, Civil, Mechanical or Electrical Engineering, Construction Management, or equivalent experience.
 - c. Proven knowledge, experience, and use of the BIM software.
- H. **Project Engineers.** Within seven (7) days after the start date for the Work identified in the NTP, Contractor must submit for acceptance by the BAHA, an Appointment letter for the Project Engineers. The Appointment letter must be accompanied by a detailed resume for each candidate documenting their relevant experience and providing at least three current references.
- Duties will include, but are not limited to:
- a. Be on the Work site at all times during performance of Work shown in Contractor's accepted staffing plan.
 - b. Confer with General Superintendent, Field Superintendent, and subcontractors to discuss and resolve matters such as work procedures and construction problems.

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- c. Assist and support the General Superintendent and Field Superintendent in the performance of their duties with complete authority to take necessary action to assure conformance with the contract requirements.
- d. Interpret and explain plans and specification requirements to Contractor's personnel and subcontractors.
- e. Prepare and or assist in the preparation of monthly reports, meeting minutes, cost and other administrative reports required by the contract documents.
- f. Assist and/or requisition supplies and material required to complete construction.
- g. Prepare and/or assist in the preparation of change orders, cost estimates, cost reduction proposals.
- h. Assist the project scheduler in updating the monthly progress schedule and the preparation of schedule reports.
- i. Prepare Requests for Information (RFI), issue to BAHA, track disposition and distribute to Contractor's appropriate personnel.

I. **Administrative Assistant**

Duties will include, but not be limited to:

- a. Perform administrative duties as needed to support all aspects of Contractor's work.

The following staff must be on-site during specified periods of Work are performed:

- A. **QC Specialist(s).** Responsibilities, duties and qualifications of the QC Specialist are set forth in Section 014500 "Quality Control".

3.4 OTHER CONTRACTOR'S PERSONNEL

The above listed Contractor's staff is the minimum requirement. Contractor must provide all other administrative and supervisory personnel that are needed or required for timely compliance with all of the requirements of the Contract Documents and proper coordination and completion of the Work.

3.5 IDENTITY VERIFICATION OF PERSONNEL

- A. BAHA reserves the right to verify Identities of personnel with routine access to existing tenant, "Government," space. Contractor shall comply with the agency personal identity verification procedures below that implement Homeland Security Presidential Directive-12 (HSPD-12). Office of Management and Budget (OMB) guidance M-05-24, and Federal Information Processing Standards Publication (FIPS PUB) Number 201 as amended.
- B. Contractor shall insert this paragraph in all subcontracts when the subcontractor is required to have physical access to a federally controlled facility or access to a federal information system.
- C. Contractor compliance with subparagraphs 1 through 4 below will suffice to meet the Contractor's requirements under HSPD-12, OMB M-05-24, and FIPS PUB Number 201.
 1. BAHA reserves the right to conduct background checks on Contractor personnel and contractors with routine access to Government leased space.
 2. Upon request, Contractor shall submit completed fingerprint charts and background investigation forms for each employee of the Contractor, as well as employees of the Contractor's subcontractors who will provide building operating services requiring routine access to the Government's leased

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space for a period greater than 6 months. BAHA may also require this information for the Contractor's employees, contractors, or subcontractors who will be engaged to perform alterations or emergency repairs in the Government's space.

3. Contractor must provide Form FD-258, Fingerprint Chart (available from the Government Printing Office at <http://bookstore.gpo.gov>), and Standard Form 85P, Questionnaire for Public Trust Positions, completed by each person and returned to the contracting officer (or the contracting officer's designated representative) within 30 days from receipt of the forms. Based on the information furnished, BAHA will conduct background investigations of the employees. The contracting officer will advise the Contractor in writing if an employee fails the investigation, and, effective immediately, the employee will no longer be allowed to work or be assigned to work in the Government's space.
4. Throughout the life of the Work, the Contractor shall provide the same data for any new employees or subcontractors who will be assigned to the Government's space. In the event the subcontractor is subsequently replaced, the new subcontractor is not required to submit another set of these forms for employees who were cleared through this process while employed by the former contractor or subcontractor. The Contractor shall resubmit Form FD-258 and Standard Form 85P for every employee covered by this paragraph on a 5-year basis.

END OF SECTION

SECTION 013119 - PROJECT MEETINGS

PART 1- GENERAL

1.1 SUMMARY

- A. **WORK INCLUDED:** This Section establishes the general procedures and requirements for a preconstruction meeting and progress meetings, as required by the Contract Documents or otherwise required to expedite the work or to interpret the intent of the Contract Documents. BAHA will record and distribute the minutes of all meetings. Written exceptions to the minutes of Project Meetings must be received by the originating party within three (3) working days following distribution of meeting minutes.
- B. **RELATED SECTIONS:** Refer to individual sections in Divisions 1 through 33 for additional meeting or conference requirements.
- C. **RELATED DOCUMENTS:** Construction Drawings and provisions of the Contract Agreement apply to this Section.
- D. **SUBMITTALS:** Meeting agendas shall be e-mailed to invitees at least 48 hours before the meeting.
- E. **REPRESENTATIVES:** Representatives of BAHA, the Contractor and subcontractors attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION

1.1. PRECONSTRUCTION MEETING

- A. **CONTRACTOR:** Before the start of construction of each Bid Package, BAHA will schedule and chair a meeting with the Contractor at a location to be determined. The following Contractor individuals representing the construction team shall attend the meeting:
 - 1. Project Manager
 - 2. Project Superintendent
 - 3. Quality Control Manager
 - 4. Safety Manager
 - 5. Major Subcontractors
 - 6. Scheduler
 - 7. Others as appropriate
- B. **BAHA REPRESENTATIVES:** Appropriate representatives of BAHA will attend to review all subject matter on the agenda.

MEETING AGENDA: The meeting agenda will include the following as a minimum:

- 1. Introduction of authorized representatives of each party.
- 2. Introduction of subcontractors.

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3. Clarifications to general project procedures relating to the entire Project, including but not limited to:
 - a. Payment application procedures
 - b. Submittal procedures
 - c. Change order procedures
 - d. Quality control and quality assurance testing procedures
 - e. Special project coordination or scheduling requirements, such as LEED Certification
 - f. Building Information Modeling (BIM) aspects of the Project

4. Additional suggested agenda topics: Discussion of significant items or topics that affect or might affect the general procedures and progress of the Work, including but not necessarily limited to:
 - a. Tentative construction schedule
 - b. Sequencing of critical portions of the Work
 - c. Designation and introduction of responsible personnel and/or representatives of all parties to the Contract
 - d. Procedures of Project communications
 - e. Procedures for processing changes to the Work
 - f. Procedures for processing applications for payment
 - g. Procedures for submittal of shop drawings, product data, samples, and other required submittals
 - h. Testing and inspection procedures
 - i. Preparation and maintenance of Record Documents
 - j. Access to the site
 - k. Use of the premises, including parking for construction personnel
 - l. Temporary utilities and services, including location of field offices, storage sheds or trailers and signs
 - m. Delivery of materials and equipment
 - n. Erosion and dust control, noise abatement procedures
 - o. Safety procedures, first aid, and fire protection
 - p. Security
 - q. Housekeeping and disposal of trash and debris
 - r. Working hours
 - s. For the renovation or additions to existing facilities, include the following additional agenda items:
 - 1) Protection of existing construction and finishes
 - 2) Temporary dust and weather protection
 - 3) Scheduling of activities which produce excessive noise or vibration
 - 4) Scheduling of temporary utility outages
 - 5) Use of existing utilities and sanitary facilities
 - 6) Other topics designated by BAHA

1.2 PROGRESS MEETINGS

- A. WEEKLY MEETINGS: Progress meetings shall be conducted at weekly intervals, scheduled, chaired, and documented by the Contractor.

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1. Attendees: The Contractor's Superintendent and Project Manager shall be present at these meetings. In addition, Subconsultants, as warranted or requested by BAHA, the Contractor and other entities concerned with current site progress or involved in planning, coordination, or performance of future activities, shall also be present. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
2. The meeting agenda will include the following, as appropriate:
 - a. Approval of minutes of previous meetings
 - b. Issues of Project and public safety
 - c. Effect of proposed changes on progress schedule and coordination.
 - 1) Review schedule for next period
 - d. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements
 - 2) Sequence of operations
 - 3) Status of submittals
 - 4) Review of Contractor's Quality Control Program and activities
 - 5) Deliveries
 - 6) Off-site fabrication
 - 7) Access
 - 8) Site utilization
 - 9) Temporary facilities and controls
 - 10) Work hours
 - 11) Issues needing resolutions
 - 12) Progress cleaning of jobsite
 - 13) Quality and work standards
 - 14) Status of correction of deficient items
 - 15) Field observations
 - 16) Status of Requests for Information (RFIs)
 - 17) Status of Proposal requests
 - 18) Pending changes
 - 19) Identification of problems which impede planned progress
 - 20) Coordination of projected progress
 - 21) Status of change orders

B. PRE-INSTALLATION MEETINGS:

1. Purpose:
 - a. Scheduled and chaired by the Contractor, the Pre-installation meetings review construction and quality control procedures for the Work, for which the meeting is required, and to coordinate and sequence the work and the work-related sections.
 - b. Refer to individual Sections in Divisions 2 through 33 for work requiring pre-installation meetings. Additional pre-installation conferences for work not specifically required in the Contract Documents may be called by BAHA as needed.
 - c. See Section 014500, Quality Control for additional requirements.

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2. Time: Not less than ten (10) days prior to the start of the work or the start of any preparatory work of other Sections or trades directly relating to or dependent upon the work for which the meeting is required. Pre-installation meetings may be scheduled concurrently with job progress meetings.
 3. Attendees:
 - a. A/E's consultants as applicable for work under discussion
 - b. BAHA's designated representative
 - c. Contractor's designated representative for Quality Control
 - d. Contractor's Project Manager, Project Engineer, or Office Engineer assigned to the Project
 - e. Representative of the subcontractor, or material supplier as applicable for work under discussion
 - f. Contractor's superintendent
 - g. Representative of testing and inspection agency as applicable for work under discussion
 4. Suggested agenda: Discussion of general procedures, quality control procedures, coordination and sequencing of the work under discussion and related work.
- C. ADDITIONAL PROJECT MEETINGS: The following additional project meetings shall be scheduled by Contractor at its discretion, with agenda, meeting location, and attendees to be determined:
1. Systems conformation conference
 2. Construction phasing meetings
 3. Tenant confirmation meetings
 4. Tenant transition meetings
 5. Construction strategy meetings
 6. Safety meetings
 7. QA/QC meetings
 8. Payment meetings
 9. Commissioning team meetings
 10. Quarterly Partnering meetings
 11. Focus team meetings
- D. ADDITIONAL MEETINGS: If the Contractor requests any additional meetings, BAHA shall be notified and provided an agenda forty-eight (48) hours in advance.

END OF SECTION

SECTION 013200 - WORK SCHEDULES

PART 1 – GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** This Section establishes the requirements for the computerized time scaled Critical Path Method (CPM) Progress Schedule that shows in detail how the Contractor plans to execute and coordinate the work along with submitting schedules, logs, updates and reports.
- B. **RELATED SECTIONS:**
1. Section 011100 Summary of Work
 2. Section 012600 Modification Procedures
 3. Section 012900 Payment Procedures
 4. Section 013119 Project Meetings
 5. Section 013300 Submittal Procedures
 6. Section 015000 Temporary Facilities and Controls
 7. Section 015713 Temporary Erosion and Sedimentation Control
 8. Section 017700 Closeout Procedures
- C. **RELATED DOCUMENTS:** Applicable provisions of other Division 1 Sections apply to this Section as well as the following:
1. Document 007000 General Conditions of the Contract for Construction
- D. **DEFINITIONS:**
1. “Baseline Schedule” - The Contractor’s initial CPM schedule presenting an orderly and realistic plan for completion of the entire Work of the Project. The Contractor must use BAHA’s accepted Preliminary Contract Schedule as the basis for the Baseline Schedule. When accepted, the Baseline Schedule becomes the initial version of the Official Progress Schedule.
 2. “Official Progress Schedule” - The Contractor’s initial CPM schedule and all revisions and updates thereto accepted by BAHA, in accordance with the requirements of the Contract Documents. The Official Progress Schedule shall be updated monthly to include the actual start and finish dates of activities and the percentage of completion of each activity. Actual start and finish dates must be identical to the actual start and finish dates indicated on the Short Interval Schedule submissions.
 3. “Free Float” - The amount of time which starting or completing an activity can be delayed without affecting the planned project completion date. Float to achieve a Milestone may not be the same as Float to achieve Contract Completion.
 4. “Total Float” - The minimum amount of time between the early start date and the late start date, or the early finish date and the late finish date, for any activity in the schedule. Also commonly called “slack.”
 5. “Critical Activity” - An activity that has zero or less than zero total float.
 6. “Near Critical Activity” - An activity that has one to three days of total float.
 7. “Float Ownership” - Neither BAHA nor the Contractor owns float. The Project owns the float. As such, liability for delay of the Substantial Completion Date rests with the party whose actions, last in time, actually cause delay to the Substantial Completion Date.

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- a. For example, if Party A uses some, but not all of the float and Party B later uses remainder of the float as well as additional time beyond the float, Party B shall be liable for the time that represents a delay to the Substantial Completion Date.
 - b. Party A would not be responsible for the time since it did not consume the entire float and additional float remained; therefore, the Substantial Completion Date was unaffected.
 - c. BAHA has the final determination on the appropriate use of float and on the total float calculation. BAHA will routinely check float calculations provided by the Contractor and resolve disputes regarding allocation of float.
8. “Negative Float” - Number of days the Project is forecast later than the baseline planned finish date. Schedules that show Negative Float will not be accepted by BAHA.
9. Work Periods:
- a. “Standard Work Period” - The standard work week shall be Monday through Friday and the standard work day shall be from 7:00 am to 5:00 pm, prevailing time, except as may otherwise be authorized by BAHA. Unless otherwise noted, “day” shall be defined as a calendar day of twenty-four (24) hours beginning at midnight, prevailing time.
10. “Preliminary Contract Schedule” - The Contractor’s initial CPM schedule presenting its detailed sequence of early operations including procurement of materials and equipment for a minimum of ninety (90) calendar days from the official Contract start date stated in the Notice to Proceed. The Preliminary Contract Schedule must also present all schedule milestones, interface flags, sequences, and activities occurring during the entire Contract Time that are specifically required by the Contract Documents to be shown on the Contractor’s Preliminary Contract Schedule.
11. “Recovery Schedule” – Contractor’s detailed schedule indicating how Contractor intends to recover lost time.
12. “Short Interval Schedule” - The Contractor’s four-week schedule updated weekly, showing the past week, the week submitted, and two weeks thereafter. The Short Interval Schedule must correlate with the current version of the Official Progress Schedule and reference the appropriate activity numbers. The Short Interval Schedule must indicate the actual start and finish dates of all activities on the Official Progress Schedule that are started or finished during the time period encompassed by the Short Interval Schedule.
- E. SUMITTALS: Schedule Submittals shall include the following:
1. One (1) legible, time-scaled plot listing all activities in precedence diagramming method (PDM) format with the critical path highlighted. The visible columns shall include Activity ID, Activity Description, Original Duration, Remaining Duration, Percent Complete, Early Start, Early Finish, Late Start, Late Finish, and Total Float.
 2. Three (3) paper copies of each of the following reports:
 - a. A report listing all activities sorted by Total Float
 - b. A report listing all activities sorted numerically
 - c. A narrative discussing the following as appropriate:
 - 1) The critical path of the schedule
 - 2) Descriptions of problem area
 - 3) Current and anticipated delaying factors and their impact
 - 4) Explanation of corrective action taken or proposed
 - 5) Any other issues the Contractor might consider appropriate

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3. Three (3) copies on CD containing corresponding electronic data files including the monthly .XER file and .pdf file of the schedule. The CDs must be permanently labeled to indicate the contents of the CD and include the submittal number and status/data.

PART 2 – PRODUCTS

2.1. SCHEDULING SOFTWARE

- A. The Contractor is required to use the P6 version of Primavera Professional Project Manager software to produce all CPM schedules. All CPM schedules must be produced using the Precedence Diagramming Method (PDM).

PART 3 – EXECUTION

3.1. GENERAL SCHEDULING REQUIREMENTS

- A. The following shall apply to all CPM schedules:
 1. All schedules must be realistic, logical plans for executing the Work.
 2. Personnel preparing CPM schedules shall be qualified and experienced in using Primavera Professional Project Manager software to prepare CPM schedules and shall be capable of producing the schedules and reports required by this Section. At least seven (7) calendar days prior to the Schedule Orientation Meeting, Contractor shall submit for BAHA acceptance, three (3) copies of the qualifications of Contractor's proposed scheduler including references from the owner on at least three past projects. Acceptance of Contractor's proposed scheduler may be withheld until twenty-one (21) calendar days after Contractor's Baseline Schedule submission.
 3. The Contract Time for completion of the entire Project and the Milestones must adhere to the start and finish times stated in the Contract Documents.
 4. Failure of any of the CPM schedules to include an element of the Work required for performance of this Contract, or inaccuracy in Official Progress Schedule, shall not relieve Contractor from responsibility for accomplishing all the Work required and shall not constitute grounds for delay.
 5. Failure of Contractor to substantially comply with requirements of this Section 013200 shall constitute a failure by Contractor to prosecute Work with such diligence as shall ensure its completion within Contract Time(s) and may be considered grounds for withholding progress payments, termination, or other remedy by BAHA pursuant to terms of this Contract.

3.2. SCHEDULE ORIENTATION MEETING

- A. Within seven (7) calendar days of the official Contract start dates stated in the Notice To Proceed, BAHA shall conduct a Schedule Orientation Meeting to review the requirements of the Contract Documents for preparing, submitting, updating, and revising the various project schedules and to facilitate development of an interim schedule of activities to execute the Work while the preliminary contract schedule is being developed. This is a separate meeting from the preconstruction meeting and is dedicated exclusively to discussions about scheduling the Work.

3.3. PRELIMINARY CONTRACT SCHEDULE

- A. SUBMITTAL DEADLINES: Contractor shall submit the Preliminary Contract Schedule no later than twenty-one (21) days after Notice of Award.
- B. FORMAT: The Preliminary Contract Schedule shall be a time-scaled, precedence CPM diagram.
- C. CONTENTS: The Preliminary Contract Schedule shall include:
 - 1. The Contractor's general plan of work in accordance with the Milestones and Contract Time(s) stated in the Contract Documents.
 - 2. Details of Contractor's planned mobilization.
 - 3. Sequence of early operations including procurement of materials and equipment for a minimum of ninety (90) calendar days from the official Contract start date stated in the Notice to Proceed.
 - 4. All mandatory activities, sequences, Schedule Milestones, and durations required in the Contract Documents including but not limited to:
 - a. Schedule Milestone for the Notice to Proceed
 - b. An activity for installation of temporary site enclosure fence (Section 015000, Temporary Facilities & Controls)
 - 5. BAHA will review the Preliminary Contract Schedule for conformance with the requirements of the Contract Documents and will return the Preliminary Contract Schedule with comments within fourteen (14) calendar days after receipt.
 - 6. In the event the Baseline Schedule has not been approved before the 90 day term of the Preliminary Contract Schedule, the Preliminary Contract Schedule may be extended for no more than thirty additional days at the direction of BAHA.

3.4. BASELINE SCHEDULE

- A. PRELIMINARY CONTRACT SCHEDULE: The Contractor shall use BAHA's accepted Preliminary Contract Schedule with BAHA's comments as the basis for the Baseline Schedule unless otherwise requested by the Contractor and approved in writing by BAHA.
- B. BASELINE SCHEDULE SUBMITTAL DEADLINE: Within forty-five (45) days from the Notice to Proceed, Contractor shall submit a Baseline Schedule presenting an orderly and realistic plan for completion of the entire Work of the Project including consideration of and compliance with all Milestones, activity sequencing, activity durations, and other scheduling restrictions imposed by the requirements of the Contract Documents. BAHA has the right to rely on the Contractor's schedules as the Contractor's plan for prosecuting the Work.
- A. BASELINE SCHEDULE MINIMUM REQUIREMENTS: The Baseline Schedule shall comply with the following minimum requirements:
 - 1. The data/status date for the Baseline Schedule shall be the first day of the Contract Time as stated in the NTP.
 - 2. Each activity shall include, but not be limited to:
 - a. Description of what work is occurring.

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- b. Work day duration for performance.
 - c. Definable Features of Work code to facilitate grouping of activities by Definable Features of Work.
 - d. Responsibility code identifying who is responsible for performing the activity. No single activity shall have more than one Subcontractor responsible for its performance.
 - e. Schedule of Values code to facilitate grouping of activities into the Contractor's Schedule of Values.
3. Unless otherwise approved in writing by BAHA, no single activity on the schedule shall have a duration longer than 21 days, except for fabrication, procurement, punch list, and equipment commissioning (run-in) activities.
 4. Activity durations shall be the total number of actual days required to perform each activity. The consideration of weather impact on completion of the Work shall be included in the associated activity calendar and not included in individual activity durations.
 5. Dependencies (relationships) and logic ties between activities shall be included. Open-ended activities are not permitted, except for the first and the last activity of the schedule.
 6. No more than 15% of activities can be critical or near critical.
 7. Activity constraints shall be limited to constraints imposed by the Contract Documents unless otherwise specifically approved in writing by BAHA.
 8. Submittals:
 - a. For each Submittal, identify the preparation and review of the Submittal as two (2) separate preceding activities to the Submittal Approval.
 - b. Unless a longer period is specifically stated in the Contract Documents, BAHA shall have a minimum of twenty-one (21) Days to review complete Submittals.
 9. Unless otherwise approved in writing by BAHA, Contractor shall use one 5-day workweek activity calendar. The activity calendar shall:
 - a. Identify work days, government holidays, and other anticipated non-work periods
 - b. Include consideration for all work hour restrictions including but not limited to CEQA requirements and restrictions imposed by Local Governments.
 - c. Cover the entire Contract time.
 10. The schedule shall include activities for all Subcontractors performing a portion of the Work. All listed Subcontractors performing three (3) percent or more of the Work shall sign a copy of the Baseline Schedule and return this signed copy to BAHA, along with a letter transmittal indicating they have reviewed and accepted the Baseline Schedule. BAHA shall not accept as final the Baseline Schedule without these letters and signed copies of the Baseline Schedule.
 11. Separate activities for procurement of major equipment and materials shall be identified.
 12. Separate activities shall be identified for the installation of all BAHA Owner Furnished Contractor Installed (OFCI) Items; include activities for all equipment/systems Performance Period(s). Performance Period activities must occur after operational testing is completed and before Contractor certifies the work for the Milestone is complete. Include individual activities for the final cleanup effort associated with each Milestone and the final cleanup of the entire Project. Final cleanup activities must be shown occurring prior to Milestone and Project Completion inspection requests.

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13. All building commissioning activities shall be included, such as submittal of system report forms (not later than 20 weeks before scheduled date of Acceptance of Work); pre-scoping meetings, and time for fine-tuning of equipment. Also coordination of commissioning activities shall be included in a clear, logical, sequential, and efficient manner in the Baseline Schedule.
 14. Separate activities shall be included and indicate 21 days for BAHA to prepare punch lists.
 15. The number of days needed by the Contractor to correct deficiencies in the completed work (punch list correction durations) after receipt of punch list from BAHA shall be shown.
 16. The duration for Contractor to correct punch list items for each Milestone shall not be less than 21 days. Contractor's punch list activities must be shown as starting no earlier than Contractor's receipt of BAHA prepared punch list.
 17. Interface Flags shall be included for all points of coordination with the work of other Contractors engaged by BAHA at the Project Site.
 18. Activities must be included for required reviews, approvals, permits, and inspections performed or issued by regulatory agencies.
 19. Activities must be included for final submission of Record Documents (Drawings and Project Manual) and other key closeout activities.
 20. Contractor shall not use Start-to-Finish relationships between activities unless the sequence of the Work requires this relationship of activities.
- B. REVIEW BASELINE SCHEDULE: BAHA will review the Baseline Schedule submission for conformance with the requirements of the Contract Documents. Within 21 days after receipt, BAHA will accept the Baseline Schedule or return it with comments. If the Baseline Schedule is returned with comments, Contractor shall revise the schedule to incorporate the comments and resubmit within 7 days.
- C. BAHA ACCEPTED BASELINE SCHEDULE: Contractor shall use the BAHA accepted Baseline Schedule with BAHA's comments as the basis for the Official Progress Schedule submission. Unless otherwise requested by the Contractor and approved in writing by the BAHA, the activities, durations, and logic that appear in the BAHA accepted Baseline Schedule must remain unchanged in the Official Progress Schedule.

3.5. EARLY COMPLETION SCHEDULE

- A. EARLY COMPLETION: Contractor may provide a progress schedule which contains a schedule completion date earlier than the time allowed for completion of work as specified in these Specifications.
- B. SUBMITTED EARLY COMPLETION SCHEDULE: If Contractor submits an early completion schedule, Contractor agrees to the following:
1. The time difference between the proposed early completion date and date corresponding to the contract time of substantial completion shall be considered as absolute float.
 2. Absolute float is not for the exclusive use or benefit of either the BAHA or Contractor, but is a resource available to both parties on a first-needed basis.

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3. Contractor's original bid has included all cost for the full duration of the Project from the start date through the official Contract completion date. Specifically, Contractor has provided through its bid, the overhead cost including field office, home office, other off-site yard, and extended overhead cost for the duration of the absolute float between its early scheduled completion date and the Contract completion date in its bid items on Schedule of Bid Prices or Bid Proposal as specified.
4. If BAHA requires additional work through change order which shall be done after the early schedule completion date and prior to the official Contract completion date, Contractor agrees that no additional monies shall be paid beyond the direct cost related to those change orders.
5. BAHA is under no obligation to accelerate activities for which it is responsible in order to support a proposed early contract completion.

3.6. OFFICIAL PROGRESS SCHEDULE

- A. INITIAL VERSION: BAHA's accepted Baseline Schedule becomes the initial version of the Official Progress Schedule.
- B. MONTHLY UPDATES: Contractor must submit monthly updates to the Official Progress Schedule. The Contractor's monthly update must be submitted within three (3) work days after the payment period end date. All updates shall comply with the Schedule Submittal Requirements specified in Section 013200, Work Schedules.
- C. PROGRESS PAYMENT REQUEST:
 1. Submission of the updated Official Progress Schedule must coincide with the submission the monthly progress payment request.
 2. The updated Official Progress Schedule must include:
 - a. Contractor's estimated percentage complete for each activity not yet complete
 - b. Actual start/finish dates for each activity
 3. The updated Official Progress Schedule must identify in writing:
 - a. Added or deleted activities
 - b. Changes to the network logic
 - c. Any other changes, revisions or modifications of any kind
- D. FIELD VERIFICATION OF SCHEDULE UPDATE: BAHA shall meet with Contractor at the Project Site to verify the Contractor's estimate of the percentage complete for each activity not yet complete. If agreement cannot be reached on the actual progress for any activity, determination of BAHA shall be used.
- E. OUT-OF-SEQUENCE ACTIVITIES: The scheduling software must not be configured to override schedule logic (progress override) when calculating activities that were performed out of sequence. The schedule logic in the current version of the Official Progress Schedule must be retained during all calculations of the updated schedule.
 1. When out-of-sequence activities appear in the update of the Official Progress Schedule, Contractor must notify BAHA in writing of the revised schedule logic to be consistent with the actual progress and sequence of the Work.

3.7. REVISED OFFICIAL PROGRESS SCHEDULE

- A. REVISED OFFICIAL PROGRESS SCHEDULE: Revised Official Progress Schedule shall be submitted by the Contractor whenever the Contractor desires to significantly change its logic sequence or method of construction, or whenever directed by BAHA.
- B. REVISIONS: All revision requests must be in writing, shall explain in narrative why each activity change or revision is being made, and must be based on BAHA's most recent accepted update.
- C. REVISED SCHEDULE SUBMISSION: The Revised Official Progress Schedule submission shall comply with the Schedule Submittal Requirements specified in 01321.3.
- D. ACCEPTANCE OF REVISED SCHEDULE: If BAHA accepts the Revised Official Progress Schedule, it shall become the new current version of the Official Progress Schedule.
- E. ACTIVITY REVISIONS: Activity IDs and Activity Descriptions must not be revised.
- F. ORIGINAL DURATIONS: Original Activity Durations must not be revised. The Remaining Duration for an Activity can be updated to indicate the time required to complete the Activity.
- G. MODIFICATIONS OF THE WORK: When the schedule is revised to incorporate Modifications to the Work, each Modification must have its own discrete activities.

3.8. SHORT INTERVAL SCHEDULE

- A. SUBMITTAL: An updated Short Interval Schedule (SIS) must be submitted to BAHA at each Progress Meeting. Each attendee at the Progress Meeting shall be provided one (1) copy of the SIS.
 - 1. The SIS must be a four-week schedule and include the past week, the week submitted, and two weeks thereafter.
 - 2. The SIS must contain sufficient detail to evaluate daily progress and must correlate with the current version of the Official Progress Schedule and reference the appropriate Activity IDs.
 - 3. The SIS shall contain all planned and actual tests and inspections. (See also Section 014500, Quality Control).
 - 4. The SIS must indicate the actual start and finish dates for each activity on the Official Progress Schedule that started or finished during the time period covered by the SIS.

3.9. RECOVERY SCHEDULE

- A. EXECUTION: If any Critical Path activity on the Progress Schedule falls more than ten (10) work days behind schedule, upon BAHA's request, Contractor must submit a Recovery Schedule within seven (7) calendar days indicating how Contractor intends to make up the lost time. Form and detail of the Recovery Schedule must be appropriate to explain and display how Contractor intends to reschedule delinquent activities to regain compliance with the Contract Time(s). The Recovery Schedule submission shall comply with the Schedule Submittal Requirements specified in Section 013200, Work Schedules.

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- B. ACCEPTANCE: If BAHA accepts the Contractor's Recovery Schedule, Contractor must submit a Revised Official Progress Schedule revision request as required by Section 013200.3.7. The Revised Official Progress Schedule must be based on and limited to the modifications indicated in the Recovery Schedule and accepted by BAHA.

3.10. TIME EXTENSIONS

- A. SUBMITTAL: Within fourteen (14) calendar days of an event giving rise to the Contractor's request for time extension, Contractor must submit a detailed network window, or fragnet, indicating the impact of the event on Project's critical path, hence the impact on Contract Time. The network window must be based on the most recent update of the Official Progress Schedule.
- B. EXECUTION: The Contractor must submit supporting documentation for justifying a time extension; including a narrative explaining the event(s). The narrative shall discuss at a minimum the following:
 - 1. The impacts to the critical path of the schedule
 - 2. Description of problem areas, current and anticipated delaying factors, and their impact
 - 3. Explanation of corrective action taken or proposed
- C. REVISION MODIFICATION: Upon receipt of an executed Change Order modifying the Contract Time, or earlier if directed in writing by BAHA, Contractor must submit a request for revision to the Official Progress Schedule. The revision request must be based on and limited to the modifications to the Contract Time identified in the Change Order.
- D. OBLIGATION: BAHA is not obligated to consider time extension requests unless the requests are made in accordance with the requirements of the Contract Documents.
- E. FINAL DETERMINATION: When BAHA has not yet made a final determination as to the adjustment of the Contract Time, and the parties are unable to agree as to the amount of the adjustment to be reflected in the Progress Schedule, the currently approved schedule shall be in effect and be updated monthly until a revised schedule is agreed upon and approved by BAHA.

3.11. TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

- A. AWARD: For BAHA to award a time extension under this clause, the following conditions must be satisfied:
 - 1. The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.
 - 2. The unusually severe weather must actually cause a delay to the completion of the Project. The delay must be beyond the control and without the fault or negligence of the Contractor.
- B. CONSIDERATIONS: The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and shall constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

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MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
WORK DAYS BASED ON FIVE (5) DAY WORK WEEK

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3	3	2	1	-	-	-	-	-	1	1	3

C. CALCULATION:

1. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor shall record on the daily Contractor’s report, the occurrence of adverse weather and resultant impact to normally scheduled work. If such an event occurs, and Contractor is prevented by labor, material and equipment resources for at least 75 percent of the scheduled labor, material and equipment resources for at least 5 hours per work day on activities shown as critical on the most current and accepted progress schedule update, the delay will be classified as an Unavoidable Delay. Regardless of the type and severity of the adverse weather, Contractor shall be responsible for all costs of its efforts to mitigate the impacts of adverse weather to its schedule during the Contract Time. BAHA will not be responsible for additional costs of the Contractor caused by weather delays, including, but not limited to costs of extended overhead.
2. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), shall be calculated chronologically from the first to the last day of each month, and shall be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated above, BAHA shall convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the provisions of this Contract. Calendar Day Conversion from Work Day is calculated in the following way:

$$\frac{(\text{Qualifying Weather Delay Days}) \times (7\text{-Calendar Days per Week})}{(5\text{-Work Days per Week})}$$

3. If there are months with less than the anticipated number of inclement weather days specified herein, BAHA reserves the right to transfer the unused inclement weather days to other months of the Contract for which Contractor has requested a time extension because of inclement weather.
4. Inclement weather balances shall not be carried forward or backward from one weather season (October to April) to the next.

END OF SECTION

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.

1.2 INFORMATIONAL SUBMITTALS

- A. Key Plan: Contractor shall submit a Key Plans of Project site and each level of the building (including roof levels) with notation of vantage points marked for location and direction of each photograph and video recording. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Contractor shall submit image files within three days of taking photographs.
 - 1. Digital Camera: Minimum sensor resolution of 5 megapixels.
 - 2. Identification: Provide the following information with each image description in file metadata tag, or other format acceptable to BAHA:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Date photograph was taken.
 - d. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
- C. Digital Video: Contractor shall submit video files within three days of filming.
 - 1. Digital Camera: Minimum resolution of 640 x 480 pixels shot at 20 frames per second.
 - 2. Identification: Provide the following information with each video description in file metadata tag, or other format acceptable to BAHA:
 - a. Name of Project.
 - b. Name and contact information for videographer.
 - c. Date video was taken.
 - d. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.

1.3 COORDINATION

- A. Auxiliary Services: Contractor shall cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs.

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1.4 USAGE RIGHTS

- A. Contractor shall obtain and transfer copyright usage rights from photographer to BAHA for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Contractor shall provide images in JPG format, with minimum size of 5 megapixels.
- B. Video: Contractor shall provide video in .avi format, with minimum resolution of 640 x 480 pixels shot at 20 fps.

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

- A. General: Contractor shall take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
 - 1. Contractor shall maintain Key Plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Contractor shall submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Contractor shall include date and time in file name for each image.
 - 2. Field Office Images: Contractor shall maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to BAHA.
- C. Preconstruction Photographs and Video: Not less than seven (7) days before commencement of the Work, Contractor shall take photographs and video recordings of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by BAHA.
 - 1. Flag construction limits before taking construction photographs.
 - 2. Take 40 photographs to show existing conditions adjacent to property before starting the Work.
 - 3. Take 40 photographs of each existing building or structure either on, adjoining, or across from property to accurately record physical conditions at start of construction.
- D. Periodic Construction Photographs and video: Contractor shall take 40 photographs weekly, with timing each month adjusted to coincide with the cutoff date associated with each

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Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

- E. Final Completion Construction Photographs and video: Contractor shall take color photographs of each floor and roof and video recordings after date of Substantial Completion for submission as Project Record Documents. BAHA will inform photographer of desired vantage points.
- F. Additional Photographs: BAHA may request photographs in addition to periodic photographs specified. Additional photographs will be paid for by Contract Change Order and are not included in the Contract Sum.
 - 1. Three days' notice will be given, where feasible.
 - 2. In emergency situations, Contractor shall take additional photographs within 24 hours of request.
 - 3. Circumstances that could require additional photographs include, but are not limited to, the following:
 - a. Special events planned at Project site.
 - b. Immediate follow-up when on-site events result in construction damage or losses.
 - c. Photographs to be taken at fabrication locations away from Project site. These photographs are not subject to unit prices or unit-cost allowances.
 - d. Substantial Completion of a major phase or component of the Work.
 - e. Extra record photographs at time of final acceptance.
 - f. BAHA's request for special publicity photographs.
- G. Photographic documentation shall be considered Contract Work.

END OF SECTION

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1- GENERAL

3.1. SUMMARY

A. WORK INCLUDED:

1. The Contractor shall make submittals as required by the specifications.
2. BAHA may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective Sections.
3. Units of weights and measures used on all submittals shall be the same as those used in the Contract Drawings.
4. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with Contract requirements.
5. Proposed deviations from the Contract requirements shall be clearly identified.
6. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including, but not limited to: catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.
7. Submittal Schedule – The Contractor shall develop a submittal schedule which shows the date for submittal and review of each required submittal. Submittals requiring BAHA's approval shall be scheduled to ensure adequate time for review, resubmittal and approval prior to the acquisition of the material or equipment covered thereby.
8. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.
9. Submittal Tracking – The Contractor shall establish and maintain a submittal tracking system using Prolog to record the status of each submittal. The submittal database will be updated daily and made available to BAHA and the A/E Team.

B. RELATED SECTIONS:

1. Section 012500 Product Substitution Procedure
2. Section 012600 Modification Procedures
3. Section 012900 Payment Procedures
4. Section 013119 Project Meetings
5. Section 013200 Work Schedules
6. Section 013523 Accident Prevention, Health and Safety
7. Section 014500 Quality Control
8. Section 016500 Material and Equipment Handling, Storage and Installation
9. Section 017700 Closeout Procedures
10. Section 017800 Closeout Submittals
11. Carefully examine Divisions 02 through 33 for additional or specified submittal requirements related to work specified in those individual Sections.

C. RELATED DOCUMENTS: Applicable provisions are as follows:

1. Document 007000 General Conditions of the Contract for Construction

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- D. **DEFINITIONS:** Definitions in this Section do not change or modify the meaning of other terms used in the Contract documents.
1. “Product Data” - Illustrations, specifications, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work which were not specifically prepared for this Project, other than the Contractor’s designation of selections from among the available choices printed.
 2. “Shop Drawings” - Includes technical data forms specifically prepared for this Project including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information NOT in standard printed form for application to more than one project. Supplier’s standard component drawings may be submitted if they clearly show the exact items required for the Work, in context with adjacent materials, and with such relationships clearly shown. Shop drawings are not part of Contract Documents.
 3. “Samples” - Includes fabricated and unfabricated physical examples of materials, products, and units of work; as complete units or smaller portions of units of work; either for limited visual inspection or, where indicated, for more detailed testing and analysis. Establishes standards by which the work shall be judged.
 4. “Field Sample” - A sample at either the project site or offsite used to demonstrate the final technique, finish and construction quality by which the work shall be judged. Field samples are also to be used when samples are too large or otherwise inconvenient for handling in transmittal or submittal form.
 5. “Manufactured and Fabricated” - “Manufactured” applies to standard units usually mass-produced. “Fabricated” means items specifically assembled or made out of selected materials to meet individual design requirements.
 - a. Shop drawings shall establish the actual detail of manufactured or fabricated items, indicate proper relations to adjoining work, and amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure.
 6. “Manufacturer’s Instructions” - The manufacturer’s written instructions on the use or application of the product under conditions similar to those at the job site.
 7. “Work Description” - The detailed description of the means, methods, tools, equipment, materials, sequence, and any other pertinent information about performance of work.
 8. “By Others” - If shown in submittal, shall mean that work shall be responsibility of the Contractor rather than subcontractor or supplier who has prepared the submittal materials.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1. SUBMITTAL REQUIREMENTS

- A. **GENERAL:** Whenever submittals are required herein, all submittals shall be submitted by Contractor to BAHA for reviewing and acceptance or approval.
1. Submittals received from sources other than Contractor shall be returned to Contractor without BAHA’s review.

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2. Submittals received from Contractor by BAHA personnel other than BAHA's Designee will be returned to Contractor without BAHA's review. Exception shall be made when, as directed by BAHA's Designee in order to expedite the review process, the Contractor shall transmit two (2) copies of the submittals directly to the Design Architect at the time of submittal to BAHA's designee at no cost to BAHA.
- B. **ADVANCE NOTICE:** Submittals shall be made far enough in advance of scheduled installation dates to allow time for review and possible revision.
1. Submittal shall be reviewed and coordinated with other submittals, the construction schedule, testing, procurement, fabrication, delivery and similar sequential activities.
 2. Contractor shall be responsible for changes made necessary by Contractor's failure to coordinate submittals in a complete and timely manner.
- C. **SUBMITTAL GROUPS:** Submittals shall be made in groups containing all associated items as complete packages of information for review. BAHA will reject partial submittals.
1. Submittal package shall be provided in a three-ring binder, with table of contents and tab sheet for each system. Tab sheet shall include a list of material and equipment furnished and shall provide ample space for BAHA's review stamp and comments.
 2. BAHA reserves the right to withhold action on submittals requiring coordination with other submittals until related submittals are furnished.
- D. **CONTRACTOR REVIEW OF SUBMITTALS:** Submittals shall be reviewed, stamped, and approved by Contractor prior to forwarding them for BAHA's review.
1. By approving and submitting shop drawings, product data, and samples, Contractor represents that it has determined and verified dimensions, materials, field measurements, call-outs and references to the Contract Documents, and related field construction criteria, and that it has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
 2. By approving and submitting shop drawings, product data, and samples, Contractor represents that it has secured necessary approvals from Authorities having jurisdiction over the Project for delegated designs.
 3. When professional certification of performance criteria of materials, systems or equipment is submitted, submittal shall be stamped and signed by the responsible design professional with license number and expiration date representing that BAHA can rely upon the accuracy and completeness of such calculations and certifications.
- E. **START OF WORK:** No portion of the Work requiring submission of a shop drawing, product data, or sample shall commence until the submittal has been reviewed and accepted by BAHA. All such portions of the Work shall be executed in accordance with accepted submittals. Unstamped or rejected copies of submittals shall not be used in conjunction with construction.
- F. **CHANGES:** No change shall be made by Contractor in any submittal after it has been accepted by BAHA.

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- G. **VARIATIONS:** If the submittal shows any variation from the Contract requirements because of standard shop practice or other reasons, Contractor shall make specific mention of each variation in its submittal. Changes made on shop drawings that are in conflict with the Contract Documents are not valid unless, or until, a Change Order has been issued by BAHA for such deviations.
 - H. **COMPLIANCE:** BAHA shall review Contractor's submittals only for general conformance with the design concept of the Project and general compliance with the requirements of the Contract Documents. Review of such submittals shall not be conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of Contractor as required by the Contract Documents.
 - I. **OBLIGATIONS:** BAHA's review of Contractor's submittals shall not relieve Contractor of the obligations to comply with the requirements of the Contract Documents. BAHA's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences or procedures. BAHA's acceptance of a specific item shall not indicate acceptance of an assembly of which the item is a component.
 - J. **SUBMITTALS NOT REQUIRED:** If Contractor makes a submittal that is not required to be submitted, BAHA will not review such submittal. Contractor shall execute the Work in accordance with the Contract Documents.
 - K. **PROCEDURES:** Provide seven (7) copies of shop drawings, product data, calculations and other written and graphic material and four (4) each of samples. Provide single submittal to BAHA: two (2) copies for BAHA, three (3) copies for BAHA's A/E, and 2 copies for A/E's Consultant (i.e., Civil Engineer, Landscape Architect, Structural Engineer, Mechanical Engineer, Electrical Engineer). BAHA shall return two (2) copies and two (2) samples for each submittal. Contractor is responsible for making copies of reviewed submittals and distributing to its subcontractors as required. Except where otherwise noted in the Contract Documents, Contractor shall provide BAHA seven (7) copies of all other submittals.
 - L. **RESUBMISSION:** It is considered reasonable that the Contractor shall make a complete and acceptable submittal at least by the second submission. BAHA reserves the right to deduct monies from payments due to the Contractor to cover additional costs of BAHA's designee and BAHA's A/E's review beyond the second submission. Illegible submittals shall be rejected and returned to the Contractor for resubmission. Contractor shall identify all changes made since the previous submittal.
 - M. **BIM GENERATED SUBMITTALS:** For shop drawings which are generated from the fully coordinated Construction BIM, submit 2D files and drawings as required by this Section. See Section 013340, BIM Requirements.
- 3.2. **SUBMITTAL SCHEDULE**
- A. Unless a longer period is specifically stated in the Contract Documents, Contractor shall allow twenty-one (21) days for BAHA review and return of all Submittals and twenty-one (21) days for review and return of resubmittals if required. Submittals will be reviewed on the basis of first received-first reviewed. When more than one submittal is submitted on the same day, review priority will be determined by BAHA. Submittals will be logged in as received no longer than next working day after receipt.

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- B. **FORMAT:** Contractor shall prepare the Submittal Schedule in the format acceptable to BAHA, integrating it with the Construction Schedule, and shall submit it to BAHA within 10 days following Notice to Proceed. No submittals will be processed before the Submittal Schedule has been reviewed and accepted by BAHA.
- C. **SCHEDULE PREPARATION:** In preparing the Submittal Schedule, the Contractor shall first determine from the Construction Schedule the date the particular item related to a particular system is needed for the Work. Working backwards, the Contractor shall add the required number of days for processing the submittal, shipment, fabrication, delivery of operation and maintenance manuals, and similar activities to determine the date of the submittal.
 - 1. Contractor shall allow minimum twenty-one (21) calendar days for BAHA's review of the submittal and shall anticipate that incomplete, inadequate, or incorrect submittal shall require resubmission. Submittals shall be logged in as received on the first business day following receipt.
 - 2. Contractor shall include a minimum twenty-one (21) calendar days for each submittal activity to allow for resubmissions.
 - 3. If more than one resubmission is required, the costs of reviewing the extra resubmission shall be deducted from progress payments due Contractor. Such costs shall include BAHA's costs and BAHA's consultant fees.
 - 4. On an exception basis the Contractor may request an expedited review of certain submittals for materials needed early in the Project or for particularly long-lead time equipment or materials. Such a request shall be fully considered by BAHA and the Architect but without obligation for acceptance.
- D. **SCHEDULE ADJUSTMENTS:** Contractor shall adjust the Submittal Schedule monthly along with the Progress Schedule to produce a coordinated, orderly, even workload, without peak loads if possible, and yet able to meet the needs of the review and construction processes. Contractor shall submit to BAHA an electronic copy of the Submittal Schedule after it is completed and each time it is updated.
- E. **CONTRACT TIME:** Contractor shall be solely responsible for scheduling of submittals. No extension of Contract Time will be granted for untimely submittals or required resubmission.

3.3. DELIVERY PROCEDURES

- A. **DELIVERY OF SUBMITTALS:** Except for physical samples, each submittal shall be electronically transmitted to BAHA with a Submittal Control Form generated by Prolog. Submittals shall be addressed to BAHA and copied to the A/E. Physical samples shall be delivered to the A/E's office with a copy of the transmittal to BAHA.
- B. **TRANSMITTAL FORM:** Contractor shall use Prolog Submittal Forms acceptable to BAHA. Contractor shall consecutively number the transmittal forms and fill in information as applicable. Resubmissions shall have the original number with a numbered suffix.
- C. **IDENTIFICATION:** Identify submittals with the following information:
 - 1. Project name and location.
 - 2. Contractor's, Subcontractor's, supplier's, or manufacturer's name, address, and telephone number.
 - 3. Submittal number.

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4. Product identification or shop drawing title, number, revision, and date as applicable. Where product data contain more than one product, model, selection, etc., clearly mark and identify the information intended to be reviewed by BAHA.
5. Reference to (Contract) Drawing or Specification Section as applicable.
6. Apply Contractor's stamp, signed or initialed, certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information are in accordance with the requirements of the Work and Contract Documents.
7. Provide space for BAHA's review stamp. Space shall be minimum 4" x 6".
8. Where multiple Specification Sections govern any portion of the Work or where multiple trades are involved in any portion of the Work (e.g., steel, mechanical and electrical items embedded in concrete), indicate all pertinent Specification Sections in the submittal identification.
9. Revise any resubmissions as required and identify all changes made since previous submittal.

D. **SUBMITTAL PACKAGING:** Package physical sample and drawing submittals for delivery and review as follows:

1. Submittals shall be wrapped or packaged to prevent damage during delivery.
2. Reproducible drawings shall be rolled and not folded.

3.4. SPECIFIC SUBMITTALS

A. **SHOP DRAWINGS:** Preparation shall be as follows:

1. Submit in electronic format with Contractor's electronic stamp, as directed by BAHA..
2. Shop drawings shall be submitted only by Contractor. Submittal of incomplete or unchecked shop drawings shall not be acceptable.
3. When the shop drawings have been reviewed by BAHA, electronic copy shall be returned to Contractor appropriately stamped.
4. When the shop drawings are not accepted, unstamped electronic copy shall be returned with BAHA's review comments indicated
5. Resubmission of shop drawings are to be in the same manner and quantity as specified for the original submittal.
6. Clearly identify and provide explanation of changes made by Contractor on the resubmitted shop drawings.
7. Each shop drawing submitted shall be sized as follows:
 - a. Maximum sheet size: 34"x 22" ("D"-size) with a 1" border and a 2" binding edge to the left of the border on the short side of the sheet.
 - b. Minimum sheet size: 8-1/2" x 11" with 1/4" border on three sides and 1/2" binding edge on the long side.
8. Catalog sheets meeting the specific requirements may be substituted for the required drawings.

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B. PRODUCT DATA: The submittal requirements are as follows:

1. Submit product data electronically. After review, electronic response shall be returned to Contractor.
2. Mark submittal to identify applicable products, models, options and other data. Supplement manufacturer's standard data to provide information unique to this project.
3. Product data and manufacturers' standard drawings submitted for review shall show only the pertinent information.
 - a. Identify the pertinent information by circling it with black ink pen or by crossing out the inapplicable information with black ink pen.
 - b. Any submittal that contains information not clearly identified for review will be rejected and returned to Contractor for resubmission.

C. SAMPLES: Submittal requirements are as follows:

1. Submit samples to illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
2. Submit samples of finishes in custom colors selected, textures, and patterns for BAHA's selection.
3. Include identification on each sample, with full Project information.
4. Furnish four (4) samples in the following sizes, unless otherwise specified; after review one (1) sample shall be returned to Contractor.
5. Flat or Sheet Products: Minimum 6 inches square, maximum 12 inches square.
6. Linear Products: Minimum 6 inches long, maximum 12 inches long.
7. Bulk Products: Minimum one pint, maximum one gallon for liquids; minimum one pound, maximum three pounds or minimum one cubic foot, maximum one cubic yard, as applicable for solids.
8. Approved field samples may be used in the Work upon approval.

D. MANUFACTURER'S INSTRUCTIONS: Submittal requirements are as follows:

1. Distribute copies of manufacturer's instructions to all parties involved in the installation, including the Architect.
2. When required by individual Specification Sections or by BAHA during submittal reviews, submit electronically manufacturer's printed instructions for delivery, storage, assembly, installation, start-up adjusting, field testing and finishing.
3. Identify conflicts between manufacturer's instructions and Contract Documents.
4. Maintain copies of manufacturer's installation instructions and recommendations in Contractor's field office for review, regardless of whether such submittals are requested.

E. MANUFACTURER'S CERTIFICATES: Submittal requirements are as follows:

1. Submit certificates, in duplicate.
2. Submit on 8-1/2" x 11" white paper.
3. BAHA shall retain certificates; no approval reply is intended.
4. The certificate shall state that the equipment or system has been:
 - a. Installed in accordance with the manufacturer's recommendations,
 - b. Inspected by a manufacturer's authorized representative, and
 - c. Serviced with the proper initial lubricants.

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- d. Applicable safety equipment has been properly installed.
- e. The proper electrical and mechanical connections have been made.
- f. The equipment is ready for startup.

3.5. ACTION AND DISTRIBUTION

- A. BAHA shall return the submittals stamped “NO EXCEPTIONS TAKEN,” “MAKE CORRECTIONS NOTED,” “REVISE AND RESUBMIT,” or “REJECTED.”
 - 1. NO EXCEPTIONS TAKEN: Accepted subject to its compatibility with future submittals and additional partial submittals for portions of the Work not covered in this submittal. Does not constitute approval or deletion of specified or required items not shown on the submittal.
 - 2. MAKE CORRECTIONS NOTED (No Resubmission Required): Same as Item 1, as Contractor may proceed except that minor corrections as noted shall be made by Contractor.
 - 3. REVISE AND RESUBMIT: Rejected because of major inconsistencies or errors which shall be resolved or corrected by Contractor prior to subsequent review by Architect/Engineer.
 - 4. REJECTED - RESUBMIT: Submitted material does not conform to Plans and Specifications in major respect, i.e.: wrong size, model, capacity, or material. Contractor is advised that no work shall be fabricated, manufactured, or constructed.
 - 5. SUBMIT ADDITIONAL INFORMATION: Contractor shall not proceed with the Work covered by the Submittal. Contractor shall prepare additional information requested, or required by the Contract Documents, that indicates compliance.
 - 6. Contractor shall make additional copies of the accepted submittals and shall within three (3) calendar days from date of receipt distribute one copy to its subcontractors, vendors, or manufacturers as applicable. Copies shall be made from the accepted copy bearing BAHA’s stamp of acceptance.
 - 7. Contractor shall be responsible for recording work completed in accordance with approved submittals on the Record Drawings in accordance with the requirements of Sections 017700, Closeout Procedures, and 017800, Closeout Submittals.

3.6. USE OF SUBMITTALS

- A. Acceptable Submittals: Work shall be fabricated, constructed, and furnished in accordance with the acceptable submittals. One copy of such acceptable submittals shall be kept at the job site.
- B. Unacceptable Submittals: Contractor shall not use unacceptable submittals or submittal materials in the Work.

END OF SECTION

SECTION 013340 - BIM REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes:

1. Part 1 – General
 - a. 1.1– Summary
 - b. 1.2 - Related Documents
 - c. 1.3 - Scope
 - d. 1.4 - Definitions
 - e. 1.5 - Use of the Combined Models
 - f. 1.6 - BIM Staff
 - g. 1.7 - BIM Share Site
 - h. 1.8 - BIM Data Security
2. Part 2 – Products
 - a. 2.1 - Model Software – Minimum Requirements
 - b. 2.2 - Design Models
3. Part 3 – Execution
 - a. 3.1 - BIM Implementation Plan
 - b. 3.2 - Non-Conforming Work
 - c. 3.3 - Submittal Requirements
 - d. 3.4 - BIM During Construction
 - e. 3.5 - Final As-Built BM
 - f. 3.6 - Commissioning Data

1.2 RELATED DOCUMENTS

A. Drawings, General Conditions, General Requirements and other Divisions of the Specifications apply to, and are impacted by, work of this Section.

1.3 SCOPE

A. Contractor shall develop and utilize Building Information Modeling (BIM) system as defined by this Section. Contractor shall:

1. Work with the Owner, the A/E Team and Subcontractors to develop BIM's throughout all phases of the Work of the Project. Contractor's BIM Manager shall attend all BIM coordination Work sessions.
2. Utilize laser scanning to develop an Existing As-Built BIM which includes existing features to remain. Submit this BIM to BAHA
3. Use the appropriate BIMs for all design, coordination, fabrication, installation and other functions to streamline construction and minimize changes during construction. Contractor shall develop and maintain the Construction BIM.
4. Utilize the Owner provided elevation datum and grids for all models. Coordinate datum points and grid alignments with the A/E Team.

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5. Update the Construction BIMs and Native Models progressively throughout the design and construction phases so these models shall include:
 - a. New structural elements
 - b. New architectural elements
 - c. New Building System elements over 1” in size
 - d. Approved Contract Change Order Work
 - e. Fabrication, assembly and detailing information
 - f. Commissioning information
 - g. Provide a final As-Built for BAHA’s operations and maintenance
- B. Contractor must develop BIMs for all building systems, structure and the exterior wall system. Shop drawings for all of these systems must be generated from the fully coordinated BIMs.
- C. All Design Submittals for any delegated design Work must be generated from appropriate BIM files except for those portions of the submittal which are not modeled such as details and specifications.

1.4 DEFINITIONS

- A. As-Built Model - a Combined Model incorporating all construction phase modifications to the same Level of Development as the final Construction Model.
- B. BIM - Building Information Model(ing), a dimensionally accurate 3D representation of a building, structure, infrastructure, or site improvements, utilizing modeling software that is a fully object-based, parametric, database system.
- C. BIM Manager - The individual responsible for hosting BIM Coordination Work sessions and managing all aspects of the Contractor’s BIM processes, including managing design BIM preparation, the Contractor’s BIM Staff, Subcontractor use of BIM, and all other aspects of the Contractor’s BIM requirements.
- D. BIM Level of Development (LOD) - The term used to describe the fullness and definitiveness of the Model. Each Model can have a varying LOD depending on the phase of the Project and agreed utilization of the Model. The Level of Development descriptions are:
 - a. LOD 100 - This is the “programming” level. Buildings and structures shall be modeled as masses indicative of area, height, volume, location, and relationship to datum points and grids.
 - b. LOD 200 - This is the “planning” level. Buildings and structures including major architectural, structural, mechanical, electrical and plumbing systems. Objects shall be modeled as generalized systems or assemblies with approximate quantities, approximate configuration, spatial location, and orientation. Each enclosed space shall be identified as a unique Room with associated parameters.
 - c. LOD 300 - This is the “design” level. Buildings and/or structures including all Objects shall be modeled as specific systems or assemblies with accurate quantities, recognizable configuration, spatial location, and an accurate

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relationship to datum and grids. Each enclosed space shall be identified as a unique Room with associated parameters.

- d. LOD 400 - This is the “construction” level. Buildings and/or structures including all objects shall be modeled as specific systems or assemblies with accurate quantities, recognizable configuration, spatial location, and orientation, with complete fabrication, assembly, and detailing information to provide shop drawing level of information. Each enclosed space shall be identified as a unique Room with associated parameters.
 - e. LOD 500 - This is the “as-built” level. Buildings and/or structures including all objects shall be modeled as constructed systems or assemblies with accurate quantities, shape, spatial location, and orientation, with complete fabrication, assembly, and detailing information. Each enclosed space shall be identified as a unique room with associated parameters. Objects shall include the data needed to operate and maintain the facility without the need for traditional drawings and operation and maintenance manuals when developed as Final As-Built models.
- E. Building Information Model Files (BIMF) - are the electronic files of 3D, 4D and 5D BIMs produced by the Contractor subconsultants, the A/E or others. BIMFs shall be used for the preparation of coordination drawings, shop drawings, and submittals.
 - F. A/E 100% CD BIMs - the Combined Models that are used by BAHA as part of the Contract Documents for a Construction Package.
 - G. COBIE - COBIE is the required organization structure for data in Native Models and the Final As-Built BIM.
 - H. Collaboration Models - various models used to review, collaborate, or coordinate the Work.
 - I. Combined Models - Models that combine Native Models to provide a virtual representation of the entire Project developed to a specified Level of Development. Combined Models shall consist of a minimum of seven discipline Native Models including: Civil, Architectural, Structural, Mechanical, Electrical, Plumbing and Fire Protection.
 - J. Construction BIM – The BIM developed by the Contractor to coordinate all building systems at a shop drawing level of detail.
 - K. Coordination Drawings – Drawings developed from a fully coordinated BIM.
 - L. Final As Built Documents - The Final As-Built Documents as defined in 3.5 of this Section.
 - M. MEPF - Mechanical, Electrical, Plumbing and Fire Protection systems.
 - N. Model - The broadest term used to describe the 3D virtual representation. The Model may be an assemblage of several Models produced by various disciplines, each of which is comprised of numerous Objects, or the Model of a single discipline.

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- O. Native Model - The Model and its imbedded Objects created by a specific, responsible discipline such as architect, structural engineer, or subcontractor.
- P. Object - The separate sub-parts of a Model such as doors, walls, equipment, etc. If an Object is comprised of several sub-elements, the sub-elements shall be grouped into one virtual representation of that Object. Example: a panel board might be comprised of top, sides, back, and front sub-elements; if so, then those sub-elements shall all be grouped into one selectable and identifiable Object.
- Q. Proposal Model - The term used to describe a Combined Model that is developed by a Design Build Entity as a basis of their Proposal.
- R. Room - Any space within the enclosing walls of the building or a portion of a building. The space may be rectangular or a more complex shape. In the case of complex-shaped spaces, the complex space shall be sub-divided into several sub-spaces that are separated by room separation modeling techniques. Such sub-spaces shall function as individual Rooms with individual parametric attributes.
- S. UID - Unique Identification is the unique code for an Object.
- T. Utilities Interface Plane Model - The 3D plane established in the Combined BIM where all site utilities and site improvements connect to building utilities and building site work.

1.5 USE OF THE COMBINED MODELS

- A. Purpose of Models - Native Models and Combined Model shall be developed for Design Submittals, Project Team coordination, communication, collaboration during design, coordination of building systems, structure and the exterior wall systems, fabrication, construction. The Final As-Built BIM will be used by BAHA for operation and maintenance of the facility.
- B. Content of Models - The Models may vary in the Level of Development (LOD) for various submittals, but at a minimum shall include sufficient parametric data to support the following uses:
 - a. Functional and visual representation of all spaces
 - b. Quantities
 - c. Constructability review of proposed designs
 - d. Clash detection and resolution of all systems
 - e. Construction Sequences
 - f. Construction Site Logistics
 - g. As-Built Configuration, products and data
- C. Ownership of Models - BAHA shall have the right to use the Models for:
 - a. Owner reviews
 - b. Baseline Models for future modifications to the facility
 - c. Source of data in operating and maintaining the facility

1.6 BIM STAFF

- A. Contractor shall provide qualified BIM staff to manage the BIM process and develop the required BIMs.
- B. BIM Manager: Contractor's BIM Manager shall have the responsibility to oversee development of all submittals generated from BIMs and manage the BIM Coordination process. This includes managing the Contractor's BIM staff, and Subcontractors responsible for creating models, analyzing "clashes" and resolving coordination issues.
- C. Contractor shall not delegate management of BIM activities to a Subcontractor or a Subconsultant.
- D. The BIM Manager is one of the Contractor's Key Personnel. See Section 013102 "Contractor Staff"
- E. BIM Support Staff: Contractor shall provide sufficient qualified BIM support staff to model all design elements and coordinate all building systems within the time limits established in the accepted Preliminary Schedule and subsequent schedules. Trade foremen shall be trained in the use of NavisWorks and be required to actively participate in the BIM coordination process to understand the importance of constructing the Work in accordance with the coordinated BIM.

1.7 BIM SHARE SITE

- A. Contractor shall provide a BIM Share Site to host all BIM files. Models on this shared server shall be fully accessible on line to all members of the Project Team via assigned site user names and passwords. Contractor's BIM Staff shall update the site at least weekly with current BIMFs, archive superseded BIMFs, monitor usage and ensure capacity and function of this system.
- B. Contractor shall have web conferencing capabilities on site for the duration of the Project with allowance for a minimum of 15 concurrent participants.

1.8 BIM DATA SECURITY

- A. Contractor shall establish a data security protocol to prevent any possible data corruption, virus "infections" and data misuse or deliberate damage by users of the BIM Share Site. Contractor shall establish adequate user access rights to prevent data loss or damage.
- B. Submit a narrative description of the data security protocol to the Owner for acceptance as part of the final draft of the BIM Implementation Plan.

1.9 FORMATS AND DATA SECURITY

- A. Contractor shall prepare the BIM and Coordination Drawings using the process noted herein.
- B. The work flow for the BIM Coordination must be proposed in the Contractor's final BIM Implementation Plan.
- C. File format: All files shall be exported to 3D DWG or DWF format or Navisworks NWC format.

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- D. 3D Solids: All objects must be modeled as 3D solids, not wire frame or lines.
 - E. Model Structure: All models shall be created on a floor by floor basis from top of slab to top of slab. A separate Navisworks file shall be created containing all trades (a Combined Model) for each floor.
 - F. Common 3D Reference Grid: Contractor and the A/E shall establish a common 3D Reference Grid based on the Owner's geo-reference controls (See Subsection 1.3 of this Section) and require every Design Professional and Subcontractor to use the same reference grid.
 - G. Elevations: All elements in the Project must be modeled using the same elevation control datum point. Contractor and the A/E shall develop a common elevation control datum point.
 - H. All Native Models submitted for inclusion in the Combined BIM for coordination must be "clean" models – no x-refs: The 3D DWG model submitted shall contain only relevant 3D data and no extraneous 2D data, nor should it contain any x-referenced files.
 - I. File naming: The following file naming convention will apply to all trades and disciplines:
 - a. Project_Level_Trade_date
- Examples:
- 390M_L01_Arch_2007-09-15
 - 390M_L01_Struct_2007-09-15
 - 390M_L01_Plbg_2007-09-15
 - 390M_L01_Elect_2007-09-15
 - 390M_L01_MDuct_2007-09-15
 - 390M_L01_MPipe-2007-09-15
- J. Maintain 1" minimum separation, including insulation thicknesses, between all components.

PART 1 - PRODUCTS

2.1 NATIVE MODEL SOFTWARE – MINIMUM REQUIREMENTS

- A. General - The Native Model(s) shall be developed to include parametric components of building systems and site elements. All discipline Native Models shall be linked to the Architectural Native Model.
- B. All BIM software used shall support Industry Foundation Class (IFC) 2x3.
- C. Accuracy of Models - The Combined Model and each of its Native Models shall be developed to within a tolerance of ¼" plus or minus.
- D. BIM application(s) and software(s) for the Combined Model and Native Models shall:
 - a. Have maximum interoperability between systems models, and shall be fully compatible with the current version of Autodesk© Navisworks software
 - b. Be provided in a .nwd format which is compatible with BAHA's BIM software to allow BAHA to view the Contractor's models and to save and track user annotations and notes

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- c. Generate reports and logs of:
 - i. Discrepancies and/or clarifications identified during the modeling process
 - ii. Conflicts between location and alignment of model elements with resolutions of these conflicts
 - iii. Quantities
- E. The Native Model - Contractor shall select Native Model software that is Industry Foundation Class 2x3 compatible. All software shall be fully object-based, parametric, database system, and shall be the most current version available at the start of Work on the Project.

2.2 DESIGN MODELS

- A. General - Design Native Models shall be developed for each building system during the design phase for the appropriate Work Package. These models shall be the basis of all Design Submittals which are submitted for BAHA review and acceptance.
- B. Colors: All models in Naviswork shall be converted to the following colors to represent the relevant discipline or trade:
 - a. Concrete light grey
 - b. Structural steel maroon
 - c. Ceiling orange
 - d. HVAC ductwork blue
 - e. King studs green
 - f. HVAC piping lime green
 - g. Plumbing magenta
 - h. Fire protection red
 - i. Electrical cyan
 - j. Non-rated walls white
 - k. Rated walls pink
 - l. Drywall Framing purple

Equipment clearances and access shall be translucent and the same color as the related trade. For example, a 12" required clearance above cable tray will be represented as a translucent cyan rectangular extrusion.

PART 3 - EXECUTION

3.1 BIM EXECUTION PLAN

- A. Contractor shall develop and implement the required BIM services as defined in this Section.
- B. Submittal of draft BIM Execution Plan
 - a. Contractor shall develop a draft BIM Execution Plan and submit this draft within thirty (30) days of the date of the Notice to Proceed. Contractor will develop their Final BIM Execution Plan with input from BAHA and submit it for review and acceptance within 21 days of receipt of BAHA's comments.

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C. Content – The draft and final BIM Implementation Plan shall contain:

1. BIM Approach – a narrative which identifies how the Contractor will utilize BIM to reduce costs, optimize schedule, minimize RFIs and Change Orders during construction and provide improved interfaces between Work Packages.
2. BIM Staff – provide a matrix that assigns responsibilities for all BIM tasks to an individual on the BIM staff. Include A/E and Subcontractor design coordination and installation tasks. Include leaderships and management tasks.
3. BIM Hardware and Software – list Hardware and software to be used for the BIM Share site, BIM workroom and for Native and Combined BIMs. Provide BIM security protocol.
4. BIM Schedule – provide a schedule showing BIM development periods for each Work Package, coordination activities and major submittals generated from the BIMs.
5. BIM Quality Assurance – provide a narrative which explains how the Contractor will ensure coordination is occurring weekly between Project Team members developing BIMs. Address how Contractor will ensure interfaces between Work Packages are coordinated in the Construction BIM. Explain how the Contractor will enforce the use of BIM during construction and installations of building systems.
6. BIM Scope – list components which will be included in BIMs, including access spaces, penetrations, ducts, pipes, walls, conduits & equipment indicating min sizes where applicable.
7. Provide other information contained in Section 4 of Consensus DOCS 301, BIM Addendum, 2008.

3.2 NON-CONFORMING WORK

- A. Work not installed in compliance with the accepted BIM or in conflict with other portions of the Contract Documents, will be considered non-conforming Work subject to removal and replacement at no additional cost to BAHA.

3.3 SUBMITTAL REQUIREMENTS

- A. Upload electronic files in .pdf format to the BAHA's data base and submit one (1) reproducible and four (4) copies of each Coordination Drawing. Submit also one (1) - CD of BIMF of same.
- B. All Coordination Drawings must be generated from the fully coordinated BIM.
- C. Comply with the requirements of:
 - a. Section 013300, Submittal Procedures
 - b. Section 014500, Quality Control
- D. Signatures required on each sheet of Coordination Drawings.
 - a. Coordination Drawing(s) must be signed and dated by the Contractor's BIM Coordinator and Subcontractors whose work is shown on that drawing.

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- b. By act of signature and submittal of the single comprehensive composite Coordinated Drawing(s), the Contractor and each Subcontractor acknowledge that Work shown for which Contractor or said Subcontractor is individually responsible is coordinated with the Work of Contractor and all other Subcontractors.

3.4 BIM DURING CONSTRUCTION

A. Contractor shall:

- a. Utilize coordinated Native Models for manufacturing and prefabrication.
- b. Meet at Project site with installer and representatives of manufacturers and fabricators who are involved in or affected by such Work prior to installation of any Work which requires coordination and interfacing with other Work and review fully coordinated BIM, progress of other Work and preparations for particular Work under consideration.
- c. Issue the As Built Combined Model and the affected Native Models prior to each regularly scheduled BAHA, A/E and Contractor meeting or more frequently.
- d. Issue the revised Combined Model and the affected Native Models immediately after each executed Change Order. Include a narrative report that describes every change.
- e. Require use of 3D scanners to accurately field locate Work from the BIM, such as Trimble MEP Total Station.
- f. Submit the As Built BIM and revisions by posting them on the BIM Share Site within 24 hours of each update or revision.
- g. Provide BIM training in the use of Navisworks and Trimbles to all field installers.

3.5 SUBMITTAL OF FINAL AS-BUILT BIM

- A. General: The Final As-Built BIM shall include the As-Built BIM and all data required in this Section, including input from the Commissioning Agent, product data from accepted Submittals, and executed Change Orders.
- B. The Combined Model and all its discipline systems Native Models shall be:
 - a. Editable for future expansion or remodel projects.
 - b. Functioning for use with 3-D Facilities Operations & Maintenance Software.
 - c. Contractor shall convert all Non Revit Native Models to most current version of the corresponding Revit software.
 - d. Coordinated with hard copy and pdf Operations and Maintenance manuals so that both share the same naming conventions, and organization of content.

3.6 COMMISSIONING DATA

- A. BIM Commissioning requirements - Contractor shall add Commissioning data to the object parametric data required by this Section as follows:
- a. Contractor shall add equipment properties provided by the Owner's Commissioning Agent to the Final As-Built BIM.
 - b. The Final As Built Model must be complete and reviewed for accuracy prior to being validated by the Commissioning Agent or BAHA.
 - c. The data content of the Final As Built Model shall include all product data, information from approved submittals, responses to RFIs and executed Change Orders.
 - d. The Final As Built Model shall include all Commissioning Data and must be clash free between all building systems and the architectural/structural envelope.

END OF SECTION

SECTION 013523 – ACCIDENT PREVENTION, HEALTH, AND SAFETY

PART 1- GENERAL

1.1. SUMMARY:

- A. **WORK INCLUDED:** The work of the Section consists of establishing an effective Injury and Illness Prevention Program (IIPP) and providing a safe environment for all personnel and visitors. The Contractor shall be solely and fully responsible for compliance with regulatory requirements applicable to the health and safety of persons during the performance of the Work of this Project.

- B. **RELATED SECTIONS:**
 - 1. Section 013543 Environmental Procedures
 - 2. Section 015000 Temporary Facilities and Controls.

- C. **RELATED DOCUMENTS:**
 - 1. Document 007000 General Conditions of the Contract for Construction

- D. **SUBMITTALS:**
 - 1. Seven (7) copies of Contractor's Injury and Illness Prevention Program to be submitted within 14 days of Notice of Award.
 - 2. Certificates – For Information
 - a. Provide current certificates that all mechanical equipment has been inspected and meets OSHA requirements.
 - 3. Report of Safety Meetings and Inspections – For Information
 - 4. Upon request, submit proof of employees' qualifications to perform assigned duties in a safe manner.
 - 5. Seven (7) copies of a list of hazardous materials to be used by the Contractor or subcontractors on the Project and Material Safety Data Sheets (MSDS) documents for each hazardous material To be submitted within 30 days of Notice of Award.

PART 2 - PRODUCTS

2.1. FIRST AID FACILITIES

- A. Adequate facilities and first aid kits shall be provided for the number of employees, including BAHA's on-site project staff, and the type of construction at the site.

- B. Provide one (1) automated external defibrillator (AED) in a clearly identified and openly accessible site, with clear instructions for use posted in English, Spanish and symbols. Contractor's employees shall be trained in AED's use. Contractor shall be responsible for testing and maintaining the AED in accordance with the device's requirements and instructions.

2.2. PERSONNEL PROTECTIVE EQUIPMENT

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- A. REQUIREMENTS: Equipment shall meet requirements of the National Institute for Occupational Safety and Health (NIOSH) and Mine Safety and Health Administration (MSHA).

2.3. BARRIERS

- A. OTHER SECTIONS: See Section 015000, Temporary Facilities and Controls.

2.4. FIRE EXTINGUISHERS

- A. RATINGS: Fire extinguishers with a minimum UL rating of 2-A:10-B:C shall be provided.
- B. Training: Provide OSHA required training in the use of Fire Extinguisher to all staff and workers.

2.5. COMMUNICATION EQUIPMENT

- A. EQUIPMENT: Equipment shall be provided according to requirements of Section 015000.

PART 3 - EXECUTION

3.1. INJURY AND ILLNESS PREVENTION PLAN

- A. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall:
 - 1. No later than 14 days after receipt of the Notice of Award, submit for review Contractor's IIPP, which shall be site and task specific, and shall BAHA comply with California Labor Code Section 6401.7. Contractor will be responsible for overseeing compliance of their Subcontractors IIPP; upon request, the Subcontractors IIPP may be reviewed by BAHA. The IIPP shall address, but not be limited to:
 - a. Have a certified Safety Engineer, subject to BAHA's approval, to establish and monitor execution of the Plan.
 - b. Install a certified responsible on-site supervisor, subject to BAHA's approval, to carry out the program on a daily basis.
 - 2. The Contractor shall take all precautions and follow all procedures for the safety of, and shall provide all protection to prevent injury to, all persons involved in any way in the Work and all other persons, including, without limitation, the employees, agents, guests, visitors, invitees and licensees of BAHA who may be involved. These precautions shall include, but in no event be limited to the provisions of BAHA's IIPP. This requirement applies continuously and is not limited to normal working hours.

3.2. QUALITY ASSURANCE

- A. CONFLICTS: In cases of conflicts between federal, state, and local safety and health requirements, the most stringent shall apply. Equipment or tools not meeting OSHA requirements will not be allowed on the Project sites. Failure to comply with the requirements of this Section and related Sections may result in suspension of work.

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B. QUALIFICATIONS OF EMPLOYEES:

1. Ensure that employees are physically qualified to perform their assigned duties in a safe manner.
2. Do not allow employees to work whose ability or alertness is impaired because of drugs, fatigue, illness, intoxication, or other conditions that may expose themselves or others to injury.
3. Operators of vehicles, mobile equipment, hoisting equipment, and hazardous plant equipment shall have valid drivers' licenses and be able to understand signs, signals, and operating instructions. They shall also be capable and, if necessary, licensed to operate such equipment. Operating instructions for all equipment shall be provided. Newly hired operators shall be tested individually by an experienced operator or certified supervisor to determine if they are capable of safely operating equipment.

3.3. ACCIDENT REPORTING

- A. **LOST-TIME ACCIDENTS:** A Lost-Time Accident is defined as death, occupational disease, or traumatic injury to an employee that results in lost time or injury to the public, property damage by accident in excess of \$10,000, or fires.
1. BAHA shall be notified and 911 called immediately in the event of a Lost-Time Accident. Within three (3) days of a reportable accident, an incident report shall be filled out and forwarded to BAHA.
- B. **NON-LOST TIME ACCIDENTS:** The Contractor shall report all other accidents to BAHA as soon as possible, but not later than seven (7) days after the day on which the accident occurs, and assist the designee and other officials as required in the investigation of the accident.

3.4. WORKING WITHIN A CONFINED SPACE

- A. **SUBMITTAL OF PLANS:** Specific plans shall be submitted as part of the IIPP to BAHA showing details of provisions for worker protection from caving ground in accordance with Section 6705 of the California State Labor Code and OSHA standards. The detailed plan shall show the designs of shoring, bracing, sloping banks or other provisions and shall be prepared, signed and stamped by a Civil or Structural Engineer licensed in the State of California and retained by the Contractor. BAHA's acceptance of the detailed plans submitted is only an acknowledgment of the submission and does not constitute review or approval of the design, design assumptions, criteria, completeness, applicability to areas of intended use, or implementation of the plans, which are sole the responsibility of the Contractor and his/her Registered Engineer.
- B. **APPLICABLE REGULATIONS:** Work within confined spaces is subject to applicable laws, regulations and safety orders including applicable California Tunnel Safety Orders.
- C. **CONTINUED REQUIREMENTS:** The foregoing provisions do not reduce the requirement for the Contractor to maintain safety in all operations performed by the Contractor or its subcontractors.

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3.5. SAFETY MEETINGS

- A. **DAILY SAFETY BRIEFINGS:** As a minimum, daily 15-minute "tailgate" safety meetings shall be conducted. These meetings shall be conducted by a superintendent and attended by all construction personnel at the worksite.
- B. **MONTHLY SAFETY MEETINGS:** Monthly safety meetings shall be conducted for all levels of supervision. The BAHA shall be notified of meeting dates and times, and the dates recorded in minutes of regularly scheduled construction meetings. These meetings shall be used to review the effectiveness of the Contractor's safety effort; to resolve current health and safety problems; to provide a forum for planning safe construction activities, and for updating the IIPP. If requested, the BAHA will attend the meeting and discuss the Contractor's IIPP.

3.6. HARD HATS AND PROTECTIVE EQUIPMENT AREAS

- A. **POSTINGS:** A hardhat area shall be designated by the Contractor. The hardhat area shall be posted by the Contractor in a manner satisfactory to BAHA.
- B. **REQUIREMENTS:** It is the Contractor's responsibility to require all those working on or visiting the site to wear hard hats and other necessary protective equipment at all times.

3.7. TRAINING

- A. **RESPONSIBLE PERSON:** First aid: Adequate training shall be provided to ensure prompt and efficient first aid. Each daily work team shall have at least one member on-site with CPR and Red Cross first aid training.
- B. **HAZARDOUS MATERIAL SAFETY:** Each employee exposed to hazardous material shall be trained and instructed in safe and approved methods of handling and storage. Hazardous materials are defined as explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful substances that could cause death or injury.

3.8. EMERGENCY INSTRUCTIONS

- A. **POSTING OF SIGNAGE:** The emergency notification telephone number, 911, shall be posted in conspicuous locations at the work site.

3.9. PERSONAL PROTECTIVE EQUIPMENT (PPE)

- A. **PPE INSPECTION:** Personal protective equipment shall be inspected daily and maintained in serviceable condition. Personal items shall be cleaned, sanitized, and repair, as appropriate, before issuing them to another individual.
- B. **OTHER PPE INSPECTIONS:** Other protective equipment and devices shall be inspected and maintained before use and on a periodic basis to ensure safe operation.

3.10. FIRE EXTINGUISHERS

- A. **OPERATIONS:** Fire extinguishers shall be maintained within 10 feet of all cutting and welding.

END OF SECTION

SECTION 013543 - ENVIRONMENTAL PROCEDURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Reports documenting soil and ground water characterization at the site:
 - 1. *Phase 1 Environmental Site Assessment 390 Main Street, San Francisco, CA*, ERAS Environmental, Inc., 1 September 2011.
- B. Reports documenting hazardous building materials at the site:
 - 1. *Asbestos Survey Report, 390 Main Street, San Francisco, CA*, ERAS Environmental, Inc., 19 August 2011;
 - 2. *Property Condition Assessment*, Marx/Okubo Associates, Inc., 13 September 2011.

1.2 SUMMARY

- A. Section includes:
 - 1. Description of existing site conditions;
 - 2. General requirements and procedures for work in the presence of hazardous materials
 - 3. Development and implementation of the Contractor's Hazardous Materials Site-Specific Health and Safety Plan (HMSSHASP), and
 - 4. Requirements for personal protective equipment, training, and monitoring.

Requirements of this section apply to the Work or any portion thereof which involves disturbance of or exposure to hazardous materials or chemically-impacted soil or ground water.

- B. Related Sections:
 - 1. Division 02 Sections for "Structure Demolition (024116), "Selected Structure Demolition (024119), "Asbestos Remediation (028200), and "Lead-based Paint Hazard Control Activities" (028313).
 - 2. Division 31 Section "Earth Moving" (312000) for soil excavation and disposal
 - 3. Division 31 Section "Dewatering" (312319) for handling and disposal of dewatering fluids

1.3 DEFINITIONS

- A. Hazardous Materials: Materials consisting of or containing any substances defined, regulated or listed as hazardous substances, hazardous materials, hazardous wastes, health hazards, toxic waste, pollutant or toxic substances or similarly identified as hazardous to human health or the environment in or pursuant to CERCLA, the Hazardous Materials Transportation Act, RCRA, the Clean Water Act, California Health and Safety Code, the Clean Air Act, the California Water Code or any other appropriate regulation or law including without limitation friable asbestos, polychlorinated biphenyls, petroleum, natural gas and synthetic fuel products and by-products.
- B. Personal Protective Equipment (PPE): Individually donned equipment and clothing used in conjunction with appropriate engineering controls and work practices to protect project workers from unacceptable risk related to the handling of soil, building material, or groundwater impacted with hazardous materials.
- C. Training and Personnel Monitoring – Labor, materials, equipment, and analyses, utilized to provide appropriate baseline and ongoing training, communication, and verification, including medical surveillance (if needed), of conditions related to employee exposure to hazardous materials.
- D. Hazardous Materials Site-Specific Health and Safety Plan (HMSSHASP): A site-specific plan which addresses the safety and health hazards of each phase of site operations and includes the requirements and procedures for employee protection.

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1.3 SUBMITTALS

- A. Hazardous Materials Site-Specific Health and Safety Plan (HMSSHASP): Submit for acceptance by BAHA within 21 days after Notice to Proceed.
- B. Amendments: Submit amendments to the HMSSHASP for review and acceptance by BAHA as they occur.

1.4 EXISTING SITE CONDITIONS

- A. Previous investigations of soil and groundwater at the site have identified the presence of hazardous materials, primarily petroleum hydrocarbons, in the soil in certain areas adjacent to the site. It is possible that contamination will be encountered at the site in areas not currently characterized as containing hazardous materials or that unknown or unidentified hazardous materials will be encountered. Previous investigations have also identified hazardous building materials in the structure at the site.
- B. For the nature and extent of hazardous materials known to be present at the project site, refer to Related Documents listed in 1.1 above.

1.6 GENERAL REQUIREMENTS

- A. No work that disturbs existing structures, soil, or groundwater containing hazardous materials shall be performed until the Hazardous Substance Site-Specific Health and Safety Plan is reviewed and accepted by BAHA.
- B. Documentation:
 - 1. Maintain logs on-site of monitoring equipment calibration.
 - 2. Maintain logs on-site of the results of field monitoring measurements.
 - 3. Maintain copies on-site of any laboratory analytical results associated with health and safety monitoring.
- C. Contractor shall comply with the following general work practices:
 - 1. Do not smoke, chew gum, apply cosmetics or consume food and beverages in areas where hazardous materials are being handled.
 - 2. Wash hands thoroughly before eating, smoking, or drinking.
 - 3. Do not store food in areas where it may come in contact with hazardous materials, including soil and dusts.
 - 4. To the extent practical, stay upwind from operations that emit vapors, gases or particulates.
 - 5. Clean clothing and footwear upon leaving jobsite and prior to entering any vehicle, mobile equipment, or office.
 - 6. Clean vehicle interiors and hand held tools as needed to prevent accumulation of particulates.
- D. Follow guidelines for the selection and use of proper personal protective equipment as outlined in the applicable job safety or task hazard analysis from the Hazardous Material Site Specific Health and Safety Plan. At a minimum all Contractor personnel that may come into contact with site soils shall be suitably dressed to perform their work in a safe manner that minimizes exposure to soil and does not interfere with their hearing, vision or free use of their hands or feet. The following minimum PPE shall be worn by all Contractor employees who may come into contact with site soils:
 - 1. Waist length shirts with sleeves.
 - 2. Trousers covering the entire leg.

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3. Work boots.
4. Eye protection meeting the latest American National Standard for Occupational and Educational eye and face protection.
5. Work gloves when handling soil or hand tools in contact with soil.

Additional equipment may modify this minimum requirement and, if required, will be outlined in the Hazardous Material Site Specific Safety and Health Plan as part of the job safety or task hazard analysis.

- E. Use equipment, in addition to the minimum outlined herein, if listed in the Hazardous Material Site Specific Safety and Health Plan as part of the job safety or task hazard analysis.

1.7 HAZARDOUS MATERIALS SITE-SPECIFIC HEALTH AND SAFETY PLAN

- A. Prepare a Hazardous Materials Site-Specific Health and Safety Plan (HMSSHASP) for all site personnel in accordance with the federal OSHA, and Cal/OSHA regulations, including CCR, Title 8, Industrial Relations, Section 5192, Hazardous Waste Operations and Emergency Response. The Plan shall include: Provisions specific to handling soils and groundwater containing elevated concentrations of petroleum hydrocarbons and lead. Additional information or procedures as determined necessary by the Contractor for safe performance of work in the presence of hazardous materials. Provisions specific to the removal, handling, and disposal of above ground and underground storage tanks, sumps, and related piping.
1. The HMSSHASP shall be approved and stamped by an Industrial Hygienist certified by the American Conference of Governmental Industrial Hygienists (ACGIH) prior to submittal. The HMSSHASP shall be submitted for acceptance by BAHA within 21 days after Limited Notice to Proceed. Amendments to the HMSSHASP shall be submitted as required for review and acceptance by BAHA.
- B. Implement the HMSSHASP, including use of engineering controls, providing its site personnel with the appropriate training and monitoring and personal protective equipment (PPE) based upon the type of work to be performed and the associated hazard, and ensuring proper use of PPE and compliance with safe work practices. The Contractor shall perform all monitoring necessary to determine the ongoing appropriate level of PPE for the work.
- C. BAHA will have the authority to stop work if, in the opinion of BAHA, the level of PPE selected by the Contractor is not appropriate or site personnel are not complying with the requirements of the HMSSHASP.

1.8 UNKNOWN HAZARDOUS MATERIALS

- A. When the presence of hazardous materials are not indicated in the Contract Documents and the Contractor encounters materials which the Contractor reasonably believes to be hazardous materials and the hazardous materials have not been rendered harmless, the Contractor shall immediately cease work in the affected area and report the condition to BAHA in writing. The Contractor may continue work in unaffected areas reasonably believed to be safe.
- B. If delay of work in the affected area delays the current controlling operation, the delay will be considered a right-of-way delay in accordance with Section 007000 General Conditions, 7.5.5, Right-of-Way Delays.

END OF SECTION

SECTION 014100 - REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.1. SUMMARY

- A. General: The Work shall be executed in accordance with each requirement set forth herein; and each authority having jurisdiction; requirements of each regulatory agency; and including, but not limited to, code requirements, standards, and each amendment, as may be applicable.
- B. Permits and Approvals: The Contractor shall secure and pay for all required permits and approvals from all agencies having jurisdiction over the project. See document 007000, Article 3.7.

1.2. REGULATORY REQUIREMENTS

- A. California Building Standards Code, 2010 (CBSC), as amended by the San Francisco Department of Building Inspection (SFDBI), which includes:
 - 1. Part 1 - 2010 California Administrative Code.
 - 2. Part 2 - 2010 California Building Code (2009 IBC).
 - 3. Part 3 - 2010 California Electrical Code (2008 NEC of the NFPA).
 - 4. Part 4 - 2010 California Mechanical Code (2009 UMC of the IAPMO).
 - 5. Part 5 - 2010 California Plumbing Code (2009 UPC of the IAPMO).
 - 6. Part 6 - 2010 California Energy Code.
 - 7. Part 7 - 2010 California Elevator Safety Construction Code.
 - 8. Part 8 - 2010 California Historical Building Code.
 - 9. Part 9 - 2010 California Fire Code (2009 IFC of the ICC).
 - 10. Part 10 - 2010 California Existing Building Code.
 - 11. Part 11 - 2010 California Green Building Standards Code
 - 12. Part 12 - 2010 California Reference Standards Code.
- B. California Code of Regulations (CCR): Titles, 8, 17, 19, and 22.
- C. California Health and Safety Code.
- D. National Fire Protection Association (NFPA), "Life Safety Code", NFPA 101, and as referenced in the foregoing codes.
- E. United States Department of Labor, Occupational Safety & Health Administration (OSHA).
- F. Volatile Organic Compound Content Limits: Coatings shall be provided in accordance with, but not by limitation, United States Environmental Protection Agency (EPA) USEPA 40 CFR Part 59.
- G. ADA Accessibility Guidelines for Buildings and Facilities
- H. Erosion and Sediment Control Plan as required by SFPUC, based on their Construction Site Runoff Pollution Prevention Procedures. (<http://sfwater.org/index.aspx?page=235>).

1.3. REFERENCES

- A. General: If references to codes, regulations, reference standards, manufacturers' instructions, Federal Government, trade societies, trade associations, or requirements of regulatory agencies, referred to in the Contract Documents do not bear date of issue, then the current published edition at date of Invitation to Bid shall be deemed as part of the Contract.

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PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1. APPLICATION

- A. General: If a conflict exists between referenced Regulatory Requirements, then the more restrictive and higher quality requirement shall govern; or as directed by BAHA in writing.
- B. Regulatory Requirements and the Contract Documents: If a conflict exists between referenced Regulatory Requirements and the Contract Documents, then the more restrictive and higher quality requirement shall govern; or as directed by BAHA in writing.
- C. The Contractor shall develop a list of all required permits and approvals and work with the A/E to develop a schedule for permit applications, preliminary reviews, final submittals and approvals. The Contractor shall update this schedule at regular intervals (weekly during critical periods, such as plan reviews) and submit an updated schedule with each Application for Payment, until all required permits and approvals are obtained.

END OF SECTION

SECTION 014219 - REFERENCE STANDARDS AND DEFINITIONS

PART 1 - GENERAL

1.1. DEFINITIONS

- A. General: Definitions supplement definitions in Section 007000, General Conditions.
- B. Terms: Terms such as "indicated", "shown", "noted", "scheduled", and "specified" are used to assist the reader to locate reference in graphic representations, notes, or schedules on the Drawings; other Paragraphs or Schedules in the Project Manual; and other requirements in the Contract Documents. There is no limitation on location.
- C. Approved: The term "approved", when used in conjunction with BAHA's action on the Contractor's submittals, applications, and requests, is limited to BAHA's duties and responsibilities as stated in the General Conditions.
- D. Certification Document: The term "Certification Document" means that each Certification Document ratifies and approves its entire content for appropriateness, authenticity, completeness, and proper contemporaneousness. The contents for each Certification Document shall be effected on the originating firm's letterhead; each page shall be seal stamped with the proper professional registration, or certification, or corporate, or the appropriate combination of, seal stamps; each Certification Document shall include the entire printed name and title, and the name signed and dated in indelible ink, of each responsible individual. One original and copies as specified or directed by BAHA shall be submitted to BAHA.
- E. Complete: The term "complete" means the entire Work, or BAHA-designated portion, is fully, entirely, safe, and properly executed, finished, fully integrated, operational, and clean, including every item, element or system without omission or deficiencies, in accordance with the Contract Documents including Change Orders, for BAHA to occupy and utilize for the purpose for which it is intended, as determined by BAHA.
- F. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean directed by BAHA, requested by BAHA, and similar phrases.
- G. Each: The term "each" shall mean the one item, and its inclusive effect, as may appropriately apply, on other items, and the entire Work.
- H. Final Inspection: The term "Final Inspection" means conclusive review of the Work by BAHA to determine, exclusively by BAHA, if the entire Work may be accepted by BAHA.
- I. Furnish: The term "furnish" means to supply, and deliver to the proper location in the Project site, proper and ready for unloading, unpacking, assembly, installation, and similar operations.
- J. Install: The term "install" describes operations at the Project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- K. Installer: The term "Installer" means the Contractor or other entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to execute a particular

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construction activity, including installation, erection, application, and similar operations. Installers shall be properly experienced in the operations they are engaged to execute.

1. The term "experienced", when used with the term "Installer", means having successfully completed a minimum of 4 previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
 2. Trades: Using terms such as "carpentry" shall not be deemed to mean that certain construction activities are required be executed by accredited or unionized individuals of a corresponding generic name, such as "carpenter"; it does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
 3. Assigning Specialists: Certain Sections of the Project Manual require that specific construction activities shall be executed by specialists who are recognized experts in those operations. The specialists shall be engaged for those activities, and their assignments are requirements over which the Contractor has no choice or option. The Contractor shall be responsible for fulfilling the Contract requirements.
 - a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.
- L. BAHA: The terms "BAHA", "BAHA A/E", "BAHA Construction Inspector", "BAHA Construction Manager", "BAHA Representative" and the like, means the official representative employee of the Bay Area Headquarters Authority, exclusively.
- M. Off-Site: The term "off-site" means a proper place not inside the Facility or Property.
- N. Project Site: The term "project site" or "site" means the space available to the Contractor for executing the Work, either exclusively or in conjunction with others executing other Work, as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- O. Provide: The term "provide" means to furnish and install, complete, finished, and ready for the intended use.
- P. Regulations: The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- Q. Shown: The term "shown" means as indicated in the Contract Documents.
- R. Specified: The term "specified" means as indicated in the Contract Documents.
- S. BAHA Project Manager: The term "BAHA Project Manager" means the person authorized by BAHA to act on behalf of BAHA for the Project, and shall not be deemed to include supervisory activities, nor subrogate the Contractor's supervision, of the Work.
- T. Testing Agencies: The term "testing agency" means an independent entity engaged to execute specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- U. Typical: The term "typical" means identical characteristics for similar conditions.

1.2. PROJECT MANUAL FORMAT AND CONTENT

- A. Project Manual Format: The Project Manual is organized generally according to the Construction Specifications Institute guidelines.
- B. Project Manual Content: The Project Manual includes certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 - 1. Abbreviated Language: Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words that are implied, but not stated, shall be interpolated as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
 - 2. Imperative and Streamlined Language: Requirements expressed in the imperative tense shall be executed by the Contractor. At certain locations in the Project Manual, subjective language is used for clarity to describe responsibilities that shall be indirectly required of the Contractor, or by others when so noted.
 - 3. Colon (:): Means the words "shall be" within a sentence or phrase.

1.3. INDUSTRY STANDARDS

- A. Applicability of Standards: Except where the Contract Documents, or codes, regulations, and the like, require more stringent, restrictive, or comprehensive requirements, applicable published Industry Standards for each construction activity, whether referenced or not referenced, shall be complied with, and shall have the same force and effect as if included in the Contract Documents.
- B. Publication Dates: When references do not bear date of issue, current published edition at date of first Invitation to Bid shall be deemed as part of this Contract.
- C. References: If provisions of codes, safety orders, Contract Documents, referenced manufacturer's specifications, manufacturer's instructions, industry standards, and the like, are in conflict, then the more restrictive and higher quality shall govern.
- D. Reference Designation Change: If provisions of codes, safety orders, referenced manufacturer's specifications, industry standards, and the like, change designation identifier, number, identification, and the like, then the new designation shall apply.
- E. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided. The actual installation may exceed the minimum, subject to approval of BAHA.
- F. Sets of Industry Standards: Contractor shall cause each party or entity engaged in the Work to be versed with and to comply with published Industry Standards applicable to each party's or entity's construction activity. Contractor shall obtain, or cause each party or entity to obtain, complete and proper sets from the publication source needed to properly execute the Work. Sets or portions of Industry Standards shall not be deemed included in the Contract Documents. The Contractor shall forthwith submit proper sets of each Industry Standard to BAHA, as may be directed by BAHA.

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- G. Associations and Agencies: Names and titles of Associations, Councils, Institutes, Agencies, and the like, and their general standards, may be abbreviated. Acronyms, or abbreviations, referenced in the Contract Documents, shall mean the associated names included herein. Names and addresses are subject to change by each Association, Council, Institute, and the like. The Contractor shall verify actual name, addresses, telephone number, and other relevant data.
- H. Acronyms, Abbreviations, and Names

AABC:	Associated Air Balance Council
AALA:	American Association for Laboratory Accreditation
AAMA:	American Architectural Manufacturers Association
ACI:	American Concrete Institute
ACIL:	American Council of Independent Laboratories
ADC:	Air Diffusion Council
AEIC:	Association of Edison Illuminating Companies
AFFPA:	American Forest and Paper Association
AI:	Asphalt Institute
AIA:	American Institute of Architects; or American Insurance Association
AIHA:	American Industrial Hygiene Association
AISC:	American Institute of Steel Construction
AISI:	American Iron and Steel Institute
APWA:	American Public Works Association
ARI:	Air Conditioning and Refrigeration Institute
ARMA:	Asphalt Roofing Manufacturers Association
ASC:	Adhesive and Sealant Council
ASHRAE:	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME:	American Society of Mechanical Engineers
ASPE:	American Society of Plumbing Engineers
ASSE:	American Society of Sanitary Engineering
ASTM:	American Society for Testing and Materials
AWCI:	Association of the Wall and Ceiling Industries--International
AWS:	American Welding Society
CBSC:	California Building Standards Code (Refer to ICBO)
CBM:	Certified Ballast Manufacturers Association
CCC:	Carpet Cushion Council
CISCA:	Ceiling and Interior Systems Construction Association
CISPI:	Cast Iron Soil Pipe Institute
CLFMI:	Chain Link Fence Manufacturers Institute
CRI:	Carpet and Rug Institute
CRSI:	Concrete Reinforcing Steel Institute
CTI:	Ceramic Tile Institute of America, Inc.
CTI:	Cooling Tower institute
DHI:	Door and Hardware Institute
DIPRA:	Ductile Iron Pipe Research Association
EIA:	Electronic Industries Association
EJMA:	Expansion Joint Manufacturers Association
FCICA:	Floor Covering Installation Contractors Association (Formerly Floor Covering Installation Board)
FM:	Factory Mutual Research Organization
FTI:	Facing Tile Institute

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GA:	Gypsum Association
HPVA:	Hardwood Plywood and Veneer Association
IAS:	International Approval Services
ICBO:	International Conference of Building Officials
ICEA:	Insulated Cable Engineers Association, Inc.
IEC:	American National Standards Institute (Refer to ANSI)
IEEE:	Institute of Electrical and Electronic Engineers
IESNA:	Illuminating Engineering Society of North America
IILP:	International Institute for Lath and Plaster, Inc.
INCE:	Institute of Noise Control Engineering
IRI:	Industrial Risk Insurers
KCMA:	Kitchen Cabinet Manufacturers Association
MCAA:	Mechanical Contractors Association of America
MHI:	Material Handling Institute
MIA:	Marble Institute of America; or Masonry Institute of America
ML/SFA:	Metal Lath/Steel Framing Association
NAPA:	National Asphalt Pavement Association
NBHA:	National Builders Hardware Association (Refer to DHI)
NET:	National Elevator Industry, Inc.
NETA:	International Electrical Testing Association
NFPA:	National Fire Protection Association; or National Forest Products Association (Refer to AFPA)
NPA:	National Particleboard Association
NPCA:	National Paint and Coatings Association
NRCA:	National Roofing Contractors Association
NSF:	NSF International (Formerly National Sanitation Foundation)
NWMA:	National Woodwork Manufacturers Association (Refer to NWWDA)
NWWDA:	National Wood Window and Door Association
PCA:	Portland Cement Association
PCI:	Precast/Prestressed Concrete Institute
PDCA:	Painting and Decorating Contractors of America
PDI:	Plumbing and Drainage Institute
PEI:	Porcelain Enamel Institute
PPFA:	Plastic Pipe and Fittings Association
PUC:	Public Utilities Commission
RFCI:	Resilient Floor Covering Institute
SAE:	SAE International
SDI:	Steel Deck Institute; or Steel Door Institute
SGCC:	Safety Glazing Certification Council
SIA:	Scaffold Industry Association, Inc.
SMACNA:	Sheet Metal and Air Conditioning
SPRI:	Single Ply Roofing Institute
SSINA:	Specialty Steel Industry of North America
SSPC:	Society for Protective Coatings
SWRI:	Sealant, Waterproofing & Restoration Institute
TCA:	Tile Council of America
UL:	Underwriters Laboratories, Inc.
UNI-BELL:	Uni-Bell PVC Pipe Association
WA:	Wallcoverings Association

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WRI: Wire Reinforcement Institute
WLPDIA: Western Lath, Plaster, Drywall Industries Association (Formerly California Lath & Plaster Association)

- I. Government Agencies: Names and titles of government standard- or Specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of standard- or Specification-producing government agencies. Names, addresses, and telephone numbers are subject to change. The Contractor shall verify actual name, addresses, telephone number, and other relevant data.

ADA: Department of Justice, Office of the Americans with Disabilities Act
ATBCB: Architectural and Transportation Barriers Compliance Board
Caltrans: State of California, Department of Transportation
CFR: Code of Federal Regulations, (Refer also to the Government Printing Office)
CPSC: Consumer Product Safety Commission
CS: Commercial Standard
DOC: U.S. Department of Commerce
DOT: Department of Transportation
EPA: Environmental Protection Agency
FS: Federal Specification
FHWA: Federal Highway Administration
GSA: General Services Administration
NIOSH: National Institute of Occupational Safety and Health
NIST: National Institute of Standards and Technology
OSHA: United States Department of Labor, Occupational Safety & Health Administration
PS: Product Standard of NBS
USGBC: United States Green Building Council

1.4. GOVERNING REGULATIONS, AUTHORITIES, AND REFERENCES

- A. General: The Contractor shall submit copies of Regulations, Standards, references, or similar items, as directed by BAHA.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 014310 - TESTING AND INSPECTION SERVICES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes:

1. Part 1 – General
 - a. 1.1 – Summary
 - b. 1.2 – Related Sections
 - c. 1.3 – Definitions (Not Used)
 - d. 1.4 - Qualifications
 - e. 1.5 - Testing Equipment
 - f. 1.6 - Inspection and Testing Personnel and Facilities
 - g. 1.7 - Laboratory Reports
 - h. 1.8 - Laboratory Responsibilities
 - i. 1.9 - Contractor’s Responsibilities
2. Part 2 – Products (Not Used)
3. Part 3 – Execution (Not Used)
4. Part 4 – Forms (Not Used)

1.2 RELATED SECTIONS

- A. SECTION 013200, “WORK SCHEDULE”
- B. SECTION 014500, “QUALITY CONTROL”

1.3 DEFINITIONS (Not Used)

1.4 QUALIFICATIONS

- A. Testing and inspection agency must have a minimum five (5) years continuing experience preceding date of these Contract Documents.
- B. Testing and inspection agency must and be qualified in accordance Section 014500, “Quality Control.”

1.5 TESTING EQUIPMENT

- A. Testing equipment must be calibrated at intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.6 INSPECTION AND TESTING PERSONNEL AND FACILITIES

- A. Testing and Inspection Agency
 1. The Contractor must employ and pay for the services of an independent testing and inspection agency to perform the tests and inspections required herein except where noted otherwise.
 2. Employment of the testing and inspection agency shall in no way relieve the Contractor's obligation to perform the Work as required in the Contract Documents.

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3. The Testing and Inspection Agency is a member of the Contractor's QC organization.
 4. The Owner has also contracted with an Owner's Testing and Inspection Agency to perform those tests and inspections required pursuant to SFBC Section 1701.5. The performance of the Owner's Testing and Inspection Agency is independent of the performance of the Contractor's Testing and Inspection Agency.
 5. All references to "Testing and Inspection Agency" shall be construed to be the Contractor's Testing and Inspection Agency, unless otherwise specifically noted.
- B. Limitations of authority of the Testing and Inspection Agency
1. Testing and Inspection Agency is not authorized to:
 - a. Release, revoke, alter, or enlarge on the requirements of the Contract Documents
 - b. Approve or accept any portion of the Work
 - c. Perform any duties of the Contractor
 - C. All Work must conform to the requirements of all applicable laws, codes, ordinances, and regulations.
 - D. Testing and Inspection Agency must perform tests and inspections as required by the Contract Documents, except as indicated in item 1.6.A.4 above.
 - E. Testing and Inspection Agency must prepare, cure, store, and transport Project samples to and from their laboratory.

1.7 LABORATORY REPORTS

- A. Within two (2) workdays after each inspection and test, submit five (5) copies of Laboratory report that include:
1. Date issued
 2. Project title and number
 3. Name of Inspector from Testing and Inspection Agency
 4. Date and time of sampling or inspection
 5. Identification of product and Project Manual section
 6. Location in the Project
 7. Type of inspection or test
 8. Date of test
 9. Results of tests
 10. Conformance with Contract Documents
 11. Whether original test or re-test passed or failed
 12. State/local permit number
- B. Reports must be distributed electronically to the following:
1. Owner's Project Manager
 2. Owner's QA Manager
 3. Contractor General Superintendent

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4. Additional Owner's Consultant(s) as directed by Owner's CM

1.8 LABORATORY RESPONSIBILITIES

- A. Provide qualified personnel at site.
- B. Cooperate with Owner's QA Manager and Contractor's QC Manager in performance of services.
- C. Perform specified inspecting, sampling, and testing of Products and materials in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Owner and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional inspection and testing required by Owner's QC Manager.
- G. Attend Preconstruction Meeting and progress meetings when requested.

1.9 CONTRACTOR'S RESPONSIBILITIES

- A. Provide all Testing and Inspection Services required by the Contract Documents and additional tests as required by the Owner's QC Manager needed to ensure the quality of the Work.
- B. Provide access to Work, including off-site manufacturer or fabricator's operations.
- C. Provide required quantities of material samples to be tested.
- D. Samples will be selected and taken by representative of Testing and Inspection Agency.
- E. Furnish copies of product data and test reports as required.
- F. Furnish incidental labor and facilities:
 - 1. To provide access to work to be tested
 - 2. To obtain and handle samples at the Project Site, or at the source of the Product to be tested or inspected
 - 3. To facilitate inspections and tests
 - 4. For storage and curing of test samples at the Project Site
- G. Include in the weekly Short Interval Schedule (SIS) submission (if required by this contract) activities that identify upcoming testing and inspection requirements.
- H. Notify Owner's QA Manager, in writing, of the planned performance of tests by the Testing Lab, twenty-four (24) hours in advance.
- I. Do not cover corrected Work until said Work has been re-tested and or re-inspected.
- J. Contractor must pay costs for all Testing and Inspection required by the Contract Documents, except as indicated in 1.6.A.4, above.
- K. Performance of tests and inspections by the Owner's Testing and Inspection Agency (in order to comply with Section 014500, "Quality Control") shall follow the following procedures:
 - 1. The Contractor's QC Manager shall inspect the Work to verify compliance with the

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Contract Documents. The conduct of such an inspection shall be noted in the QC Daily report, along with the “results” of the inspection;

2. If the QC Manager is satisfied that the appropriate Work is complete, the QC Manager shall submit a request to the Owner’s QA Manager, on a form agreed upon at the pre-construction conference, to review the Work for which the Contractor is seeking Owner’s Testing Agency Inspection/Testing. The Owner’s QA Manager, will review the Work within one full working day after receipt of the QC Manager’s request. The Owner’s QA Manager must concur with the satisfactory completion of the Work before the next step occurs.
3. The Contractor must note that any “acceptance” of Work by the Owner does not supersede the Contractor’s obligations under Section 014500 “Quality Control” of the Contract Documents. If, in the opinion of the Owner, the Work is not completed to allow for an Inspection by the Owner’s Testing Agency, to the extent practicable, deficiencies will be noted on the QC Manager’s Inspection Request form, and this form returned to the QC Manager.

An example would be for Inspection services prior to the pouring is structural concrete. The QC Manager would inspect the placement of reinforcing steel, formwork, etc. If the Work is complete to his satisfaction, the QC Manager would submit a request to the Owner’s QA Manager for review of the Work. If the Owner’s QA Manager accepts the Work, a request would be made for the Owner’s Testing Agency to inspect the Work.

4. Upon acceptance of the Work by the Owner’s QA Manager, the Owner’s QA Manager will submit a request to the Owner’s Testing Agency to inspect the Work. The Owner will execute such a request the same day after acceptance of the Work, as long as acceptance occurs before 3 PM. At the discretion of the Owner, a request for inspection may be made to the Owner’s Testing Agency, even if the Work is not satisfactorily complete at the time of the Owner’s review. If the Owner concludes that any deficiencies in the Work can be completed in time for the Owner’s Testing Agency inspection, the Owner’s Testing Agency will perform testing/inspection of the Work the work day after such as request has been made, as long as the request is submitted prior to 3 PM. Contractor shall allow such time as is necessary to comply with this requirement.

- 2 PRODUCTS (Not Used)
- 3 EXECUTION (Not Used)
- 3.1 FORMS (Not Used)

END OF SECTION

SECTION 01 45 00 – QUALITY CONTROL

PART 1 - GENERAL

1.1. SUMMARY

A. **WORK INCLUDED:** The Contractor is responsible for quality control and shall establish and maintain an effective Contractor Quality Control System (CQC) in compliance with the Contract Documents. The CQC System consists of plans, procedures, and organization necessary to ensure that all Work complies with the Contract requirements. The CQC system shall cover all construction operations, both onsite and offsite, and shall be implemented to support the proposed construction sequence. The Contractor shall be held responsible for execution of the quality of work and shall be subject to removal by BAHA for repeated noncompliance with quality requirements specified in the Contract.

B. **RELATED SECTIONS:**

1. Section 011100 Summary of Work
2. Section 011200 Mechanical and Electrical Coordination
3. Section 013119 Project Meetings
4. Section 013300 Submittal Procedures
5. Section 014219 Reference Standards and Definitions
6. Section 014523 Testing & Inspection Services
7. Section 015000 Temporary Facilities and Controls
8. Section 015713 Temporary Erosion and Sedimentation Control
9. Section 012500 Product Substitution and Variation Procedure
10. Section 016500 Materials and Equipment Handling, Storage, and Installation
11. Section 017323 Field Engineering
12. Section 017700 Closeout Procedures
13. Section 017800 Closeout Submittals
14. Section 019133 Enhanced Commissioning requirements
15. Additional portions of Sections 02 through 33 for additional quality requirements specified in individual Sections

C. **RELATED DOCUMENTS:**

1. Document 007000 General Conditions

1.2. SUBMITTALS

A. **QUALITY CONTROL PLAN – BAHA APPROVAL**

1. Within thirty (30) calendar days after Notice of Award, Contractor shall submit for approval by BAHA a written Contractor Quality Control (CQC) Plan.
2. If the plan requires any revisions or corrections, the Contractor shall resubmit the plan within 10 calendar days.
3. BAHA reserves the right to require changes in the plan during the Contract period as necessary to attain the quality specified.
4. No change in the approved CQC Plan may be made without written concurrence by BAHA.

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5. The CQC Plan shall include:
 - a. A list of personnel responsible for quality control, their assigned duties, and each person's qualifications. A description of the quality control organization, including a chart showing lines of authority of the staff responsible for quality control and the key members of the construction operations organization. The Contractor's QC Manager shall report directly to a responsible officer of the CMAR and not to the CMAR's on site Project Team.
 - b. A copy of a letter of assignment to the Contractor's QC Manager outlining assigned duties.
 - c. Methods of performing, documenting, and enforcing quality control of all Work, including any delegated design Work. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents shall be included. These procedures shall be in accordance with Section 013300 Submittal Procedures.
 - d. Methods of monitoring and controlling environmental pollution and contamination as required by regulations and laws. See Section 015713, Temporary Erosion and Sedimentation Control, for additional requirements.
 - e. A list of the Definable Features of Work. A Definable Feature of Work is a portion of the Work that is separate and distinct from other parts of the Work; has separate control requirements, and may be constructed by different trades or disciplines, or it may be work by the same trade in a different location. Although each Section of the Specifications may generally be considered as a Definable Feature of Work, there is frequently more than one (1) Definable Feature of Work under a particular technical Section. This list shall be agreed upon during the initial Mutual Understanding and Coordination Meeting.

B. CONTRACTOR'S QUALITY CONTROL DAILY REPORTS:

1. The Contractor shall submit Daily Reports showing all required information and inspections and tests on the first workday following the date covered by the report.

C. TEST REPORTS:

1. Daily Test Information Sheets shall be submitted with Quality Control Daily Reports.
2. Failing test results and proposed remedial actions shall be submitted within eight (8) hours of a noted deficiency.
3. Three (3) copies of complete test results shall be submitted not later than three (3) calendar days after the test was performed.

D. OFF-SITE INSPECTION REPORTS: Off-Site Inspection Reports shall be submitted and accepted prior to shipment of inspected products(s).

E. COORDINATION DRAWINGS: Coordination Drawings shall be prepared if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Content: All coordination drawings should be generated from the fully coordinated BIM. See Section 01 33 40. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:

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- a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate required installation sequences.
 - c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Minor dimension changes and difficult installations shall not be considered changes to the Contract.
 - d. Update BIM to incorporate resolution of all conflicts.
2. Sheet Size: At least 8-1/2" x 11" but no larger than 30" x 40".
3. Number of Copies:
- a. Submit two (2) opaque copies of each submittal. BAHA shall return one (1) copy.
 - b. Submit five (5) copies where Coordination Drawings are required for operation and maintenance manuals. BAHA shall retain two (2) copies; remainder shall be returned.
4. Refer to individual Sections for Coordination Drawing requirements for work in those Sections

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1. QUALITY CONTROL RESPONSIBILITIES

A. GENERAL:

1. BAHA is not responsible for controlling the quality of the Work.
2. BAHA has the right to inspect the Work; the Contractor has the obligation to inspect the Work.
3. The quality of all Work shall be the responsibility of the Contractor.
4. Code required Special Inspections and related Testing shall be the responsibility of an independent testing laboratory employed by BAHA.
5. The Contractor shall inspect and test the Work often enough to ensure that the quality of materials, workmanship, construction, finish, and functional performance is in compliance with the Contract Documents.
6. Quality Control Daily Reports shall be completed by the Contractor's QC Manager and submitted to BAHA.
7. Test reports shall be completed by person performing the test.
8. BAHA may designate locations of tests.

B. QC SYSTEM REQUIREMENTS

- A. The CQC System establishes minimum staffing, Contractor's inspection and testing procedures, documentation and reporting and other processes to ensure quality. At a minimum, the CQC System must consist of:
 1. Contractor's QC Organization
 2. CQC Plan

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3. Initial Mutual Understanding and Coordination Meeting
 4. Recurring QC Meetings
 5. Three phases of Quality Control
 6. Contractor Inspections
 7. Code required Special Inspection & Testing (by BAHA)
 8. Inspection by agencies having jurisdiction
 9. Documentation and Reports
 10. Completion Inspections
 11. Design Quality Control Plan (for Contractor designed systems)
- B. BAHA reserves the right to require changes to the CQC System as necessary to ensure the specified quality of the Work.
- C. The Contractor shall employ specialized inspectors (QC Specialist) to assist the Contractor's QC Manager with non-code inspections required in the technical specifications. QC Specialist must be qualified in their area of expertise and must report directly to the Contractor's QC Manager.
- D. No on-site Work shall be performed unless the Contractor's QC Manager or an approved alternate is at the Work site.
- E. The Contractor must notify BAHA in writing of any proposed changes to the QC System at least seven (7) days prior to implementation of proposed changes. Proposed changes are subject to BAHA approval.
- C. QUALITY CONTROL STAFF:
1. The Contractor's QC Manager shall be assigned no other duties. Not later than 10 days following Notice of Award, the QC Manager's qualifications shall be submitted to BAHA for review and approval. BAHA may elect to interview the candidate(s) for QC Manager prior to approval. The Contractor's approved QC Manager shall not be removed or replaced without prior written approval by BAHA. The QC Manager shall have the authority to stop the work when and where deemed necessary to insure compliance with the Contract Documents.
 2. The Contractor's project supervisory staff may be used to assist the QC Manager, supplemented as necessary by a qualified QC Specialist. All QC personnel shall be employees of the Contractor and may not be employed by a supplier or Subcontractor and shall have the experience and qualifications to successfully perform their assigned quality control duties. The QC staff should normally be degreed or certified in their area of specialty and have a minimum of 5 years' experience related to their quality control responsibility.
 3. The QC staff is responsible for certifying that all submittals and deliverables are in compliance with the Contract requirements.

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4. QC Manager:
 - A. Provide a QC Manager at the Work site to implement and manage the QC program. The QC Manager is independent of the “production organization” and reports directly to an officer of the Construction organization. The QC Manager may not be absent from the project site for more than two consecutive weeks and/or twenty (20) total work days in the course of any twelve (12) month period. Any absence beyond these periods may be cause for BAHA to direct the removal as the Contractor’s QC Manager.
 - B. Within seven (7) days after Notice of Award, Contactor must submit for acceptance by the Owner, four (4) copies of the QC Manager’s qualifications. The Qualifications submittal must be accompanied by a detailed resume for the candidate documenting their relevant experience and providing at least three current, profession-related references. Copies of the Owner accepted Authorization letter for the QC Manager and supporting information must be included in the Contractor's CQ Plan submittal.
 - C. QC Manager’s Duties include:
 1. Be on the Work site at all times during performance of Work, with complete authority to take any action necessary to ensure conformance with the requirements of the Contract Documents. In the event of the QC Manager's absence, an approved alternate QC Manager must be present and have the same authority as the QC Manager.
 2. Implement and manage the Three Phases of Control.
 3. Immediately stop any work that does not comply with requirements of the Contract Documents, and direct removal and replacement of any defective Work.
 4. Conduct daily inspections of Work performed to ensure compliance with requirements of the Contract Documents.
 5. Certify daily that all Work performed, on and off the construction site, conforms to requirements of the Contract Documents. Certify daily that all materials and equipment delivered or installed in the Work comply with the requirements of the Contract Documents. Report any deficiencies and corrective action planned and taken.
 6. Ensure that Contractor's QC Organization is adequately staffed with qualified personnel to perform all required inspections and tests.
 7. Supervise and coordinate the inspections and tests made by the QC Organization, including the tests and inspections of the Work of Subcontractors and Suppliers.
 8. Supervise and monitor the installation and maintenance of all infection control materials and barriers.
 9. Coordinate the inspections required by Agencies having jurisdiction and code required Special Inspections and tests by BAHA’s Special Inspection and Testing Laboratory, including the code required tests and inspections of the Work of Subcontractors and Suppliers.
 10. Review all applicable reference documents identified in the individual specification Sections, such as ASTM, ACI references, etc. The QC Manager is responsible for accessing and providing copies of all such documents and standards identified in the Sections.
 11. Ensure that all required tests are performed and results are reported. Indicate whether test results do or do not conform to requirements of the Contract Documents. Submit Corrective Action Plan(s) for nonconforming items.

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12. Recommend removal of any person from the Project that consistently fails to perform Work properly.
13. Report to the Contractor's senior management the identity of any Subcontractor or Supplier who's Work consistently fails to meet the requirements of the Contract Documents.
14. Attend the Mutual Understanding and Coordination Meeting and conduct all recurring QC Meetings.
15. Submit two (2) copies of certified QC Manager's Daily QC Reports in the accepted format.
16. Certify all Submittals for conformance with the requirements of the Contract Documents.
17. Certify completion prior to requesting Milestone Completion inspection and Final Inspection.
18. Maintain a file record containing all Quality Control records.
19. Attend all key Project Meetings including Preconstruction Conference, Schedule Orientation Meeting, Progress Meetings, Commissioning Meetings, Demonstration and Training Meetings, and Closeout Conference.
20. Ensure that all Work is being installed in accordance with the fully coordinated Construction BIM.

D. QC Manager Qualifications:

A minimum of five (5) years experience as a Superintendent, construction QC manager, or a Construction Manager on projects of similar size and type of construction compared to this project. Relevant experience must have been acquired within the last 7 years. Relevant projects must have included the major trades involved with this Project.

3.2 OFF-SITE CONTROL

- A. Items that are fabricated or assembled off-site shall be inspected and inspection reports accepted prior to shipment to the Project.

3.3 ON-SITE CONTROL

A. NOTIFICATION:

1. Contractor shall notify BAHA at least 48 hours in advance of the Preparatory Phase Meeting.
2. Contractor shall notify BAHA at least 24 hours in advance of the Initial and Follow-up phases.

B. PREPARATORY PHASE: Contractor's QC Manager shall perform before beginning each Definable Feature of Work:

1. Review control submittal requirements with personnel directly responsible for the quality control work. As a minimum, the Contractor's Quality Control Manager and the foreman responsible for the feature of work shall be in attendance.
2. Review all applicable Specifications Sections and Drawings related to the Definable Feature of Work.
3. Ensure that copies of all referenced standards related to sampling, testing, and execution for the feature of work are available on site.

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4. Ensure that provisions have been made for field control testing.
5. Examine the work area to ensure that all preliminary work has been completed.
6. Verify all field dimensions and advise BAHA of discrepancies with Contract Documents.
7. Ensure that necessary equipment and materials are at the Project site and that they comply with approved shop drawings and submittals.
8. Prepare a report on all preparatory phase activities and discussions. Attach this report to Contractor's QC Daily Report.

C. INITIAL PHASE:

1. As soon as work begins, inspect and test a representative portion of a particular definable feature of work for quality of workmanship.
2. Review control testing procedures to ensure compliance with Contract requirements.
3. Confirm level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels or mock ups as appropriate.
4. Resolve all differences and conflicts.
5. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity hazard analysis with each worker.
6. Prepare a report on all initial phase activities and discussions. Attach this report to Contractor's QC Daily Report. Exact location of Initial Phase shall be indicated for future reference and comparison with follow-up phases.

D. FOLLOW-UP PHASE:

1. Inspect and test as work progresses to ensure compliance with Contract requirements until completion of work. The checks shall be made a matter of record in the CQC documentation.
2. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional Definable Features of Work that may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

E. ADDITIONAL PREPARATORY AND INITIAL PHASES: Additional Preparatory and Initial Phases may be required on the same Definable Feature of Work for the following reasons:

1. Quality of on-going work is unacceptable.
2. Changes occur in the applicable quality control staff, on-site production supervision, or work crew.
3. Work on a particular feature of work is resumed after a substantial period of inactivity.

3.4 TESTING AND INSPECTIONS

1. Code Compliance Testing and Inspection: BAHA shall arrange and pay for all code compliance tests and inspections required by authorities having jurisdictions over the work.
2. Non-code Inspection and Testing: Tests performed by an independent testing laboratory retained and paid for by the Contractor to determine compliance with the Contract Documents. See technical specifications for required tests.

3.5 COMPLETION INSPECTION

- A. PUNCH-OUT INSPECTIONS: Near the end of the Work, or any increment of the Work established by a time stated in the Contract Documents, the QC Manager shall conduct an inspection of the Work. A punch list of items that do not conform to the approved Drawings and Specifications shall be prepared and included in the QC documentation, as required by Section 3.6, Documentation, below. The list of deficiencies shall include the estimated date by which the deficiencies shall be corrected. The QC Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify BAHA that the facility is ready for BAHA's Pre-Final Inspection.
- B. PRE-FINAL INSPECTIONS: BAHA and the Project Architect shall perform the Pre-Final Inspection to verify that the facility is complete and ready to be occupied. BAHA's Pre-Final Punch List may be developed as a result of this inspection. The Contractor's QC Manager shall ensure that all items on this list have been corrected before notifying BAHA, so that a Final inspection can be scheduled. Any items noted on the Pre-Final Inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the Work if the Project is divided into increments by separate completion dates.
- C. FINAL ACCEPTANCE INSPECTION: The Contractor's Quality Control Manager, plus the Superintendent or other primary management person, and BAHA's designee and the Project Architect shall be in attendance at the Final Acceptance Inspection. Additional BAHA personnel including, but not limited to other user groups, may also be in attendance. The Final Acceptance Inspection shall be formally scheduled by BAHA based upon results of the Pre-Final Inspection. Contractor shall give notice to BAHA at least 14 days prior to the requested Final Acceptance Inspection date and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the Contract, shall be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection shall be cause for BAHA to bill the Contractor for additional inspection cost in accordance with the Contract Documents.

3.6 DOCUMENTATION

- A. DAILY QC REPORTS: Submit Daily QC Reports and Daily Test Report Information Sheets of quality control activities and tests shall be maintained. Include design quality control activities.
- B. OTHER REPORTS: Daily QC Reports may not be substituted for other written reports required under clauses of the Contract, such as reports provided under Disputes, Differing Site Conditions, or Changes.
- C. REPORTING: Reporting shall make use of the Prolog Project Management Information System. The Contractor shall submit a proposed Daily QC Report format for BAHA approval prior to preparing the first QC Report.
 - 1. The Contractor shall submit original Daily QC Reports to BAHA for each workday, including weekends and holidays when worked.

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2. As a minimum, a report shall be prepared and submitted for every 7 days of no work and on the last day of a no-work period. All calendar days shall be accounted for throughout the life of the Contract. The first report following a day of no work shall be for that day only.

D. CONTENT: Daily QC Reports shall include:

1. Project name and number.
2. Contractor's name and address.
3. Contract description.
4. Weather, temperature, and any unusual site conditions.
5. Brief description and location of the day's scheduled activities including the work of subcontractors. Descriptions of activities undertaken and progress made shall be referenced to Critical Path Method (CPM) scheduled activities.
6. Number of employees by trade for the contractor's own work force and for subcontractors of any tier.
7. Equipment, other than hand tools, used by the Contractor and subcontractors.
8. Any special problems, incidents, or accidents.
9. Materials used by the Contractor and subcontractors.

E. NUMBERING: Contractor's Daily QC Reports shall be numbered sequentially.

3.7 ENFORCEMENT

- A. CORRECTIVE ACTION: The Contractor shall take immediate corrective action when notified of any detected noncompliance with the foregoing requirements. The Contractor shall stop work on any portion of the Work pending satisfactory correction of any deficiency noted by the Contractor's QC Manager or BAHA.
- B. DAMAGES: No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

END OF SECTION

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1- GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** This Section includes temporary utilities and miscellaneous temporary facilities required during construction, including installation, maintenance, and removal upon completion of the Work.
- B. **RELATED SECTIONS:**
 - 1. Section 013523 Accident Prevention, Health, and Safety
 - 2. Section 017419 Site Waste Management Program
 - 3. Section 017700 Closeout Procedures
- C. **RELATED DOCUMENTS:** Applicable provisions of other Division 1 Sections apply to this Section as well as the following:
 - 1. Construction Drawings
 - 2. Document 007000, General Conditions of the Contract for Construction
 - 3. National Fire Prevention Association (NFPA 70).
 - 4. National Electric Code
 - 5. Construction Industry Standards, OSHA 2207
 - 6. State of California Health Department Regulations.
 - 7. Area Fire Department or Fire Marshal Requirements
 - 8. California Department of Transportation Standard Plans and Specifications

PART 2 – PRODUCTS

- 2.1 **GENERAL:** Temporary materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards. Contractor shall be responsible for fire protection equipment, temporary utilities and temporary construction facilities noted below unless specifically stated otherwise.
 - A. **FIRE PROTECTION EQUIPMENT:** Extinguisher shall have a minimum UL rating of 2-A:10-B:C.
 - B. **TEMPORARY SIGNS AND NOTICES:**
 - 1. The Contractor shall provide such temporary safety signs and notices as shall be required by authorities having jurisdiction. In addition, the Contractor shall provide temporary signs which inform the public for equipment or material access to the job site at the approved, designated times of day. At all times, provide such notifications and signs as to clearly and neatly advise the public of the location of construction activities and facilities.
 - 2. Handwritten signs shall not be permitted. Use only commercially procured or professionally prepared signs of durable manufacture. Graphics shall be as approved by BAHA.

PART 3 – EXECUTION

3.1. GENERAL DESCRIPTION OF WORK: Contractor shall be responsible for providing its own temporary facilities and must coordinate requirements with BAHA.

1. The Contractor shall define the detailed requirements of staging areas and submit a description as part of the Work Area Plan for approval by BAHA. The Contractor is encouraged to discuss and coordinate the staging area requirements with BAHA, which shall coordinate with other users of site.

3.2 TEMPORARY CONSTRUCTION FACILITIES: The following are responsibilities of the Contractor unless specifically noted otherwise.

A. OFFICE FACILITIES - GENERAL REQUIREMENTS

1. Provide suitable office space of sufficient size to provide adequate Work space for Contractor and BAHA's assigned staff.
2. Office space shall be weather tight and secure, and shall be heated and air conditioned to maintain acceptable comfort levels for persons working therein. Minimum construction requirements for temporary office facilities include:
 - a. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible with occupancy and storage requirements.
 - b. Interior Materials in Office and Meeting Areas: Sheet type materials for walls and ceilings, pre-finished or painted; resilient flooring and base.
 - c. Lighting in Office and Meeting Areas: Minimum 50-foot candles at desktop height.
 - d. Exterior Lighting: Security lighting at entrances.
 - e. Fire Protection: Provide appropriate portable fire extinguishers at each office and storage area, well-marked and accessible.
3. Locate office facilities in a safe location and to avoid interference with Work in progress. Relocate office facilities as required by job progress.
4. Contractor may use vacant office space and restrooms within the building, however, these facilities must meet the requirements of this Section.
5. Provide a shared conference room for progress meetings with 16 swivel tilt chairs, and 4' x 8' drymarker board.

B. BAHA PROJECT OFFICE FACILITIES: Furnish, install, and maintain a field office for BAHA staff, and other representatives of BAHA. Location of BAHA's office facilities shall be shown on a shop drawing for BAHA's approval. Location to remain unchanged through the life of the project if possible. Provide space for parking 3 BAHA vehicles. BAHA's office facilities shall comply with the following requirements:

1. Provide shop drawings showing custom layout of partitions, equipment, and furnishings that will house BAHA's assigned staff. At minimum, provide three enclosed offices, three open offices, and one unisex ADA restroom.
2. Office structure shall meet current UBC, UMC, UPC and NEC codes with labels as required. Further requirements are as follows:

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- a. All required exterior doors to the BAHA office area will have ADA-approved threshold and lockset.
 - b. Provide for code required outside air.
 - c. Approved smoke detection system shall be installed. Provide 2 fire extinguishers.
 - d. Provide minimum 120/240V 1- phase 200 amp service.
 - e. Provide heat, proper ventilation, and air conditioning with appropriate supply/return air grilles with 4-way dampers at office areas and in each enclosed area.
 - f. Make provisions for 3 work separated stations. Equip each work station with a telephone and an internet connection, 36" x 60" desk, chair, bookshelf, two (2) locking 42" wide, two-drawer file cabinet, marker/tack board, and waste basket.
 - g. For each enclosed office, equip with a telephone, high-speed internet connection, 36" x 72" desk, chair, adjustable 36" x 60" bookshelf, two (2) locking two-draw file cabinet, round table with two side chairs, 6-foot credenza, marker/tack board, and waste basket.
 - h. Equip open office area with a 48" x 96" plan table, 2 each 12-postion metal plan racks mounted on castors and a 36" x 60" supply cabinet.
 - i. Provide six (6) four-outlet surge protectors.
 - j. Provide one (1) first-aid kit.
3. Office equipment provided shall include the following:
- a. One free standing color copy/printer/scanner/fax machine with automatic feed and sorting capabilities for up to 50 copies plus reduction and enlargement feature and up to 11" x 17" format capabilities. Include maintenance service and toner for an average use of 10,000 copies per month. Paper supplies will be excluded.
 - b. Six desktop computer systems with minimum requirements for each including an Intel Core Duo system with 2.8GHz processor, 4GB RAM, integrated video card, 320 GB hard drive, sound card, single 16X DVD+/-RW Drive, and 19" flat panel monitor and the most recent edition of Microsoft operating system and Microsoft Office Standard Edition 2007.
 - c. Provide software licenses for BAHA's exclusive use for a two-year duration as follows:
 - i. Primavera P6 Professional Project Management for one work station
4. Other services and maintenance shall include:
- a. Provide a 512KB internet service connection and router for completing computer installation. Also provide for three-line telephone service with six telephone instruments capable of intercom transfer, conferencing and voice mail. Monthly telephone and internet service costs shall be included in the Contractor's General Conditions costs.
 - b. Provide janitorial services twice each week, including but not limited to emptying trash, sweeping, vacuuming, mopping floors, washing windows, cleaning toilet facility, and furnishing toilet supplies.
 - c. Provide one bottled water service unit including refrigerated and hot water dispenser and under counter refrigerator, 3.2 CF volume with 0.8 CF freezer. Provide up to three bottled water units per week.
 - d. Provide for security installation and service for monitoring the exterior door to BAHA office area and after hours motion detection. Security alarm will annunciate to a remote 24-hour monitoring service.

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5. BAHA Office facility, equipment and furniture provided by the Contractor shall remain the property of the Contractor upon completion of the Project.

C. STORAGE STRUCTURES

1. Provide enclosed, weather tight storage for Contractor's materials and equipment which require protection from vandalism or the elements.
2. Locate storage facilities in a location to avoid interference with Work in progress. Relocate storage facilities as required by job progress.

D. PROJECT SIGN

1. Submit drawings of proposed project identification sign, indicating type, size, and colors for review by BAHA; include actual samples of proposed colors. BAHA
2. Contractor shall provide two (2) 48" x 48" signs for the purpose for identifying the Contractor field office or receiving location. No large signs with the names of Contractor, subcontractors, or consultants shall be permitted except with BAHA approval. Install signs at locations approved by BAHA

3.3 TEMPORARY UTILITIES

A. WATER

1. BAHA will pay for temporary water services required for the Work. Contractor shall connect to the existing water system and provide for distribution and heating water as needed for the Work.
2. See Division 02 thru Division 33 Sections for hazardous materials specifications in regards to additional water requirements associated with hazardous material remediation.
3. Furnish cool, potable water for construction personnel in locations convenient to Work stations.

B. POWER:

1. Provide power of appropriate voltage and adequate amperage to perform the contract work and to power new equipment during installation and testing. Contractor shall provide, at a minimum, the following:
 - a. Adequate numbers of power outlets for construction operations, with branch wiring and distribution boxes.
 - b. Main service disconnect and over current protection at convenient location.
2. Temporary electrical service shall comply with applicable requirements of NFPA 70 Article 305, OSHA, and local power company.
3. Permanent building convenience receptacles may not be utilized during construction.
4. Provide temporary panels, wiring, and step-down transformers for use of existing power.
5. Remove all temporary electrical service at completion of project and restore existing utility services to their original conditions.
6. Do not use portable generators inside any existing buildings.
7. Refer to Electrical Specifications for additional temporary electric service requirements.

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C. LIGHTING: The Contractor shall:

1. Provide and maintain lighting for construction operations to achieve a minimum interior lighting level in accordance with OSHA regulations.
2. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
3. Replace all broken, soiled, or damaged lenses or reflectors immediately prior to Final Completion Inspection if permanent building lighting is utilized during construction.
4. Direct temporary exterior lighting downward. Do not illuminate areas other than the immediate Work area and for site security. Do not direct lights at oncoming traffic.

D. TELEPHONE AND INTERNET: The Contractor shall be responsible for the following except where noted otherwise:

1. Make arrangements with the telephone company to install three telephone lines for use by BAHA's project team and pay installations costs. Contractor to provide lines for own telephone service. Make arrangements with the telephone company and pay all costs for own use.
2. Make arrangements to install high-speed internet service (DSL, cable or equivalent) for use by BAHA's project team and pay installation costs. Contractor to provide own high-speed internet service. Make arrangements with service provider and pay all phone costs related to internet service.

E. SANITARY FACILITIES: The Contractor shall:

1. Provide and maintain temporary toilet facilities for the duration of the Work, for use by BAHA staff and all employees engaged in the Work in accordance with State Health Department and any other applicable codes, regulations, laws, and ordinances. Existing restrooms may be used until they are renovated or replaced.
2. Provide toilet facilities sufficiently lighted and ventilated that are weatherproof, sturdy enclosures, handicapped accessible with privacy locks.
3. Provide separate facilities for men and women.
4. Prohibit use of toilets and sinks in the building at any stages of the Work.

F. HEATING, VENTILATING, AND COOLING: The Contractor shall:

1. Provide and maintain adequate approved facilities, as required for safety and construction requirements during the progress of the Work. Provide ample clearance around heaters to prevent ignition of combustible materials.
2. Ventilate enclosed areas as required to assist curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
3. Utilize temporary fan units as required to maintain clean air for construction operations.

3.4. TEMPORARY SITE FACILITIES

A. SITE ACCESS AND CIRCULATION

1. Maintain temporary, all-weather access to construction area.
2. Extend and relocate access to the Work as progress requires. Provide sufficient points of access.
3. Provide and maintain access free of obstructions to fire hydrants and all portions of the

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Work Underway.

4. Provide means of removing mud from vehicle wheels before entering public roadways.

B. FENCES AND BARRICADES

1. Provide temporary fences, barricades, and warning signs as may be required by local code or Authorities having jurisdiction as required to maintain safety and security of the workplace, to protect stored materials from theft or vandalism.
2. Temporary fencing shall be minimum 6'0" high commercial grade chain link fencing. Full height visual screening shall be required for all fencing along the perimeter of the Project.
3. Provide locks on all pedestrian and vehicular gates.
4. Maintain temporary fences, barricades, bulkheads, and other protective facilities in good condition throughout the term of the Work. Remove at completion of the Work and replace or repair all Work damaged thereby. Repair or replace, on a daily basis, safety facilities or devices damaged or removed during the course of the Work.
5. Barricades and signs shall conform with Manual on Uniform Traffic Control Devices (CAMUTCD), Part VI, 1988 edition.
6. When chain link fence barriers are not required and visual screening is not needed, but a safety fence is prudent, use recycled construction safety barrier fence.
 - a. Safety Barrier Fence shall be orange plastic fence, with a minimum height of 4 feet.
7. Temporary barrier tape shall be Banner Guard, bright yellow, imprinted with "CAUTION: CONSTRUCTION AREA" imprinted on it.

C. LADDERS, STAIRS, RAMPS, RUNWAYS, HOISTS, SHORING AND SCAFFOLDING:

1. Contractor shall furnish and maintain ladders, stairs, ramps, runways, hoists, shoring, and scaffolding required in the execution of the Work.
2. Temporary Work shall be erected, equipped, and maintained in accordance with the statutes, laws, ordinances, rules or regulations with each authority having jurisdiction and insurance companies having jurisdiction.
3. Contractor shall retain a licensed structural or civil engineer to design temporary scaffolding and /or shoring to be installed in the performance of the Work. Scaffolding/shoring design, stamped and signed by the Contractor's structural engineer, shall be submitted in accordance with the applicable Technical Specifications. Contractor shall retain copies of scaffolding/shoring design for Project records.
4. Shoring, scaffolding and hoists shall be installed, tested and maintained at all times in accordance with approved drawings and applicable safety regulations.

D. CONTRACTOR VEHICLE PARKING

1. Vehicle parking is extremely limited at the Work site. No personal vehicles of the Contractor's personnel shall be in the tenant parking areas reserved for the building. Reserve staging area parking for major equipment as needed for construction and for Contractor and Subcontractor service vehicles. No Contractor or Contractor personnel vehicles may be parked outside the existing building. Contractor shall provide shuttle vehicle parking for Contractor's and subcontractor worker shuttle to off-site parking area

as needed.

2. Provide secondary mud containment pads for equipment in accordance with 015713, Temporary Erosion and Sedimentation Control.

E. OTHER PROJECT SIGNS

1. Safety and directional signs shall match Caltrans standards.
2. Construction Signs: During construction activity or equipment mobilization, follow California Department of Transportation sign standards at all times. Maintain a copy of the most recent Caltrans sign standards at the Contractor office.

3.5. PROTECTION OF INSTALLED WORK

- A. PROVIDE PROTECTION: Provide temporary and removable protection for installed Work in progress that may be subject to damage. Control activity in immediate Work area to minimize risk of damage.
- B. PROTECTION OF SURFACES: Protect finished floors, stairs and other surfaces from traffic dirt, wear, damage, or movement of heavy objects, by covering surfaces with non-staining, heavy-duty reinforced moisture resistant building paper with joints continuously taped with waterproof tape.
- C. TRAFFIC: Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is unavoidable, provide adequate protection to prevent damage to waterproof membranes and comply with the manufacturer's recommendation for protection of the waterproofing or roofing material.
- D. ISOLATION: Safely and properly isolate each area affected by the Work from non-Work areas to effectively preclude hazardous conditions, spread of dust, debris, contaminants, fumes, hazardous materials, noise, and the like, from migrating, or appearing, into non-Work areas in accordance with regulations in effect.
 1. Erect full height temporary partitions between Work areas and non-Work areas. Partitions shall be of fire resistive assembly properly framed, opaque and in accordance with regulations in effect.
- E. BAHA PROTECTION OF EXTERIOR WORK IN PLACE: Provide heavy planking to protect curbs, gutters, culverts, paving and similar surfaces from damage by equipment or vehicles.

3.6 FIRE PREVENTION AND PROTECTION

- A. RESPONSIBLE PERSON: A capable and qualified person shall be placed in charge of administering the Fire Protection Plan. The responsibilities shall include locating and maintaining fire protective equipment and establishing and maintaining safe torch cutting and welding procedures.
- B. FIRE PROTECTION PLAN: A written Fire Protection Plan shall be developed within 60 days of Notice to Proceed. The plan shall be approved by the Oakland Fire Department prior to proceeding past foundation work for the New Building and commencement of demolition work for the Existing Building. The Contractor is responsible for carrying out the provisions of the

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Fire Protection Plan and communicating it to all Subcontractors. The Fire Protection Plan shall include the following:

1. Procedures for reporting emergencies to the Fire Department.
 2. Procedures for emergency notification, evacuation and/or relocation of all persons in the building under construction and on the site.
 3. Procedures for hot work operations, management of hazardous materials and removal of combustible debris and maintenance of emergency access roads.
 4. Floor plans identifying the locations of exits, exit stairs, exit routes and portable fire extinguishers.
 5. Site plans identifying the designated exterior assembly areas for each evacuation route.
 6. Site plans identifying required fire apparatus access roadways and on-site fire hydrants.
 7. The name and contact phone number of the person(s) responsible for compliance with the Fire Protection Plan.
- C. **HAZARD CONTROL:** Take all necessary precautions to prevent fire during construction. Do not store flammable or combustible liquids in any existing structure. Provide adequate ventilation during use of volatile or noxious substances.
- D. **FIRE DANGER LEVELS AND SPARK ARRESTERS:**
1. Written determinations of periods and areas of potential fire hazards and hazard levels shall be issued by BAHA.
 2. Equip all gasoline or diesel powered equipment used during periods of potential fire hazards or other potential fire hazards areas.
- E. **SERVICE AND REFUELING AREAS:** Locate areas to comply with codes. Shut down equipment before refueling. Do not service vehicles onsite.
- F. **SMOKING:** Smoking within the Project site including buildings or temporary storage sheds is prohibited.
- G. **HOT WORK:** Hot work includes any work involving operations capable of initiating fires or explosions, including cutting, welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, or any other similar activity. The use of hot work equipment shall be in accordance with the following requirements, including a pre-site inspection, fire watch, and post inspection procedures.
1. **Pre-Site Inspection:** An inspection of the hot work site shall be conducted by the Contractor prior to hot work operations to ensure that:
 - a. The hot work site is clear of combustibles or that combustibles are protected;
 - b. Exposed construction is of noncombustible materials or that combustible materials are protected;
 - c. Openings are protected;
 - d. There are no exposed combustibles on the opposite side of partitions, walls, ceilings, floors, etc.;
 - e. Fire extinguishers are available, fully charged and operable; and
 - f. Fire watch personnel are assigned, equipped, and trained.
 2. **Fire Watch:** The sole duty of fire watch personnel shall be to watch for the occurrence of fire during and after hot work operations. Individuals designated to fire watch duty shall have fire extinguishing equipment readily available and shall be trained in the use of such

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equipment. Personnel assigned to fire watch shall be responsible for extinguishing spot fires and communicating an alarm. Hot work conducted in areas with vertical and horizontal fire exposures that cannot be observed by a single individual shall have additional personnel assigned to fire watches to ensure that all exposed areas are monitored.

3. Post-Work Inspection: A fire watch shall be maintained in the area of hot work a minimum of 2 hours after the conclusion of the work to look out for leftover sparks, slag or smoldering combustibles.

H. FIRE EXTINGUISHER REQUIREMENTS:

1. Buildings:
 - a. Furnish a minimum of 1 extinguisher for each 1,500 square feet of area or major thereof.
 - b. Travel distance from any Work station to the nearest extinguisher shall not exceed 75 feet.
2. Vehicles and Equipment: Provide one extinguisher on each vehicle or piece of equipment.
3. Welding Operations: Provide one extinguisher within 10 feet of all welding operation.

3.7 MAINTENANCE OF TEMPORARY FACILITIES

- A. TEMPORARY STRUCTURES: Maintain temporary offices, storage facilities, fences, barricades, and other structures in a neat, orderly appearance for the duration of the Work.
- B. TEMPORARY UTILITIES AND SERVICES: Maintain all temporary piping, wiring, outlets, connections, and panel boards, fuel storage facilities according to local, NFPA, and OSHA rules, requirements, or regulations.

C. CLEANING

1. Keep project neat, orderly, and in safe condition at all times. Haul off debris to legal dump or landfill as required.
2. Wet down dry materials and rubbish to prevent blowing dust.
3. Keep volatile wastes in covered containers.
4. Utilized excavated material as soon as possible.
5. Do not dispose of volatile wastes or oils in storm or sanitary drains, or bodies of water.
6. Do not allow waste materials to be washed into storm drains, streams, or bodies of water.

D. CONSTRUCTION DEBRIS AND WASTE MATERIALS:

1. To the greatest extent feasible and to achieve LEED points, sort construction waste and debris for recycling. Minimize waste requiring disposal in landfills. Examples of waste and debris which may be recyclable include but are not necessarily limited to:
 - a. Paper and corrugated cardboard packaging materials
 - b. Lumber and wood products
 - c. Certain types of glass
 - d. Aluminum, copper, steel, and other metals
 - e. Concrete waste, including truck washout residue
 - f. Asphaltic felts, shingles, and paving materials
2. Deliver or arrange for pick-up and delivery on a regular basis of recyclable materials to

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recycling centers.

3. Refer to Section 017419 for additional site waste management program requirements.

E. TRASH COLLECTION FACILITIES:

1. Provide covered bulk waste containers (“dumpsters”), supplemented by steel barrels or non-combustible containers, for the collection and disposal of all trash, rubbish, and construction debris, including cans, bottles, and wrappers brought onto the site by workmen. Empty or haul away rubbish and waste containers on a regular basis, so as not to allow accumulation of rubbish or trash the site.
2. Dispose of rubbish and waste materials at a certified landfill or waste disposal site. Comply with NFPA 241 for removal of combustible waste materials and debris.
3. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by proper containment. Obtain and pay for all necessary permits for disposal of hazardous wastes. Retain original copies of hazardous wastes disposal manifests and give them to BAHA after each disposal.
4. Refer to Section 017419 for additional trash collection and site waste management program requirements
5. If dispute arises among Contractor, any separate contractor, and/or any tenants occupying the Site, as to the responsibility under their separate contract for maintaining the premises and surrounding area free from waste materials, rubbish, excess materials and equipment, BAHA may, after 24-hour written notice, clean up and allocate the cost among those responsible as it determines just.

F. REMOVAL OF TEMPORARY FACILITIES

1. Remove temporary facilities and structures from the site as soon as practical or when no longer required by BAHA.
2. Restore areas occupied by temporary facilities to like-new condition, or to match surrounding areas.

3.8. SECURITY

- A. SECURITY: The Contractor shall be responsible at all times for the security of the Site and the protection of the Work, stored materials and equipment until final inspection and acceptance of the work unless otherwise specifically agreed to by BAHA. Damaged, lost or stolen materials and equipment shall be replaced by the Contractor with new specified materials and equipment, including re-installation where applicable, at no additional cost to BAHA.
- B. SECURITY PATROLS: Provide security and facilities to protect the Work area from unauthorized entry, vandalism, or theft. Employ the services of a licensed security firm to patrol the site during non-working hours if deemed necessary by the Contractor.
- C. The provision of Site Security shall be considered incidental work.

3.9 OWNER PRE-ACCEPTANCE OCCUPANCY:

- A. If BAHA requires partial occupancy prior to completion, the prorated cost for use of utilities shall be mutually agreed prior to BAHA taking occupancy.
- B. Service, repair or rehabilitate permanent equipment and facilities used for Contractor’s

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temporary Work immediately prior to full occupancy, use, or acceptance of the Work or a portion therefore by BAHA.

END OF SECTION

SECTION 015250 – SITE LOGISTICS

PART 1 - GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** This Section establishes the requirements for the Contractor’s Site Logistics Plan that identifies how construction activities and phasing will address the constraints identified in the Contract Documents and ensure safe access for building tenants and Project staff.
- B. **RELATED REQUIREMENTS:**
 - 1. Section 011100 “Summary of Work”
 - 2. Section 013200 “Work Schedule”
 - 3. Section 015000 “Temporary Facilities and Controls”
 - 4. Section 017419 “Site Waste Management Plan”
- C. **RELATED DOCUMENTS:**
 - 1. Document 007000 “General Conditions of the Contract for Construction”

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

4.1 PLAN REQUIREMENTS

- A. The Contractor shall prepare and submit a Site Logistics Plan for BAHA acceptance no later than thirty (30) days after NTP.
- B. The Site Logistics Plan must meet the requirements of the Contract Documents and comply with San Francisco Fire Code and other code requirements and laws.
- C. The Plan shall include:
 - 1. Emergency contact information for the Contractor’s Key Personnel and the Contractor staff designated to be responsible for ensuring compliance with the Plan.
 - 2. Procedures for:
 - a. Reporting emergencies to the fire department
 - b. Emergency notification & evacuation of the construction site.
 - c. Hot Work operations
 - d. Management of hazardous materials
 - e. Debris removed, See Section 017419 “Site Waste Management Plan”
 - f. Maintenance of emergency access routes
 - 3. Revised floor plans identifying the course-of-construction locations of:
 - a. Exists
 - b. Stairs (temporary and permanent)
 - c. Portable fire extinguishers

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4. Site Use Study for all Phases of Project identifying:
 - a. Designated exterior assembly areas for each evacuation route(s)
 - b. Fire apparatus access routes within the construction site
 - c. Location of construction fences, encroachments to adjacent streets, site access, on-site and adjacent fire hydrants.
 - d. Site offices for Contractor, Subcontractors, and BAHA
 - e. Material storage units/trailers
 - f. Laydown/fabrication areas
 - g. Crane locations and swings
 - h. Construction parking
 - i. Phased construction areas
 - j. Temporary facilities
5. Strategy for accommodating any early tenants with early move-in dates.
6. Strategy for accommodating BAHA's existing tenant, Tenant, currently occupying 33,000 square feet on the upper floor of 390 Main and eight parking spaces. Maintain continuous secure operations for this tenant through the duration of the Project.

D. IMPLEMENTATION

1. Contractor shall be responsible for implementation of the requirements and provisions of the approved Site Logistics Plan.
2. Contractor shall be responsible for communicating the requirements and provisions of the approved Site Logistics Plan to all Subcontractors and other personnel working at the site.
3. Contractor shall enforce parking limitations.

END OF SECTION

SECTION 015713 - TEMPORARY EROSION AND SEDIMENTATION CONTROL

PART 1 – GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** Furnish, install, maintain, and remove temporary erosion and sedimentation controls as shown on the drawings or specified herein, or as required by applicable local, State and Federal ordinances, rules and regulations in order to complete the work.
- B. **RELATED SECTIONS:**
 - 1. Section 013300 Submittal Procedures
 - 2. Section 018113 “Sustainable Design Requirements” for additional LEED requirements
 - 3. Applicable provisions of the Technical Specifications in Division 31, Earthwork.
- C. **RELATED DOCUMENTS:**
 - 1. Applicable local, State, and federal ordinances, rules and regulations concerning sedimentation control and storm water run-off. Comply with 2012 EPA Construction General Permit if found to be more stringent than local code.
 - 2. Construction Drawings, other provisions of the Contract Agreement, and applicable Sections of Division 1 apply to this Section. Information concerning temporary erosion and sedimentation controls may be found on the civil drawings. Where civil drawings depict erosion and sedimentation controls, such controls shall be considered the minimum acceptable, compliance with additional controls required by authorities having jurisdiction.

1.2. SUBMITTALS

- A. **PRODUCT DATA:** Submit manufacturer’s published descriptive literature and complete specifications for manufactured products specified herein.
- B. **CONTROL PLAN**
 - 1. Erosion and Sedimentation Control Plan (ESCP): Prepare within thirty (30) days of Notice of Award, and revise not less than sixty (60) days before start of each new rainy season for review and approval by BAHA and other authorities having jurisdiction. Correct plan based on review comments.
 - 2. Submit written description and site drawings showing proposed erosion and sediment controls. Describe the sequences and methods of installing these controls. Show final and intermediate grading plans and storm water storage capacity. Indicate controls which shall ensure that storm water drainage from areas to stripped or modified passes through a filter system before being discharged. Also show measures to be used to control wind erosion.
 - 3. Proposed controls must be acceptable to BAHA, A/E, and authorities having jurisdiction before earthwork operations are started.
 - 4. Submit revisions to the Control Plan as conditions change during the course of the work.

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C. LEED SUBMITTALS:

1. "As-Built" Erosion and Sedimentation Control Plan conforming with the requirements of this section and Section 018113 "Sustainable Design Requirements" including Best Management Practices (BMPs) noted for measures used.

1.3 QUALITY ASSURANCE.

- A. ESCP Preparation Qualifications: The ESCP shall be prepared by a California Department of Water Quality Construction General Permit Qualified SWPPP Developer (QSD).

PART 2 - PRODUCTS

2.1. MATERIALS

- A. EROSION AND SEDIMENTATION CONTROL MATERIALS: Provide one or more of the following materials as applicable for site conditions.
 1. Sand bags
 2. Clean, seed-free, cereal hay or grain straw bales.
 3. Crushed stone and rock rip-rap.
 4. Temporary seeding
 5. Biodegradable wood excelsior, straw or coconut-fiber mat enclosed in a photodegradable plastic mesh
 6. Silt fences
 7. Biodegradable twisted jute or spun-coir mesh, 0.92 lb/sy minimum, with 50 to 65 percent open area

PART 3 - EXECUTION

3.1. PROJECT/SITE CONDITIONS

- A. PRE-EXISTING CONDITIONS: Verify all existing conditions affecting the work of this Section prior to submitting bids or proposals. Additional compensation shall not be allowed for revisions or modifications or work resulting from failure to verify existing conditions.

3.2. PREPARATION

- A. EXAMINATION: Examine areas and conditions under which the work of this Section shall be performed. Do not proceed with the work until unsatisfactory conditions have been corrected. Commencement of work implies acceptance of all areas and conditions.
 1. Determine the existing ground elevations, drainage patterns, and changes to such patterns during excavation in order to satisfactorily plan and provide materials for adequate drainage facilities.
 2. Remove silt from areas to be occupied by permanent work prior to work being placed in the area.
 3. Secure grading permit prior to grading.

3.3. INSTALLATION

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A. EROSION AND SEDIMENTATION CONTROLS: Erosion and sediment control measures to be taken during construction include, but are not necessarily limited to the following:

1. Apply soil stabilization within 14 days to all disturbed areas that are to be dormant for a period longer than 30 calendar days after reaching grade. Stabilize soil with mulch anchored per Caltrans criteria. Re-vegetate areas that shall remain in an interim condition for more than 3 months.
2. Parking areas indicated to be paved may be covered with an appropriate aggregate base course in lieu of mulch. Temporary mulching or aggregate base course is not required if final pavement construction shall take place within 14 days after grading to final contours.
3. Soils that shall be stockpiled for more than 30 days must be mulched and seeded within 14 days after stockpile construction.
4. Protect existing storm inlets adjacent to the site by an approved gravel filter.
5. Hay bales may be used at specific locations to provide temporary filtration of sediment from runoff.
6. Provide appropriate manpower for ensuring clean wheels of vehicles prior to their entry on to public roadways.
7. Provide temporary erosion controls consisting of berms at the top of slopes and interceptor ditches at ends of berms and at those locations which shall eliminate or minimize erosion during construction, along with temporary seeding, temporary diversion, chutes, and down pipes and lining of water courses.
8. Temporary sedimentation controls shall consist of silt dams, traps, silt fence, barriers, and appurtenances at the top of spoil and borrow area slopes and where runoff water exits the site.
9. Maintain the available silt-holding capacity of silt dams, fence traps and barriers until no longer needed. The sedimentation capacity of sediment retainage areas shall be sufficient to contain a 25-year storm's silt. Prior to removal, obtain concurrence of authorities having jurisdiction.
10. Remove accumulated sediment and debris from sediment control structure when the sediment level reaches one-half the height of the structure or at any time the sediment or debris adversely impacts the functioning of the structure.
11. Remove hay bales which have deteriorated and filter stone or cloth which has become dislodged. Place new hay bales and new filter and fence as needed.
12. Maintain retention ponds in a condition which shall retain unfiltered water.

B. CHEMICALS AND POLLUTANTS

1. Store construction materials and chemicals that could contribute pollutants to the runoff within an enclosure, container, or dike located around the perimeter of the storage area, to prevent discharge of these materials into runoff from the construction site.
2. Locate area used for collection and temporary storage of solid and liquid waste away from the storm drainage system. Provide covering or fencing as required to prevent windblown material from migrating; construct perimeter dike to contain liquid runoff. These measures may not be necessary if materials are immediately placed in covered waste containers.
3. Perform equipment maintenance in designated areas using measures such as drip pans to control petroleum products.
4. Immediately clean up and properly dispose of spills of construction-related materials such as paints, solvents, or other chemicals.

C. FINAL STABILIZATION AND LONG-TERM MANAGEMENT

1. Final stabilization shall be achieved through permanent vegetation and landscaping after construction of all buildings and paved surfaces.
2. With approval of authorities having jurisdiction, temporary erosion and sediment control measures may be removed within 30 days after final site stabilization is achieved or after temporary measures are no longer needed.

D. INSPECTION AND MAINTENANCE

1. Inspect erosion and sediment control measures weekly during construction.
2. Inspect all facilities immediately after any significant runoff. Repair or otherwise mitigate any damage to the erosion and sediment control facilities at no additional cost to BAHA.
3. Modify protection measures to reflect jobsite changes.

3.4. CLEANING

- A. REMOVAL OF CONTROLS: Monitor permanent installations intended to contain site erosion and sedimentation and assess readiness to perform that role. When appropriate, remove Contractor-provided controls and protection measures upon completion of that portion of the work for which controls were furnished; leave the site and work area in a clean condition.

END OF SECTION

SECTION 016500 – MATERIAL AND EQUIPMENT HANDLING, STORAGE, AND INSTALLATION

PART 1 - GENERAL

1.1 SUMMARY

A. WORK INCLUDED

1. The work in this Section consists of the general procedures for handling, storing, installing, and protecting material and equipment.
2. Requirements for material and equipment incorporated in the Work:
 - a. Shall conform to applicable specifications and standards.
 - b. Shall comply with size, make, type, and quality specified or as accepted by BAHA.

B. RELATED SECTIONS:

1. Section 012500 Product Substitution Procedure
2. Section 013300 Submittal Procedures
3. Section 013543 Environmental Requirements
4. Section 014500 Quality Control
5. Section 015000 Temporary Facilities and Controls

C. RELATED DOCUMENTS

1. Construction Drawings, provisions of the Contract and applicable provisions of the project environmental requirements.

PART 2 - PRODUCTS

2.1. MANUFACTURED PRODUCTS:

- A. The Contractor shall insure that manufactured and fabricated products meet specified Contract requirements. Unless otherwise specified, manufactured and fabricated products shall meet the following general requirements to facilitate handling, storage, and installation.
 1. Design, fabricate, and assemble in accordance with best engineering and shop practices.
 2. Manufacture like parts of duplicate units to standard sizes and gauges so as to be interchangeable.
 3. Two or more items of the same kind shall be identical and by the same manufacturer.
 4. Products shall be suitable for service conditions.
 5. Equipment capacities, sizes, and dimensions shown or specified shall be adhered to, unless variations are specifically accepted by BAHA in writing.
- B. Do not use material or equipment for any purpose other than that for which it is designed and specified.
- C. Contractor shall be responsible for its own materials and equipment.

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- D. Only new material and equipment shall be incorporated into the Work, except that manufactured materials made of recycled products as specified shall be accepted per the Contract documents.
- E. Materials shall be used prior to their expiration dates.
- F. Provide electrical products with Underwriters Laboratories label.

PART 3 - EXECUTION

3.1. TRANSPORTATION AND HANDLING

- A. Arrange deliveries of materials in accordance with construction schedules; coordinate to avoid conflict with work and adverse conditions at the site.
- B. Deliver materials normally packaged in the factory in the original unopened containers bearing manufacturer's name, registered brand and trademark, or other designation specified in the corresponding Specifications sections.
- C. Immediately upon delivery, inspect shipments to assure compliance with requirements of Contract Documents and accepted submittals and assure that products are properly protected, including level or true placement on the ground.
- D. The Contractor shall promptly return defective materials without waiting for rejection by BAHA.
- E. Provide equipment and personnel to handle products by methods so as to prevent soiling, marring, or other damage to products and packaging.
- F. Refer to Section 013543 for environmental requirements concerning packaging materials. Contractor is encouraged to obtain materials in biodegradable or recyclable/reusable packaging using the minimum amount of packaging possible.

3.2. STORAGE AND PROTECTION

- A. Store materials in accordance with manufacturer's instructions, with seals and labels accessible for inspection.
- B. Protect equipment, especially shafts and bearing housings, from corrosion and rust.
- C. Interior storage:
 - 1. Store products subject to damage by the elements in weather-tight enclosures.
 - 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
 - 3. Materials and equipment located off-site for which payment is being requested shall be stored in a bonded warehouse with proper documentation provided for BAHA approval.

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D. Exterior storage:

1. Store fabricated products above the ground, on blocking or skids; prevent soiling, staining, or corrosion (rusting). Cover products subject to damage or deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.
2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter. Granular material shall be kept covered with secured tarps at all times. Prevent migration of materials by wind or water at all times.
3. Contractor shall periodically inspect stored equipment and materials to assure that products are maintained under specified conditions, free from damage or deterioration, and confined to storage piles and stacks.

E. Protection after installation: Provide adequate coverings as necessary to protect installed materials from damage resulting from natural elements, traffic and subsequent construction. Remove when no longer needed.

F. Repair and replacement of damaged work:

1. Replace, at no additional cost to BAHA all materials, products, or equipment which are damaged or contaminated during shipment, storage, handling, and installation, or after installation until accepted by BAHA. Progress payments made for materials or work installed do not constitute acceptance of any materials or work for purposes of this clause.
2. Repair, restore to original or like-new condition, or replace any existing or previously completed material, products, equipment, or surfaces damaged during the installation of new work, at no additional cost to BAHA.
3. Replacement of materials, products, or equipment prior to Final Completion of Work or acceptance by BAHA is not considered warranty replacement, and is the sole responsibility of the Contractor.

3.3. MANUFACTURER'S INSTALLATION INSTRUCTIONS

- A. When Contract documents require that installation of work shall comply with manufacturer's printed instructions, Contractor shall obtain and distribute copies of such instructions to parties involved in the installation. Maintain one (1) set of complete instructions at the jobsite during installation and until completion.
- B. Handle, install, connect, clean, condition, and adjust products in strict accordance with manufacturer's installation instructions and in conformance with specified requirements.
 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with BAHA for further instructions.
 2. Do not proceed with work without clear instructions.
- C. Perform work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure, unless specifically modified or exempted by the Contract documents.
- D. Contractor shall retain a clean copy of manufacturer's installation Instructions for Project Records.

3.4. INSTALLATION

- A. Installer of each major unit of work shall inspect the substrate to receive work and conditions under which the work is to be performed. The installer shall report all unsatisfactory conditions in writing to the contractor. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
- B. Use appropriate cranes, forklifts, handling devices or equipment to safely move and set materials and equipment to avoid injury to personnel or damage to equipment and materials. Ensure rigging used is appropriate for the application.
- C. Compatibility of materials is the responsibility of the Contractor. Contractor shall provide materials and products that are compatible with other new materials and products and with the existing conditions. Where necessary, provide for separation of non-compatible materials and products and notify BAHA in writing of any conditions where non-compatible materials and products exist before beginning work in that area.
- D. Provide attachment and connection devices and methods for securing work. Secure work true to line and level, and within recognized industry tolerances. Allow for expansion and building movement. Provide uniform width in exposed work. Refer questionable visual effect choices to BAHA for final decision.
- E. Recheck measurements and dimensions of the work, as integral step of starting each installation.
- F. Install each unit of work during weather conditions and project status that shall ensure the best possible results in coordination with the entire Work. Isolate each unit of work from incompatible work as necessary to prevent deterioration.
- G. Coordinate enclosure of the work with required inspections and tests, so as to minimize the necessity of uncovering work for that purpose.

END OF SECTION

SECTION 017323 – FIELD ENGINEERING

PART 1 - GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** This Section includes administrative and procedural requirements for field engineering services including, but not limited to the following:
 - 1. Land survey work for site layout of all new construction and temporary access road
 - 2. Civil engineering services for certification for survey information
 - 3. Final Property Survey and records of survey data for project closeout

- B. **RELATED SECTIONS:**
 - 1. Section 011100 Summary of Work
 - 2. Section 013300 Submittal Procedures
 - 3. Section 015000 Temporary Facilities and Controls
 - 4. Section 017700 Closeout Procedures
 - 5. Additional requirements specified in the various Sections of Divisions 02 through 33 of these Specifications.

- C. **RELATED DOCUMENTS:**
 - 1. Document 007000 General Conditions of the Contract for Construction

1.2. SUBMITTALS

- A. **Certificates:** Submit a certificate signed by the land surveyor or professional engineer certifying the location and elevation of improvements for BAHA's approval.

- B. Final Property Survey shall be submitted on two (2) full size drawings of the final property survey and electronic drawing file in the latest version of AutoCad for BAHA's approval in accordance with Section 013300, Submittal Procedures, and Section 017700, Closeout Procedures.

- C. **Project Record Documents:** a record of work performed and a record of survey data as required under provisions and in accordance with Section 013300, Submittal Procedures, and Section 017700, Closeout Procedures, shall be submitted for BAHA's approval.

1.3. QUALITY ASSURANCE

- A. **Surveyor Qualifications:** Engage a land surveyor registered in the State of California to perform required land surveying services.

- B. **Engineer Qualifications:** Engage an engineer of the discipline required, licensed in the State of California to perform required engineering services.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

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3.1. EXAMINATION

- A. Existing utilities and equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning any site excavation work, the existence and location of all underground utilities and other concealed construction below grade shall be investigated and verified. Coordinate this work with Section 011100, Summary of Work for requirements related to underground utility locations.

3.2. LAYOUT OF WORK

- A. BAHA will provide a datum elevation and alignment grid for the Work. The Contractor shall lay out the work accurately measuring from these controls. Work improperly located due to Contractor's errors or omissions shall be corrected by the Contractor at no additional expense to BAHA.
- B. The Contractor shall preserve controls thus established. Controls and/or monuments originally set by BAHA that are destroyed by the Contractor will be replaced by BAHA, with the cost of replacement deducted from the Contractor's final payment.
- C. The Contractor shall immediately notify BAHA's designee of apparent errors discovered on the drawings or in the initial stakeout. If changes in stakeout are required, the Contractor shall cooperate with BAHA and promptly establish field control for altered or adjusted work.
- D. Existing monuments: All benchmarks, land corners, and triangulation points established by other surveys, existing within the construction area, shall be preserved. If existing monuments interfere with the work, Contractor shall obtain written permission from BAHA before moving them.
- E. The Contractor is responsible for locating and layout of secondary points. BAHA will only provide the Contractor with primary points for reference.

3.3. PERFORMANCE

- A. Surveyor's Log: A surveyor's log of survey shall be maintained and made available for reference.
 - 1. Record deviations from required lines and levels and advise BAHA when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.
 - 2. On completion of major site improvements and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles and elevations of site work.
- B. Site improvements: Locate and lay out site improvements including building, parking lot, and walkways. Provide elevations for interior, building parapets, finish floor, and finish grades for parking lot and sidewalks.
- C. Existing utilities: Furnish information necessary to adjust, move, or relocate existing utility poles, lines, services, or other appurtenances located in or affected by construction. Coordinate with BAHA and any local authorities having jurisdiction.
- D. Final property survey: A final property survey shall be prepared showing significant features for the Project, including a certification, signed by the surveyor, that principal metes, bounds, lines, and levels of the Project are accurately positioned as shown on the survey.
- E. Recording: At Substantial Completion, Contractor shall have the final property survey reviewed and approved by BAHA.

END OF SECTION

SECTION 017329 – CUTTING AND PATCHING

PART 1 – GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** Provide all necessary cutting and patching of the work as required to make materials and components fit together properly; or to uncover work in preparation for the installation of new work or inspection of previously installed work; or to remove and replace defective or non-conforming work.
- B. **RELATED SECTIONS**
 - 1. Section 013300 Submittal Procedures
 - 2. Section 015000 Temporary Facilities and Controls
 - 3. Section 016500 Material and Equipment Handling, Storage, and Installation
- C. **RELATED DOCUMENTS**
 - 1. Construction Drawings and other applicable provisions of Division 0 and 1 Sections which apply to this Section.
- D. **DEFINITIONS:** Definitions in this Section do not change or modify the meaning of other terms used in the Contract documents.

Cutting and Patching - As used herein, the term is defined to include, but is not necessarily limited to, demolition and repair of nominally completed and previously existing work in order to accommodate the coordination, installation, and uncovering of work for access or inspection and to obtain samples for testing or similar purposes. It is further defined to include integral cutting and patching during manufacturing, fabricating, erecting, and installing processes for individual units of work. Drilling to install fasteners and similar operations is not considered cutting and patching.

1.2. SUBMITTALS:

- A. **PROPOSALS:** Submit the following in accordance with Section 013300.
 - 1. Where prior review of cutting and patching is required, submit proposal well in advance of time work will be performed for BAHA's review and confirmation.
 - 2. Include description of why cutting and patching cannot reasonably be avoided; how it will be performed; how structural elements, if any, will be affected and reinforced; products to be used; firms and tradespersons to perform work; approximate dates of work; and anticipated results in terms of variations from work as originally completed (structural, operational, visual and other qualities of significances).
 - 3. Where applicable, include cost proposal, suggested alternatives to cutting and patching procedures proposed, and description of circumstances which led to the need for cutting and patching.
 - 4. Review by BAHA prior to proceeding with proposed cutting and patching does not waive right to later require complete removal and replacement of work found to be cut and patched in an unsatisfactory manner.

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5. Should conditions of work or schedule indicate a change of products from original installation, submit request for substitution as specified in Section 012500, Product Substitution and Variation Procedure.
6. Submit written notice to BAHA advising of the date and time work will be uncovered.

1.3. QUALITY ASSURANCE

A. EXISTING WARRANTIES

1. Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

B. REQUIREMENTS FOR STRUCTURAL WORK

1. Do not cut and patch operational elements or safety-related components in manner resulting in reduction of load-carrying capacity or load/deflection ratio.
2. Prior to cutting and patching structural steel, structural concrete, foundation construction, basement or retaining walls, curtain walls, pressurized piping, vessels, and equipment, submit proposed procedures for BAHA's review.

C. OPERATIONAL AND SAFETY LIMITATIONS

1. Do not cut and patch operational elements or safety-related components in manner resulting in reduction of capacities to perform as intended or resulting in decreased operational life, increased maintenance or decreased safety.
2. Prior to cutting and patching primary operational systems and equipment, submit proposed procedures and materials for BAHA's review for the treatment of water, moisture, vapor, air, or smoke barriers; membranes and flashings; noise and vibration control elements and systems; control, communication, conveying, and electrical wiring systems; and similar categories.

D. VISUAL REQUIREMENTS

1. Do not cut and patch work which is exposed on the exterior or in occupied spaces of the building in a manner resulting in reduction of visual qualities or substantial evidence of the cut and patch work, both as judged by BAHA.
2. Remove and replace work judged by BAHA to be cut and patched in a visually unsatisfactory manner.

- E. INSTALLER/FABRICATOR: Engage original installer or fabricator to perform cutting and patching of trees, shrubs, masonry, roofing, curtain wall or storefront systems, exterior insulation and finish systems, acoustical ceilings, carpeting, wall covering, etc. Where original installer or fabricator is not available, engage recognized expert entities to perform cut-and-patch work.

PART 2 - PRODUCTS

- 2.1. PATCHING MATERIAL: Except as otherwise indicated, provide materials for cutting and patching which will result in equal or better work than the work being cut and patched in terms of performance characteristics and including visual effect where applicable. Comply with requirements and use materials identical with original materials where feasible and where recognized that satisfactory results can be produced.

PART 3 – EXECUTION

3.1. EXAMINATION

- A. Inspect existing conditions of area of work to be performed under this Section including elements subject to damage or to movement during cutting and patching.
- B. After uncovering work, inspect conditions affecting installation of products, or performance of work.
- C. Report unsatisfactory or questionable conditions to BAHA in writing; do not proceed with work until BAHA has provided further instructions.

3.2. PREPARATION

- A. TEMPORARY SUPPORT: Provide adequate temporary shoring, bracing, or other means of support for work to be cut to prevent failure. Do not endanger other work.
- B. PROTECTION: Provide adequate protection of other work during cutting and patching to prevent damage and provide protection of work from adverse weather exposure. Provide fire suppression equipment as applicable.

3.3 CUTTING AND PATCHING:

- A. GENERAL: Employ skilled tradesmen to perform cutting and patching. Except as otherwise indicated, proceed with cutting and patching at earliest feasible time in each instance, and perform work promptly.
- B. CUTTING
 - 1. Cut work by methods least likely to damage work to be retained and adjoining work.
 - 2. Review proposed procedure with original installer where possible, and comply with his recommendations.
 - 3. In general, where physical cutting action is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Openings through concrete shall be core drilled.
 - 4. Comply with the requirements of applicable Sections of Division 02 through 33 where cutting and patching requires excavating and backfilling.
- C. PATCHING: Patch with seams which are durable and as invisible as possible. Comply with specified tolerance for the work. Where feasible, inspect and test patched areas to demonstrate integrity of work.

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D. RESTORING:

1. Restore exposed finishes of patched areas. Where necessary, extend finish restoration onto retained adjoining work in a manner which will eliminate evidence of patching.
2. Where patch occurs in painted surfaces, extend final paint cover over entire unbroken surface containing patch after the patched area has received prime and base coats.

END OF SECTION

SECTION 017419 - SITE WASTE MANAGEMENT PROGRAM

PART 1 - GENERAL

1.1. SUMMARY

A. WORK INCLUDED: Special project site waste management program, including the following:

1. Waste Management Goals: BAHA has established that 75% of total Project waste, including the building and site demolition, by weight or volume, shall be diverted from landfill.
 - a. Soil and other land clearing debris does not count towards the 75% goal.
2. Contract Documents have been prepared to maximize waste management, recycling, and reuse of recyclable and reusable materials.
3. Inform BAHA and A/E where Site Waste Management Program requirements could detrimentally impact construction schedule.
4. Provide separate itemization of costs related to Site Waste Management Program.
5. Effect optimum control of solid wastes.
6. Prevent environmental pollution and damage.

B. RELATED SECTIONS:

1. Section 013543 Environmental Requirements
2. Section 015000 Temporary Facilities and Controls
3. Section 018113 Sustainable Design Requirements

C. RELATED DOCUMENTS (NOT USED)

D. DEFINITIONS: Definitions in this Section do not change or modify the meaning of other terms used in the Contract documents.

1. "Inert Fill" - A permitted facility that accepts inert waste such as asphalt and concrete exclusively.
2. "Class III Landfill" - A landfill that accepts non-hazardous waste such as household, commercial, and industrial waste, including construction, remodeling, repair, and demolition waste.
3. "Construction and Demolition Waste" - Includes solid wastes, such as building materials, packaging rubbish, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
 - a. "Rubbish" - Includes both combustible and noncombustible wastes, such as paper boxes, glass, crockery, metal, and lumber scrap.
 - b. "Debris" - Includes both combustible and noncombustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work.
 - c. "Recyclable Waste" - Rubbish generated during the construction process that can be recycled/ remanufactured into another material.
 - d. "Salvage Materials" - Rubbish or other materials existing onsite which can be reused either onsite or by another entity.

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4. "Chemical Waste" - Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals, and inorganic wastes.
5. "Sanitary Wastes":
 - a. "Garbage" - Refuse and scraps resulting from preparation, cooking, distribution, or consumption of food.
 - b. "Sewage" - Domestic sanitary sewage.

E. SUBMITTALS

1. Site Waste Management Plan
2. Solid Waste Summary Reports
3. Rebate Information and Documentation

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1. PROGRAMS AND REPORTS

- A. SITE WASTE MANAGEMENT PROGRAM: Prior to commencement of work, schedule and conduct meeting with BAHA and A/E to discuss proposed Site Waste Management Program.
 1. Develop mutual understanding relative to details of recycling and rebates.
 2. Prepare and submit a written and graphic Site Waste Management Program including, but not limited to the following:
 - a. Indicate procedures to be implemented.
 - b. Estimate total Project waste to be generated and estimate cost of disposing of Project waste in landfills.
 - c. Estimate total cubic yards of following waste categories to be diverted from landfill:
 - 1) Clean dimensional wood, palette wood
 - 2) Plywood, oriented strand board, and medium density fiberboard
 - 3) Cardboard, paper, packaging
 - 4) Concrete and asphalt
 - 5) Metals
 - 6) Other items as directed by BAHA or A/E
 - d. Estimate amounts of following waste categories in appropriate units (weight, feet, square yards, gallons)
 - 1) Metals
 - 2) Gypsum
 - 3) Carpet
 - 4) Paint
 - 5) Other items as directed by BAHA or A/E
 - e. Submit permit or license and location of waste disposal areas.
 - f. Submit procedures for recycling/re-use program.
 - g. Submit procedures for rebate programs.
 - h. Revise and resubmit Site Waste Management Program as required by BAHA or A/E.
 - i. Review of Contractor's Site Waste Management Program as required by BAHA and A/E responsibility for control of pollutants and other environmental protection measures.

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- B. **SOLID WASTE SUMMARY REPORTS:** Submit summary report of solid waste generated by Project with each application for progress payment, on form acceptable to BAHA; include manifests, weight tickets, receipts, and invoices identifying Project, date and waste delivered to following locations.
 - 1. Recycling centers
 - 2. Class III landfills
 - 3. Inert fills
 - 4. Any other facility accepting waste from site.
- C. **REBATE INFORMATION AND DOCUMENTATION:** Prepare 3-ring binder with rebate information and product documentation as required for BAHA to assist Contractor if necessary to qualify for rebate programs. Submit binder with final data on program with final closeout submittals.

3.2. COLLECTION AND HANDLING

- A. **GENERAL:** Implement waste management procedures in accordance with approved construction waste management plan. Maintain procedure throughout the life of the Contract.
- B. **SOURCE SEPARATION:** Separate, store, protect, and handle at the Project site all identified recyclable and salvageable waste products to prevent contamination of materials and maximize recyclables and salvageable materials.
- C. **COLLECTION:** Arrange for timely pickups from the site or deliveries to approved recycling facilities of designated waste materials to keep construction site clear and prevent contamination of recyclable materials. Maintain records accessible to BAHA for verification of construction materials and waste materials recycling.
- D. **DELIVERY RECEIPTS:** Keep and maintain records of all deliveries to recycling facilities and all pickups of waste materials at the site by others as specified above.
- E. **SALVAGE AND REUSE:** Identify salvage and reuse options for all materials that are deemed to be reusable, but shall not be reused on this Project.
- F. **NON-RECYCLABLE WASTE:** Collect and segregate non-recyclable waste for delivery to a permitted landfill site.
- G. **HAZARDOUS WASTE:** Control and dispose of hazardous waste in accordance with local, state, and federal regulations.

3.3. RECYCLING PROGRAM

- A. **RECYCLING:** Implement recycling program that includes separate collection of waste materials of following types as applicable to Project recycling program to be applied by Contractors and subcontractors:
 - 1. Land clearing debris
 - 2. Asphaltic concrete
 - 3. Concrete
 - 4. Masonry materials
 - 5. Ferrous metal

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6. Non-ferrous metal
 7. Clean dimensional wood and palette wood.
 8. Plywood, oriented strand board, and medium density fiberboard
 9. Paper-bond
 10. Cardboard and paper packaging materials
 11. Glass
 12. Plastics
 13. Gypsum board (unpainted)
 14. Paint
 15. Rigid foam
 16. Carpet and pad
 17. Beverage containers
 18. Porcelain plumbing fixtures
 19. Insulation
 20. Others as appropriate
- B. HANDLING: Keep materials free of dirt, adhesive, solvents, petroleum, chemical, or sanitary waste contamination, and other substances deleterious to recycling processes.
1. Clean contaminated materials prior to placing in collection containers.
 2. Arrange for collection by or delivery to appropriate recycling center or transfer station that accepts construction and demolition waste for purpose of recycling.
- C. PARTICIPATION IN RE-USE PROGRAMS: Rebates, tax credits, and other savings obtained for recycled or reused materials shall accrue to Contractor.

END OF SECTION

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** This Section includes administrative procedures and closeout activities required at Final Completion of the Work.

- B. **RELATED SECTIONS:**
 - 1. Section 012600 Modification Procedures
 - 2. Section 012900 Payment Procedures
 - 3. Section 013300 Submittal Procedures
 - 4. Section 014500 Quality Control
 - 5. Section 017800 Closeout Submittals
 - 6. Additional requirements specified in the various Sections of Divisions 2 through 33 of these Specifications.

- C. **RELATED DOCUMENTS:**
 - 1. Document 007000 General Conditions of the Contract for Construction

- D. **DEFINITIONS:**
 - 1. **General:** Definitions in this Section do not change or modify the meaning of other terms used in the Contract documents.

Contract Closeout - Includes the general administrative requirements near the end of the Contract Time in preparation for Final Acceptance, Final Payment, normal completion of the Contract, occupancy by BAHA and similar actions evidencing completion of the work. Time of closeout is directly related to Final Completion and therefore may be either a single time period for the entire work or a series of time periods for individual parts of the work which have been certified as Substantially Complete at different dates. That time variation, if any, shall be applicable for other provisions of this Section.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1. PREREQUISITES TO CLOSEOUT

- A. **PRIOR TO A/E'S OBSERVATION:** Prior to requesting the A/E's observation for certification of Final Completion, for either the entire work or portions thereof, complete the following:

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1. In the Progress Payment Request, coincident with or first following date claimed for Final Completion, show either 100% completion of portions of work claimed as Substantially Complete or include list of known exceptions or incomplete items, value of exceptions or incomplete work, and reasons for being incomplete.
 2. Include supporting documentation for completion as indicated in the Contract Documents.
 3. Advise BAHA of pending insurance change-over requirements.
 4. Submit specific warranties, workmanship and maintenance bonds, maintenance agreements, final certifications, and similar submittal documents required under each Specification Section.
 5. Obtain and submit releases enabling BAHA full and unrestricted use of the work and access to service and utilities, including, where required, occupancy permits, operating certificates, and similar releases.
 6. Deliver tools, spare parts, extra stocks of materials, and similar physical items to BAHA.
 7. Make final change-over of locks, and deliver keys to BAHA. Advise BAHA personnel of change-over in security provisions.
 8. Complete start-up testing and balancing of systems, and instructions to BAHA's operations and maintenance personnel.
 9. Discontinue or change over temporary utilities and remove from the Project site all temporary facilities and services, along with construction tools and facilities, mock ups, and similar elements.
- B. PRIOR TO BAHA'S FINAL OBSERVATION: Prior to requesting BAHA's final observation for certification of Final Acceptance and Payment, as required by the Contract Agreement, complete the following:
1. Submit Final Payment Request with final releases and supporting documentation and previously submitted and accepted changes to Contract Documents. Include Certificates of Insurance for products and completed operations where required. List known exceptions to Final Completion of the Work, if any, in the request.
 2. Submit updated final statement, accounting for additional changes to Contract Sum.
 3. Submit certified copy of final punch list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance.
 4. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of Final Completion or when BAHA took possession of and responsibility for corresponding portions of the work.
 5. Submit written Consent of Surety.
 6. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.
- 3.2. CLOSEOUT PROCEDURES
- A. ENVIRONMENTAL ISSUES CERTIFICATIONS: Submit as required by Section 013543, Environmental Procedures.

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- B. REMOVAL OF TEMPORARY PROTECTION: Except as otherwise indicated or requested by BAHA, remove Temporary fencing, barricades, or other protection devices and facilities which were installed during the course of the work to protect persons, property, or previously complete work.
- C. SYSTEMS DEMONSTRATION: For systems and equipment requiring continuing maintenance, demonstration of system and equipment operation and seminars to provide training in the operation and maintenance of the work shall be provided.
1. Provide equipment and systems demonstration and instruction in accordance with the Contract Documents.
 2. Arrange for each installer of work requiring continuing maintenance and operation to meet with BAHA's personnel at the Project site to provide basic instructions needed for proper operation and maintenance of entire work. Include instructions by a representative of the manufacturer where installers are not expert in the required procedures.
 3. Videotape training seminars and submit two copies of videotapes in DVD format to BAHA. Label each DVD with Project name, topic, date of seminar, and name and address of presiding and presenting subcontractor or vendor.
 4. Provide copies of written materials, training manuals, CDs and other documentation used or resulting from training seminars.
 5. Comply with the requirements of Section 017800, Closeout Submittals, for submission of written documentation, CDs, and videotapes.
- D. TRAINING SEMINARS
1. Prepare a seminar agenda and outline in consultation and cooperation with BAHA. Include following:
 - a. Equipment and systems which shall be included in seminars.
 - b. Name of companies and representatives presenting at seminars.
 - c. Outline of each seminar's content.
 - d. Time and date allocated to each system and item of equipment.
 2. Submit a preliminary seminar agenda and outline for review and comment by BAHA.
 3. Revise and resubmit agenda and outline until all seminar requirements have been satisfied and seminar dates and presenters have been finalized.
 4. Submit a final seminar agenda and outline no later than eight (8) weeks before the date of Acceptance of Work.
- E. SEMINAR ORGANIZATION
1. Contractor's presentation leaders shall chair seminars.
 2. Coordinate qualification of training personnel, seminar contents, and presentations with BAHA.
 3. Coordinate individual presentations and ensure manufacturer's representatives scheduled to be at training seminars are present.

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4. Arrange for presentation leaders familiar with design, operation, maintenance, and troubleshooting of equipment and systems.
5. Where a single person is not familiar with all aspects of equipment or system, arrange for specialists.
6. Coordinate proposed seminar dates with BAHA and select mutually agreeable dates.
7. Videotaping: Arrange for videotaping of training seminars and system demonstrations, including seminar and demonstration questions and answers. Provide a copy of each Training Seminar on a Compact Disc or DVD, labeled with the system and Manufacturer.
8. Provide BAHA with a syllabus for each training session seven (7) days prior to the session date.

F. SEMINAR CONTENT

1. Use manufacturer's operation and maintenance data as the basis of instruction.
2. A/E's consultants shall explain design philosophy of primary systems,
3. Include following information in presentations dealing with specific systems:
 - a. An overview of how system is intended to operate.
 - b. Description of design parameters, constraints, and operational requirements.
 - c. Description of system operation strategies.
 - d. Information to help in identifying and troubleshooting problems.
4. Include the following information in presentations dealing with equipment.
 - a. Explanation of how equipment operates.
 - b. Recommended preventative routine maintenance.
 - c. Review of maintenance manuals, record documentation, tools spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures, and facilities.
5. Review maintenance and operations relating to applicable warranties, agreements to maintain, bonds, and similar continuing commitments.

G. ON-SITE DEMONSTRATIONS

1. Demonstrate operation of equipment and systems when specified in individual technical sections. Include the following in demonstrations:
 - a. Start-up and shut-down
 - b. Operation
 - c. Safety
 - d. Emergency operations
 - e. Noise and vibration adjustments
 - f. Economy/efficiency adjustments
 - g. Energy effectiveness
 - h. Scheduled and preventative maintenance

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i. Troubleshooting

2. Demonstration may be conducted at time of original start-up, with BAHA's prior approval.

H. SEMINAR AND DEMONSTRATION QUESTIONS:

1. Be prepared to answer questions raised by BAHA's personnel at demonstrations and seminars. Provide BAHA with a written list of questions and answers. Include this list in each Operation Manual. See Section 017823 Operation and Maintenance Data.
2. If unable to satisfactorily answer questions immediately, provide written response within three days.

3.4. OCCUPANCY PRIOR TO COMPLETION

- A. PARTIAL COMPLETION: In accordance with the provisions of the Contract Agreement, BAHA may find it necessary to occupy or use a portion or portions of the work for the purpose of storing and installing furnishings or other BAHA-furnished fixtures and equipment. Make every reasonable effort to coordinate with BAHA schedule. Areas to be occupied by BAHA shall be turned over in a neat, clean condition.

END OF SECTION

SECTION 017800 - CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.1. SUMMARY

- A. **WORK INCLUDED:** This Section includes closeout submittal requirements and procedures at Final Completion of the Work.
- B. **RELATED SECTIONS:**
 - 1. Section 012600 Modification Procedures
 - 2. Section 012900 Payment Procedures
 - 3. Section 013300 Submittal Procedures
 - 4. Section 013340 BIM Requirements
 - 5. Section 017823 Operations and Maintenance Data
 - 6. Section 017700 Closeout Procedures
 - 7. Section 017323 Field Engineering
 - 8. Additional requirements specified in the various Sections of Divisions 2 through 33 of these Specifications.
- C. **RELATED DOCUMENTS:**
 - 1. Document 007000 General Conditions of the Contract for Construction

1.2 SUBMITTALS

A. GENERAL SUBMITTAL REQUIREMENTS

- 1. Required closeout submittal, whether specified herein or in the individual Division 2 through 33 sections, must be delivered to BAHA prior to and as condition precedent to Final Completion and Acceptance of the Work.
- 2. Where the number of required submittals herein is not specified, submit not less than five (5) copies.

B RECORD DOCUMENTS – GENERAL

- 1. Additional or specific requirements for Record Documents are indicated in individual Sections of these Specifications.
- 2. Do not use Record Drawings for construction purposes; protect from deterioration and loss by maintaining them in a secure, fire resistive location.
- 3. Keep Record Documents current. Make Record Drawings available to BAHA for reference during normal business hours and for review at the time of monthly progress payment requests. If the review of Record Drawings shows a lack of progress and/or the drawings are not accurate or current, BAHA may retain an appropriate amount of the progress amount.
- 4. Upon completion of mark-up, submit Record Documents to BAHA for BAHA's records.

C. RECORD DRAWINGS (FIELD SET)

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1. Maintain at the Project site during the course of the work a white print set of Construction Drawings and shop drawings in clean, undamaged condition, with mark-ups of actual installations that vary substantially from the work as originally shown.
2. Mark whichever drawings are most capable of showing "field" conditions fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at corresponding locations on the Construction Drawings.
3. Clearly mark changes, deletions, and additions to show actual construction conditions. Show additions in red, deletions in green and special instructions in blue. Items required to be marked include but are not limited to:
 - a. Dimensional changes to the drawings
 - b. Revisions to details shown on the drawings
 - c. Depths of foundations below the first floor
 - d. Locations and depths of underground utilities
 - e. Revisions to electrical circuitry
 - f. Actual equipment locations
 - g. Duct size and routing
 - h. Locations of concealed internal utilities
 - i. Details not on original Contract Drawings
4. Record new information which is recognized to be of importance to BAHA but not shown on either the Construction Drawings or shop drawings. Give particular attention to concealed work which would be difficult to measure and record at a later date.
5. Establish locations of concealed and underground work by accurate dimensions to column lines or permanent walls, locating all bends or turns, and properly referencing invert elevations and rates of fall.
6. Note construction change directive numbers, alternate numbers, Change Order numbers, and similar identifications.
7. Organize Record Drawings sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates, and other identification on the cover of each set.

D. FINAL RECORD DRAWINGS

1. Obtain a set of clean reproducible transparencies (Mylar or sepia) of the most current Construction Drawings from BAHA. The cost of the reproducible transparencies shall be paid by the Contractor.
2. Submit the final marked-up field copy of Record Drawings to BAHA for review and approval.
3. Upon receipt of field copy of Record Drawings from BAHA, carefully and neatly transfer the information contained thereon to the reproducible transparency set of Drawings using standard drafting techniques. Call attention to deviations or changes by drawings a "cloud" around the affected area.
4. Clearly label each final Record Drawing with the words "RECORD DRAWINGS," the date submitted, the name or initials of the person preparing the drawing, stamped or neatly printed in conspicuous block letters near the lower left corner of the sheet. Label shall not cover or obscure other information.
5. Submit final Record Documents for BAHA review and approval. Make any necessary changes or corrections prior to delivery to BAHA.
6. Submit original and electronic copies of final record drawings after approval by BAHA.

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7. BAHA's Receipt of Final Record Drawings is a condition of BAHA's Acceptance of the Contract.

E. PROJECT RECORD SPECIFICATIONS

1. During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.
 - a. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawings information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installation that would be difficult to identify or measure and record later.
 - 1) In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 - 2) Record the name of the manufacturer, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
 - 3) Note related Project Record Product Data, where applicable. For each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
 - 4) Label Record Specifications with the words "RECORD COPY" and the date submitted, stamped or neatly printed in block letters on the cover.
 - 5) Submit electronic copies of final record specifications after approval of BAHA.
2. Upon completion of mark-up, submit Project Record Specifications to BAHA for its records.

F. PROJECT RECORD PRODUCT DATA: During the construction period, maintain one copy of each Product Data submittal for Project Record Document purposes.

- a. Mark Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site, and changes to manufacturer's instructions and recommendations for installation.
- b. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
- c. Note related Change Orders and mark-up of Project Record Drawings, where applicable.
- d. Upon completion of mark-up, submit a complete set of Project Record Product Data to BAHA for BAHA's records.
- e. Where Project Record Product Data is required as part of maintenance manuals, submit mark-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.

G. OPERATIONS AND MAINTENANCE MANUALS

1. General Requirements

- a. Prepare comprehensive maintenance and operating manuals. Organize information into suitable sets of manageable size, and bind into individual binders properly identified and indexed. Where applicable provide color copies for clarity of information presentation.
- b. Include name and telephone number of manufacturer, local supplier, and installer; emergency instructions; spare parts listings; and copies of warranties or guarantees, wiring diagrams, recommended "turn around" cycles, inspection procedures, shop drawings, product data, fixture lamping schedule, and similar applicable information.
- c. Bind each manual of each set in a heavy duty, 3-ring, 2" binder. Provide typed index dividers for each item contained therein, and include pocket folders for folded sheet information. Mark identification on both front and spine of each binder.
- d. Unless otherwise indicated or directed by BAHA, submit three (3) copies of the operating and maintenance manuals. Where possible, provide operating and maintenance manuals on CD-ROM.

2. Paint and Coatings Manual

- a. Submit bound maintenance manual with schedule of colors, product types, material, sheens, etc. including 8-1/2" x 11" color samples and a typed maintenance program for each paint or coating system.
- b. Include all paints and coatings, including factory applied coatings on prefinished aluminum, sheet metal or other metals, and field applied paints and coatings, so that BAHA shall receive one bound volume of all paint and coating types used on the Project.

H. ENVIRONMENTAL ISSUES CERTIFICATIONS

1. Submit environmental issues certifications in accordance with the requirements of Section 013300.

I. KEYS AND KEYING SCHEDULES

1. Neatly label and submit all change keys, master keys, and grandmaster keys, along with final keying schedule, to BAHA in accordance with the requirements of Section 087100.

J. MAINTENANCE MATERIALS

1. Submit maintenance materials, extra and spare parts required by the various Specifications Sections to BAHA as directed, Submit material in manufacturer's original packaging or containers, clearly marked as to color and location of the work.

K. MATERIAL AND FINISH DATA:

1. Arrange data by specifications division and section number.
2. Provide names, addresses, and telephone numbers of subcontractors and suppliers.

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3. Include the following:
 - a. Color pattern numbers
 - b. Cleaning and maintenance instructions
 - c. Manufacturers' product data
4. Data Format
 - a. Submit two hard copy sets prior to final inspection, bound in 8-1/2" x 11", three-ring binder with durable plastic cover, clearly identified with Project name and extent of contents.
 - b. Submit two electronic copies of all data on CD-ROM.

L. OTHER DOCUMENTS

1. Submit the required number of the following additional documents which may be required by the various Specifications Sections:
 - a. Certificates of Compliance with applicable reference standards.
 - b. Certificates of Inspection or other evidence of compliance with governmental agencies or authorities having jurisdiction over the work.
 - c. Warranties, guarantees, and bonds.
 - d. Certificates of Insurance for products and completed operations.
 - e. Written consent of Surety.
 - f. Evidence of payment and releases of liens for subcontractors, suppliers, and other goods and services.
 - g. List of subcontractors, service organizations, and suppliers used on the project, including names of contact person, and telephone numbers for office hours and after hour's emergency contact.
 - h. Notarized letter signed by the Contractor acknowledging the date of Final Completion or other date or dates established for the commencement of warranties and guarantees.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1. Provide Closeout submittals prior to requesting Final Completion and Acceptance of the Work.

END OF SECTION

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

- 1. Operation and maintenance documentation directory.
- 2. Emergency manuals for the following systems:
 - a. HVAC
 - b. Plumbing
 - c. Electrical
 - d. Fire Alarm
 - e. Fire Protection
- 3. Operation manuals for systems, subsystems, and equipment.
 - a. HVAC
 - b. Plumbing
 - c. Electrical
 - d. Fire Alarm
 - e. Fire Protection
 - f. Communication
 - g. Lighting & Daylighting Control
 - h. Carbon Monoxide Monitoring
- 4. Maintenance manuals for the care and maintenance of:
 - a. HVAC Systems & Equipment
 - b. Plumbing Systems & Equipment
 - c. Fire Protection Systems & Equipment
 - d. Electrical Systems & Equipment
 - e. Lighting & Daylighting Control Systems & Equipment
 - f. Building Envelope Systems & Equipment
 - g. Building Interior Products, Materials & Finishes
 - h. Landscape Products, Materials, Systems & Equipment
 - i. Carbon Monoxide Monitoring Systems & Equipment
 - j. Intrusion Detection & Security Systems & Equipment
 - k. Fire Alarm System & Equipment
 - l. Communication System & Equipment

- B. Related Sections include the following:

- 1. Division 01 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
- 2. Division 01 Section "Closeout Procedures" for submitting operation and maintenance manuals.
- 3. Division 01 Section "Closeout Submittals" for preparing Record Drawings for operation and maintenance manuals.
- 4. Divisions 02 through 33 Sections for specific Operation and Maintenance (O&M) Manual

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requirements for the Work in those Sections.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

- A. Initial Submittal: Submit 3 draft copies of each O&M Manual at least 15 days before requesting inspection for Substantial Completion. Include a complete operation and maintenance directory. Owner will return one copy of draft and mark whether general scope and content of manual are acceptable.
 - 1. Correct or modify each O&M Manual to comply with Owner's comments. Submit 3 copies of each corrected manual within 15 days of receipt of Owner's comments.
- B. Final Submittal: Submit 3 copies of each O&M Manual in final form at least 15 days before final inspection.
- C. Electronic Manuals: Submit an electronic copy of each manual on compact disc.

1.5 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare O&M Manual.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Organization: Include a section in the directory for each of the following:
 - 1. List of documents.
 - 2. List of systems.
 - 3. List of equipment.
 - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to O&M Manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each Emergency, Operation, and Maintenance Manual.
- E. Identification: In the documentation directory and in each O&M Manual identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name, address, and telephone number of Contractor.
 6. Name and address of A/E.
 7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
1. Binders: Heavy-duty, "D" shaped 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on front of binder & spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
 4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing

locations.

2.3 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
 - 1. Type of emergency.
 - 2. Emergency instructions.
 - 3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include detailed instructions and procedures for each system, subsystem, piece of equipment, and component:
 - 1. Fire.
 - 2. Flood.
 - 3. Seismic Event.
 - 4. Gas leak.
 - 5. Water leak.
 - 6. Power failure.
 - 7. Water outage.
 - 8. System, subsystem, or equipment failure.
 - 9. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
 - 1. Instructions on stopping.
 - 2. Shutdown instructions for each type of emergency.
 - 3. Operating instructions for conditions outside normal operating limits.
 - 4. Required sequences for electric or electronic systems.
 - 5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 - 1. System, subsystem, and equipment descriptions.
 - 2. Performance and design criteria if Contractor is delegated design responsibility.
 - 3. Operating standards.
 - 4. Operating procedures.
 - 5. Operating logs.
 - 6. Wiring diagrams.
 - 7. Control diagrams.
 - 8. Piped system diagrams.
 - 9. Precautions against improper use.
 - 10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Equipment identification with serial number of each component.

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4. Equipment function.
 5. Operating characteristics.
 6. Limiting conditions.
 7. Performance curves.
 8. Engineering data and tests.
 9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
1. Startup procedures.
 2. Equipment or system break-in procedures.
 3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUAL

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions

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that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 1. Standard printed maintenance instructions and bulletins.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - A. Test and inspection instructions.
 1. Troubleshooting guide.
 2. Precautions against improper maintenance.
 3. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 4. Aligning, adjusting, and checking instructions.
 5. Demonstration and training videotape, if available.
 - E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
 - F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
 - G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
 - H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original Project Record Documents as part of operation and maintenance manuals.
 - 2. Comply with requirements of newly prepared Record Drawings in Division 01 Section "Closeout Submittals."
- G. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for instructing BAHA's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
 - 3. Demonstration and training video recordings.

1.2 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules utilizing manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

1.3 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
 - 1. At completion of training, submit complete Training Manual(s) for BAHA's use.

1.4 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, experienced in operation and maintenance procedures and training.
- C. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013119, Project Meetings. Review methods and procedures related to demonstration and training.

1.5 COORDINATION

- A. Coordinate instruction schedule with BAHA's operations. Adjust schedule as required to minimize disrupting BAHA's operations.
- B. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by BAHA.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project record documents.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
 - 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.

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- e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
- a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
- a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823, Operations and Maintenance Data.

3.2 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and BAHA for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct BAHA's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. A/E will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
 - 2. BAHA will furnish an instructor to describe BAHA's operational philosophy.
 - 3. BAHA will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with BAHA with at least seven days' advance notice.
- D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of an oral performance-based test.

3.3 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. General: Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Video Recording Format: Provide high-quality color video recordings with menu navigation in format acceptable to BAHA.
- C. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed.
- D. Pre-Produced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

END OF SECTION

SECTION 018113 - SUSTAINABLE DESIGN REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes but is not limited to general requirements and procedures for compliance with certain USGBC LEED prerequisites and credits needed for Project to obtain LEED Gold certification.
 - 1. Compliance with requirements needed to obtain LEED prerequisites and credits may be used as one criterion to evaluate substitution requests and comparable product requests.
 - 2. LEED – Checklist will be developed by the A/E.
- B. Related Sections:
 - 1. Divisions 01 through 33 for LEED requirements specific to the work of each of these Sections. Requirements may or may not include reference to LEED.

1.2 REFERENCES

- A. ASHRAE 62.1-2007 – Ventilation for Acceptable Indoor Air Quality.
- B. ASHRAE 55-2004 – Thermal Comfort Conditions for Human Occupancy.
- C. ASHRAE/IESNA Standard 90.1-2004 with Appendix G
- D. ASTM D5116 – Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products.
- E. ASTM D5663 – Standard Guide for Validating Recycled Content in Packaging Paper and Paperboard.
- F. ASTM E2114 – Standard Terminology for Sustainability Relative to the Performance of Buildings.
- G. Not used
- H. Carpet and Rug Institute Green Label Plus program.
- I. Carpet and Rug Institute Green Label program.
- J. Green Guide to Healthcare version 2.2 January 2007.
- K. Green Seal Standard GS-11 – Paints, First Edition, May 20, 1993
- L. Green Seal Standard GC-03, Anti-Corrosive Paints, Second Edition, January 7, 1997
- M. Not used

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- N. IPMVP Volume III: Concepts and Options for Determining Energy Savings in New Construction, April, 2003.
 - O. ISO 9660:1988 – Information Processing – Volume and File Structure of CD-ROM for Information Interchange.
 - P. ISO 14001:2004 – Environmental Management Systems – Specification with Guidance for Use.
 - Q. ISO 14004: 2004 – Environmental Management Systems – General Guidelines on Principles, Systems and Supporting Techniques.
 - R. ISO 14021 – Environmental Labels and Declarations – Self-declared Environmental Claims
 - S. ISO Guide 64:2008 – Guide for Addressing Environmental Issues in Product Standards.
 - T. LEED™ 2009 – Core and Shell – Reference Guide.
 - U. Not Used
 - V. SCAQMD Rule No. 1168 – Adhesive and Sealant Applications.
 - W. SCAQMD Rule 1113, Architectural Coatings, rules in effect January 1, 2004.
 - X. SMACNA IAQ Guidelines for Occupied Buildings under Construction, 2nd Edition 2007, ANSI/SMACNA 008-2008 (Chapter 3).
 - Y. State of California DGS Technical Specification for the Evaluation of Environmentally Preferable Janitorial Chemicals.
- 1.3 DEFINITIONS
- A. Definitions pertaining to sustainable design and LEED are provided in the US Green Building Council Guide for Green Building Design and Construction, 2009 Edition.
- 1.4 SUBMITTALS
- A. LEED submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated LEED requirements.
 - B. Many of the products which will be specified for this project include specific environmental performance criteria. Pay specific attention to these criteria and attributes (e.g. recycled content and VOC content) when making requests for substitutions. Compliance with requirements needed to obtain GGHC prerequisites and credits may be used as one criterion to evaluate substitution requests and comparable product requests.
 - 1. All requests for substitutions of products or materials that are related to a particular LEED prerequisite or credit shall identify the related/affected LEED prerequisite or credit by number (e.g. MRc3) and shall include data from the manufacturer that clearly identifies that material's environmental performance in the relevant category (e.g. recycled content or VOC content).

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- C. All material costs shall exclude labor and equipment and all mechanical, electrical, and plumbing materials and specialty equipment such as elevators.
- D. Total Project Materials Cost Data: Provide statement indicating total cost for building materials used for Project, excluding mechanical, electrical, and plumbing components, and specialty items such as elevators and equipment. Include statement indicating total cost for wood-based materials used for Project.
- E. LEED Action Plan: Provide a LEED Action Plan and schedule within sixty (60) days of date established for the Notice to Proceed indicating how the following requirements will be met:
 - 1. Provide the Submittals required by the Contract Documents related to sustainability.
 - 2. Prepare energy analysis applications and other documentation required.
 - 3. Prepare a list of material with recycled content.
 - 4. Prepare a list of locally extracted and manufactured material.
 - 5. Prepare a list of rapidly renewable material.
 - 6. Prepare a list of certified wood products, sources, custody documentation and material.
 - 7. Prepare a list of low-emitting materials
 - 8. Prepare a list of environmentally preferred products and materials.
- F. LEED Progress Reports: Concurrent with each Application for Payment, submit reports comparing construction and purchasing activities with LEED Action Plans.
- G. LEED Documentation Submittals: Provide LEED documentation Submittals as required by the Contract Documents.

1.5 QUALITY ASSURANCE

- A. Contractor's Environmental Manager (LEED™-Core and Shell Coordinator)
 - 1. Contractor shall designate an on-site party (Contractor's Environmental Manager) responsible for overseeing the LEED™-CS design requirements for the project and implementing procedures for environmental protection. This person shall be responsible for the implementation, coordination, and documentation of LEED requirements specified herein. This person shall be present on site at all times when work is in progress. Inform Architect of contact information.
 - 2. Qualifications: LEED™ Accredited Professional (LEED™ AP); minimum five (5) years construction experience on projects of similar size and scope; minimum two (2) years experience with environmental procedures similar to those of this project; familiarity with Environmental Management Systems (EMSs) such as ISO 14001; familiarity with environmental regulations applicable to construction operations.
 - 3. Responsibilities:
 - a. Review Contract Documents to become familiar with LEED™-NC requirements and issues.
 - b. Ensure compliance with applicable Federal, State, and local environmental regulations, including maintaining required documentation.

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- c. After award of Contract and prior to the commencement of the Work, schedule and conduct a meeting with Owner and the A/E to discuss the Contractor's Proposed LEED Compliance Plan(s)
- d. Schedule and conduct regular (at least every other month) LEED review meetings to discuss progress in LEED requirements and documentation. A schedule of GGHC Review Meetings shall be submitted to the Owner for review within fourteen (14) calendar days of Notice to Proceed. At the Owner's discretion, the LEED meetings may be combined with other Project meetings
- e. Discuss LEED-CS requirements at pre-construction meeting, pre-installation meetings, regular scheduled job-site meetings, and special sustainable issues meetings.
- f. Implement Construction Waste Management Plan.
- g. Implement Construction Indoor Air Quality Management Plan.
- h. Oversee and coordinate the Contractor, subcontractor, and vendor activities related to LEED-CS requirements.
- i. Collate submittal requirements gathered from subcontractors and vendors related to LEED-CS requirements.
- j. Conduct Contractor's Environmental Training Program for workers performing Work on the Project site.
- k. Prepare and submit construction progress photographs.
- l. Keep a copy of the LEED for New Construction (LEED-CS) Version 2009 Reference Guide on site at all times.

1.6 ENVIRONMENTAL PROTECTION

Preserve the natural resources in their existing condition or restore to an equivalent or improved condition within the Project boundaries and outside the limits of permanent Work performed under this Contract.

1.7 CONSTRUCTION WASTE MANAGEMENT

- A. Develop and implement a Construction Waste Management Plan, refer to Sections 017419, Site Waste Management Program.

1.8 CONTRACTOR'S ENVIRONMENTAL TRAINING PROGRAM

Conduct an Environmental Training Program required for workers performing work on project site. Training shall include the following:

1. Overview of environmental issues related to the building industry.
2. Overview of environmental issues related to the healthcare industry and this Project.
3. Review of site specific procedures and management plans:
 - a. Construction Waste Management Plan.
 - b. Construction Indoor Air Quality Management Plan.
 - c. Utility and Emissions Control Plan.

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- d. Noise and Vibration Control Plan.
 - e. Construction Practices Environmental Management System.
4. Compliance with environmental regulations.
 5. Compliance with requirement of specific LEED Credits determined by the A/E.
 6. Submit workers training records upon Owner's request.

1.9 COMMISSIONING

- A. Comply with Project building systems commissioning requirements; refer to Sections 019133, Enhanced Commissioning Requirements and relevant technical specifications.

PART 2 - PRODUCTS

- 2.1 Product Requirements: Comply with the product requirement of the Control Documents. See the relevant General Requirements and technical specifications.

PART 3 - EXECUTION

3.1 LEED COMPLIANCE, GENERAL

- A. Prior to start of work; determine that conditions of construction are acceptable to comply with GGHC credit and prerequisite requirements. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Owner and the Contractor.
- B. Correction of work that does not conform to specification requirements shall be performed at Contractor's expense. The Contractor shall provide the necessary documentation to show compliance of Work. Owner's LEED coordinator will be the sole judge in determining compliance with LEED credit requirements.

3.2 MEASUREMENT AND VERIFICATION

- A. Implement measurement and verification plan consistent with the requirements of the Contract Documents. See Section 019133, Enhanced Commissioning Requirements.
- B. Install metering equipment to measure energy usage. Monitor, record, and trend log measurements.

3.3 EROSION & SEDIMENTATION CONTROL

- A. Comply with requirements of Section 015713, Temporary Erosion and Sediment Control. The Plan is designed to meet the following objectives:
 1. Prevent loss of soil during construction by storm water run-off and/or wind erosion, including protections of topsoil by stockpiling for reuse.
 2. Prevent sedimentation of storm sewer or receiving streams and/or air pollution with dust and particulate matter.

3.4 CONSTRUCTION WASTE MANAGEMENT

- A. Comply with Section 017419, Site Waste Management Program.

3.5 CONSTRUCTION INDOOR-AIR-QUALITY MANAGEMENT

- A. Comply with SMACNA's "SMACNA IAQ Guideline for Occupied Buildings under Construction."
1. If Owner authorizes use of permanent heating, cooling, and ventilating systems during construction period as specified in Section 015000 "Temporary Facilities and Controls," install filter media having a MERV 8 according to ASHRAE 52.2 at each return-air inlet for the air-handling system used during construction.
 2. Replace all air filters immediately prior to occupancy.
 3. Refer to Section 018119 "Indoor Air Quality Requirements" for use of permanent HVAC systems for temporary work.
 - a. Conduct a building air flush-out after construction ends with new air filters and 100 percent outdoor air. Replace air filters after building air flush-out. Replacement air filters shall have a MERV 13 rating according to ASHRAE 52.2.
 - b. Engage an independent testing and inspecting agency to conduct a baseline indoor air quality testing program according to EPA Protocol for Environmental Requirements.

3.6 SITE, MATERIAL AND UTILITY MANAGEMENT AND EMISSIONS CONTROL

- A. Create a Utility and Emissions Control Plan to reduce energy use, water use, and environmental impact of the construction process, and document its implementation. Address the following topics:
1. Efficiency of temporary lighting
 2. Efficiency of temporary water
 3. Efficiency of temporary heating and cooling
 4. Emissions from temporary power
 5. Fuel efficient vehicles
 6. Electric powered cranes and equipment as appropriate
 7. Reduce vehicle and equipment engine idling
 8. Use low-sulfur diesel fuel or natural gas powered engines as appropriate
 9. Energy and water efficiency of temporary construction facilities.
- B. Create a Noise and Vibration Control Plan and document its implementation. Address the following topics:
1. Utilization of construction equipment and other non-road engines with lowest decibel level meeting performance requirements.
 2. Utilization of low-impact tools, equipment and processes where feasible.
 3. Monitoring of noise and vibration in Owner-designated critical areas. Plan to modify process, schedule, or duration to achieve resolution of disruptive conditions.
 4. Containment of noise emissions from static equipment such as generators and concrete pumps.

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5. Control of noise exposure to equipment operators.
- C. Create a Construction Practices Environmental Management System (EMS) for the construction and pre-occupancy phases and document its implementation. Address the following topics:
1. Minimization of packaging, storing and handling of materials on site.
 2. Prevention of discharge from cleaning and maintenance practices from entering stormwater facilities.
 3. Control of particulate discharge resulting from demolition, cutting, grinding and sandblasting operations.
 4. Control of dust generation.
 5. Moisture control to protect installed work from damage due to spills, line breaks, severe weather and other causes.
 6. Removal and disposal of water damaged materials.
 7. Spill control.

END OF SECTION

SECTION 018119 - INDOOR AIR QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Construction indoor air quality management plan.
- B. HVAC protection.
- C. Construction sequencing to control emissions.
- D. Building flush-out.
- E. Baseline indoor air quality testing.

1.2 RELATED SECTIONS

- A. Section 017700, "Closeout Procedures"
- B. Technical Specification Sections (when issued)

1.3 REFERENCES

- A. The publications listed below form a part of this Section to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. Unless otherwise noted, standards, manuals, and codes refer to the latest edition of such standards, manuals, and codes as of the date of issue of this Project Manual.

Referenced Standards:

- 1. ASHRAE 52.2-1999– Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.
- 2. ASHRAE 62-2007 – Ventilation for Acceptable Indoor Air Quality.
- 3. ASTM D5116-97 – Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products.
- 4. ASTM D6329-98 – Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers.
- 5. ASTM D6670-01 – Standard Practice for Full-Scale Chamber Determination of Volatile Organic Emissions from Indoor Materials/Products.
- 6. ASTM E2114-01 – Standard Terminology for Sustainability Relative to the Performance of Buildings.
- 7. LEED™-CS Version 2009 – Reference Guide.
- 8. SMACNA IAQ Guidelines for Occupied Buildings Under Construction.

1.4 INDOOR AIR QUALITY GOALS

- A. The Owner has set indoor air quality goals for project construction site operations within the limits of the construction schedule, Contract Sum, available materials, products, and services.
- B. The general intent is to prevent air quality problems resulting from construction processes in order to help sustain the comfort and well-being of construction workers and building occupants. Portions of the building will be occupied during construction.

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1.5 DEFINITIONS

- A. Definitions pertaining to sustainable development: As defined in ASTM E2114 and as specified in this Section.
- B. Adequate Ventilation: Ventilation, including air circulation and air changes, required to cure materials, dissipate humidity, and prevent accumulation of dust fumes, vapors, or gases.
- C. Environmental Pollution and Damage: The presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; or degrade the utility of the environment for aesthetic, cultural, or historical purposes.
- D. Indoor Air Quality (IAQ): The composition and characteristics of the air in an enclosed space that affect the occupants of that space. The indoor air quality of a space refers to the relative quality of air in a building with respect to contaminants and hazards and is determined by the level of indoor air pollution and other characteristics of the air, including those that impact thermal comfort such as air temperature, relative humidity and air speed.
- E. Sustainability: The maintenance of ecosystem components and functions for future generations.

1.6 SUBMITTALS

- A. General: Submit in accordance with Section 013300, "Submittal Procedures."
- B. Product Data: Submit product data for filtration media used during construction and during operation. Data to include Minimum Efficiency Reporting Value (MERV).
- C. MSDS: Submit MSDSs for inclusion in Operation and Maintenance Manual for the following products. Coordinate with Section 017823, "Operation and Maintenance Data."
 - 1. Adhesives.
 - 2. Floor and wall patching and leveling materials.
 - 3. Caulking and sealants.
 - 4. Insulating materials.
 - 5. Fireproofing and firestopping.
 - 6. Carpet.
 - 7. Paint.
 - 8. Clear finish for wood surfaces.
 - 9. Lubricants.
 - 10. Cleaning products.
- D. Special Environmental Requirements Submittals: Submit in accordance with this Section, Section 018113, Sustainable Design Requirement as required to achieve LEED Gold certification. Submit the following:
 - 1. Construction IAQ Management Plan.
 - 2. LEED™ Letter Template, completed and uploaded by Contractor, declaring that a Construction IAQ Management Plan has been developed and implemented, and if the projects air handling units were used during construction, a listing each air filter used during construction and at the end of construction. Include MERV value, manufacturer name and model number.
 - 3. Photos highlighting the IAQ management plan practices implemented during construction.
 - 4. Narrative detailing the project's flush out process including data regarding temperature, airflow and duration of flush out.
 - 5. Project's IAQ testing report.

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6. Independent Materials Testing Reports. Submit for the following products:
 - a. Emissions:
 - i Fireproofing material on appropriate substrate.
 - ii Ceiling tile.
 - iii Resilient flooring.
 - iv Carpet, including adhesive and concrete flooring.
 - v Interior paint on appropriate substrate, including any primer coat.
 - vi Wallcovering.
 - vii Raised flooring.
 - b. Lethal Toxic Potency:
 - i Ceiling tile.
 - ii Resilient flooring.
 - iii Carpet, including adhesive and concrete flooring.
 - iv Wall covering.
 - v Raised flooring.
 - vi Office equipment.
 - c. Microbial Growth:
 - i Fireproofing material on appropriate substrate.
 - ii Ceiling tile.
 - iii Wallcovering.

1.7 CONSTRUCTION INDOOR AIR QUALITY (IAQ) MANAGEMENT PLAN

- A. Develop and implement an IAQ Management Plan for the construction and pre-occupancy phases.
- B. Submit IAQ Management Plan to the Owner within ninety (90) days after receipt of Notice of Award.
- C. Requirements of IAQ Management Plan:
 1. Procedures, strategies, and controls to meet or exceed requirements of SMACNA IAQ Guidelines for Occupied Buildings Under Construction.
 2. Protection of stored on-site or installed absorptive materials from moisture damage.
 3. Sequence construction activities to reduce absorption of VOCs by materials that act as sinks of contaminant sources.
 4. Protection of HVAC system.
 5. After construction ends and prior to occupancy conduct a 2 week building flush-out with a MERV 13 filtration media at 100 percent outside air.
 6. Replace all filtration media prior to occupancy with new MERV 13 filtration media as per ASHRAE 52.2.
 7. In lieu of 2-week building flush-out with MERV 13 filtration media and 100 percent outside air, DBE may opt to conduct a baseline IAQ testing procedure consistent with US EPA's current Protocol for Environmental Requirements, Baseline IAQ and Materials.

1.8 HVAC PROTECTION

- A. Seal HVAC ducts during construction. Damper-off return side of HVAC system and seal return system openings with plastic sheet.

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- B. Remove oil film on HVAC sheet metal work prior to shipment to site. Seal with plastic sheet both ends of cleaned and dried sheet metal ductwork and on HVAC equipment prior to shipment to site.
- C. Install HVAC system, continuously maintaining a sealed system by removing covers of sealed ducts and equipment only prior to installation and keeping free ends sealed.
- D. If air handlers must be used during construction, use filtration media with a minimum MERV 8 filtration media at each return air grill, as per ASHRAE 52.2. Air handlers may be used only as a last resort and with the written approval of the Owner. Clean air handlers prior to use and again immediately prior to building occupancy using a high efficiency particulate air (HEPA) vacuum cleaner. Provide new filters immediately prior to occupancy.

1.9 SEQUENCING

- A. Finish Types: Finishes, for the purpose of this Section, are classified based on its potential to emit or off-gas deleterious particulate matter and its tendency to absorb.
 - 1. Type 1 Finishes: Materials and finishes which have a potential for short-term levels of off-gassing from chemicals inherent in their manufacturing process, or which are applied in a form requiring vehicles or carriers for spreading which release a high level of particulate matter in the process of installation or curing. Type 1 finishes include, but are not limited to the following:
 - a. Composite wood products.
 - b. Adhesives, sealants, and glazing compounds.
 - c. Wood preservatives.
 - d. Paints and coatings.
 - e. Control and expansion joint fillers.
 - f. Hard finishes requiring adhesive for installation.
 - g. Gypsum board and associated finish processes.
 - 2. Type 2 Finishes: Materials and finishes which are woven, fibrous, or porous in nature and tend to absorb chemicals off-gassed by Type 1 finishes or may be adversely affected by particulates. These materials become sinks for deleterious substances which may be released much later, or collectors of contaminants that may promote subsequent bacterial growth. Type 2 finishes include, but are not limited to the following:
 - a. Carpet and pad.
 - b. Fabric wall covering.
 - c. Insulation exposed to airstream.
 - d. Acoustic ceiling and wall materials.
 - e. Fabric covered acoustic wall panels.
 - f. Upholstered furnishings.
- B. Optimal Order of Finish Installation: To the greatest extent possible, and as mitigated by project requirements, schedule work activities to accommodate the following:
 - 1. Apply Type 1 interior finishes throughout the entire air zone of each building or building segment and allow finishes to completely cure according to intervals and times stated in respective finish manufacturer's printed instructions before commencing installation of any Type 2 finishes in the same area.
 - 2. Avoid storage of Type 2 finishes in areas where installation or curing of Type 1 materials are in progress.

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3. Apply Type 2 finishes.

1.10 PROJECT/SITE CONDITIONS

A. Environmental Requirements:

1. Maintain construction indoor air quality consistent with the project's general intent of providing optimal indoor air quality to help sustain the comfort and well-being of construction workers and building occupants and also to provide the proper site environmental conditions for materials installation.
2. Condition work areas for materials before, during, and after installation as specified in individual specification sections. Provide portable fans, portable ducts, and dehumidification systems as needed to

provide continuous ventilation, temperature, and humidity control; and to prevent mold growth. Acceptable construction climate control system (dehumidifiers, chillers, and heaters) is provided by Munters Corporation (970 Howe Rd., Martinez, CA 94553; toll free: 800.686.8377; phone: 925.957.8970; fax: 925.957.8972; URL: <http://www.muntersamerica.com>), or an equally approved system. Costs related to controlling and conditioning construction environment are part of the Cost of the Work.

B. Compartmentalization:

1. Isolate areas of work to prevent contamination of clean or occupied areas. Depending on the climate, ventilate 100 percent outside air to exhaust contaminated air directly to outside during installation of VOC emitting materials.
2. Utilize pressure differentials to prevent contaminated air from entering occupied portions of the building and clean areas.

1.11 SUBSTITUTIONS

- A. Should Contractor desire to use procedures, materials, equipment, or products that are not specified but meet the intent of these specifications, the Contractor shall propose these substitutions under provisions of Section 013300, Submittal Procedures.

1.12 BASELINE IAQ TESTING

- A. Baseline IAQ Testing for Indoor Air Quality: Reference US EPA's current Protocol for Environmental Requirements, Baseline IAQ and Materials.
- B. HVAC System Verification: To assure compliance with recognized standards for indoor air quality including ASHRAE Standard 62, the Contractor shall verify the performance of each HVAC system including space temperature and space humidity uniformity, outside air quantity, filter installation, drain pan operation, and any obvious contamination sources.
- C. Indoor Air Quality Testing: Upon verification of HVAC system operation, the Contractor shall hire an independent contractor, subject to approval by Owner, with a minimum of 5 years experience in performing the types of testing specified herein, to test levels of indoor air contaminants for compliance with specified requirements.
 1. A test plan shall be submitted for the approval of Owner. The plan shall specify procedures, times, instrumentation, and sampling methods that will be employed.
 2. Testing will be done in 28 different locations. Contaminant levels are to be measured at 4 locations on each floor of each building in an area agreed upon by the Owner and the Contractor.
 3. Collect air samples on three consecutive days during normal working hours (between the hours of 8:00 am and 5:00 pm) with building operating at normal HVAC rates. Average the results of each three-day test cycle to determine compliance or non-compliance of indoor air quality for each air handling zone tested.

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4. Sample and record outside air levels of formaldehyde and TVOC contaminants at outside air intake of each respective air handling unit simultaneously with indoor tests to establish basis of comparison for these contaminant levels. Indoor testing will be done in the breathing zone; between 4 feet and 7 feet from the floor.
 5. Acceptance of respective portions of buildings by Owner is subject to compliance with specified limits of indoor air quality contaminant levels.
- D. Compliance IAQ shall conform to the following standards and limits:
1. Carbon Monoxide: Not to exceed 9 ppm.
 2. Carbon Dioxide: Not to exceed 800 ppm.
 3. Airborne Mold and Mildew: Simultaneous indoor and outdoor readings.
 4. Maximum Air Concentration Standards: Indoor room air concentration levels, emission rates, and qualities of the listed contaminants shall not exceed the following limits specified below:

MAXIMUM INDOOR AIR CONCENTRATION STANDARDS

Indoor Contaminants	Allowable Air Concentration Levels*
Formaldehyde	<20 micrograms per cubic meter**
Total Volatile Organic Compounds (TVOC)	<200 micrograms per cubic meter**
4-Phenylcyclohexene (4~PC)***	<3 micrograms per cubic meter
Total Particulates (PM)	<20 micrograms per cubic meter
Regulated Pollutants	<NAAQS

* All levels must be achieved prior to acceptance of the building. The levels do not account for contributions from office furniture, occupants, and occupant activities.

** Above outside air concentrations.

*** 4-phenylcyclohexene is an odorous contaminant constituent in carpets with styrene-butadienelatex rubber (SBR).

TLV-TWA Threshold Limit Value - Time Weighted Average

- E. Test Reports: Prepare test reports showing the results and location of each test, a summary of the HVAC operating conditions, a listing of any discrepancies and recommendations for corrective actions, if required.
1. Include certification of test equipment calibration with each test report.
- F. If any test fails the standard, the Contractor is responsible to ventilate the building with 100 percent outside air until the building passes both air quality tests and duct inspections. Retesting shall be performed at no additional expense to the Owner.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION